Draft Environmental Impact Report

Chandler Grove Master Plan and Annexation Project

JULY 2023

Prepared for:

CITY OF TULARE PLANNING DEPARTMENT
411 East Kern Avenue
Tulare, California 93274
Contact: Steven Sopp

Prepared by:

DUDEK

4900 California Avenue, Suite 210-B
Bakersfield, California 93309
Contact: Ronelle Candia

Printed on 30% post-consumer recycled material.

Table of Contents

SECTION **PAGE NO.**

Acronyms and abbreviations ACR-1

1 Executive Summary 1-1
- 1.1 Introduction 1-1
- 1.2 Project Location 1-1
- 1.3 Project Description 1-2
- 1.4 Project Objectives 1-3
- 1.5 Discretionary Actions 1-3
- 1.6 Summary of Impacts 1-3
- 1.7 Alternatives to the Project 1-49
- 1.8 Areas of Controversy/Issues to Be Resolved 1-50

2 Introduction 2-1
- 2.1 Purpose of the California Environmental Quality Act Process 2-1
- 2.2 Legal Authority and Lead Agency 2-2
- 2.3 Responsible and Trustee Agencies 2-3
- 2.4 Summary of Project Analyzed in this Environmental Impact Report 2-3
  - 2.4.1 Requested Approvals 2-3
  - 2.4.2 Project of Statewide, Regional, or Area-Wide Environmental Significance 2-5
- 2.5 Scope of this Environmental Impact Report 2-5
  - 2.5.1 Notice of Preparation Scoping Process 2-5
- 2.6 Organization of this Environmental Impact Report 2-7
- 2.7 Documents Incorporated by Reference 2-8
- 2.8 Documents Prepared for the Project 2-9
- 2.9 Review of the Draft Environmental Impact Report 2-9

3 Project Description 3-1
- 3.1 Project Overview and Environmental Setting 3-1
- 3.2 Project Objectives 3-3
- 3.3 Project Components 3-3
  - 3.3.1 Land Uses 3-4
  - 3.3.2 Access and Circulation 3-7
- 3.4 Construction and Phasing 3-7
- 3.5 Annexation of Project Site 3-7
- 3.6 Permits and Approvals 3-8
- 3.7 Cumulative Projects 3-8

4 Environmental Analysis 4-1
- 4.1 Aesthetics 4.1-1

4.1.1 Existing Conditions....4.1-1
4.1.2 Relevant Plans, Policies, and Ordinances....4.1-6
4.1.3 Thresholds of Significance....4.1-13
4.1.4 Methodology....4.1-13
4.1.5 Impacts Analysis....4.1-13
4.1.6 Mitigation Measures....4.1-17
4.1.7 Level of Significance After Mitigation....4.1-17
4.1.8 References....4.1-17
4.2 Agriculture and Forestry Resources....4.2-1
4.2.1 Existing Conditions....4.2-1
4.2.2 Relevant Plans, Policies, and Ordinances....4.2-4
4.2.3 Thresholds of Significance....4.2-7
4.2.4 Methodology....4.2-8
4.2.5 Impacts Analysis....4.2-8
4.2.6 Mitigation Measures....4.2-9
4.2.7 Level of Significance After Mitigation....4.2-10
4.2.8 References....4.2-10
44.3 Air Quality....4.3-1
4.3.1 Existing Conditions....4.31
4.3.2 Relevant Plans, Policies, and Ordinances....4.3-9
4.3.3 Thresholds of Significance....4.3-25
4.3.4 Impacts Analysis....4.3-37
4.3.5 Mitigation Measures....4.3-54
4.3.6 Level of Significance After Mitigation....4.3-56
4.3.7 References....4.3-57
4.4 Biological Resources....4.4-1
4.4.1 Existing Conditions....4.4-1
4.4.2 Relevant Regulations, Plans, Policies, and Ordinances....4.4-7
4.4.3 Thresholds of Significance....4.4-14
4.4.4 Methodology....4.4-15
4.4.5 Impacts Analysis....4.4-15
4.4.6 Mitigation Measures....4.4-21
4.4.7 Level of Significance After Mitigation....4.4-26
4.4.8 References Cited....4.4-27
4.5 Cultural and Tribal Cultural Resources....4.5-1
4.5.1 Existing Conditions....4.5-1
4.5.2 Relevant Regulations, Plans, Policies, and Ordinances....4.5-10
4.5.3 Thresholds of Significance....4.5-20
4.5.4 Methodology....4.5-20
4.5.5 Impacts Analysis....4.5-21
4.5.6 Mitigation Measures....4.5-25

4.5.7 Level of Significance After Mitigation 4.5-27
4.5.8 References 4.5-27
4.6 Energy 4.6-1
4.6.1 Existing Conditions 4.6-1
4.6.2 Relevant Plans, Policies, and Ordinances 4.6-2
4.6.3 Thresholds of Significance 4.6-10
4.6.4 Impacts Analysis 4.6-11
4.6.5 Mitigation Measures 4.6-14
4.6.6 Level of Significance After Mitigation 4.6-15
4.6.7 References 4.6-15
4.7 Geology and Soils 4.7-1
4.7.1 Existing Conditions 4.7-1
4.7.2 Relevant Plans, Policies, and Ordinances 4.7-5
4.7.3 Thresholds of Significance 4.7-8
4.7.4 Impacts Analysis 4.7-8
4.7.5 Mitigation Measures 4.7-12
4.7.6 Level of Significance After Mitigation 4.7-13
4.7.7 References 4.7-13
4.8 Greenhouse Gas Emissions 4.8-1
4.8.1 Existing Conditions 4.8-1
4.8.2 Relevant Plans, Policies, and Ordinances 4.8-8
4.8.3 Thresholds of Significance 4.8-36
4.8.4 Impacts Analysis 4.8-38
4.8.5 Mitigation Measures 4.8-57
4.8.6 Level of Significance After Mitigation 4.8-59
4.8.7 References 4.8-59
4.9 Hazards and Hazardous Materials 4.9-1
4.9.1 Existing Conditions 4.9-1
4.9.2 Relevant Plans, Policies, and Ordinances 4.9-4
4.9.3 Thresholds of Significance 4.9-16
4.9.4 Impacts Analysis 4.9-17
4.9.5 Mitigation Measures 4.9-20
4.9.6 Level of Significance After Mitigation 4.9-21
4.9.7 References 4.9-22
4.10 Hydrology and Water Quality 4.10-1
4.10.1 Existing Conditions 4.10-1
4.10.2 Relevant Plans, Policies, and Ordinances 4.10-4
4.10.3 Thresholds of Significance 4.10-11
4.10.4 Impacts Analysis 4.10-12
4.10.5 Mitigation Measures 4.10-16
4.10.6 Level of Significance After Mitigation 4.10-16

4.10.7 References 4.10-17
4.11 Land Use and Planning 4.11-1
4.11.1 Existing Conditions 4.11-1
4.11.2 Relevant Regulations, Plans, Policies, and Ordinances 4.11-4
4.11.3 Thresholds of Significance 4.11-9
4.11.4 Methodology 4.11-9
4.11.5 Impacts Analysis 4.11-10
4.11.6 Mitigation Measures 4.11-17
4.11.7 Level of Significance After Mitigation 4.11-17
4.11.8 References 4.11-17
4.12 Mineral Resources 4.12-1
4.12.1 Existing Conditions 4.12-1
4.12.2 Relevant Plans, Policies, and Ordinances 4.12-2
4.12.3 Methodology 4.12-5
4.12.4 Thresholds of Significance 4.12-5
4.12.5 Impacts Analysis 4.12-5
4.12.6 Mitigation Measures 4.12-6
4.12.7 Level of Significance After Mitigation 4.12-6
4.12.8 References 4.12-6
4.13 Noise 4.1-1
4.13.1 Existing Conditions 4.13-1
4.13.2 Relevant Plans, Policies, and Ordinances 4.13-7
4.13.3 Thresholds of Significance 4.13-12
4.13.4 Impacts Analysis 4.13-14
4.13.5 Mitigation Measures 4.13-23
4.13.6 Level of Significance After Mitigation 4.13-24
4.13.7 References 4.13-24
4.14 Population and Housing 4.14-1
4.14.1 Existing Conditions 4.14-1
4.14.2 Relevant Regulations, Plans, Policies, and Ordinances 4.14-5
4.14.3 Thresholds of Significance 4.14-9
4.14.4 Impacts Analysis 4.14-9
4.14.5 Mitigation Measures 4.14-11
4.14.6 Level of Significance After Mitigation 4.14-11
4.14.7 References 4.14-11
4.15 Public Services 4.15-1
4.15.1 Existing Conditions 4.15-1
4.15.2 Relevant Regulations, Plans, Policies, and Ordinances 4.15-4
4.15.3 Thresholds of Significance 4.15-9
4.15.4 Methods 4.15-9
4.15.5 Impacts Analysis 4.15-9

4.15.6 Mitigation Measures 4.15-13
4.15.7 Level of Significance After Mitigation 4.15-13
4.15.8 References 4.15-13
4.16 Recreation 4.16-1
4.16.1 Existing Conditions 4.16-1
4.16.2 Relevant Plans, Policies, and Ordinances 4.16-2
4.16.3 Methodology 4.16-7
4.16.4 Thresholds of Significance 4.16-7
4.16.5 Impacts Analysis 4.16-7
4.16.6 Mitigation Measures 4.16-9
4.16.7 Level of Significance After Mitigation 4.16-9
4.16.8 References 4.16-9
4.17 Transportation 4.17-1
4.17.1 Existing Conditions 4.17-1
4.17.2 Relevant Plans, Policies, and Ordinances 4.17-3
4.17.3 Thresholds of Significance 4.17-7
4.17.4 Impacts Analysis 4.17-7
4.17.5 Mitigation Measures 4.17-15
4.17.6 Level of Significance After Mitigation 4.17-15
4.17.7 References 4.17-15
4.18 Utilities and Service Systems 4.18-1
4.18.1 Existing Conditions 4.18-1
4.18.2 Relevant Regulations, Plans, Policies, and Ordinances 4.18-4
4.18.3 Thresholds of Significance 4.18-10
4.18.4 Methods 4.18-10
4.18.5 Impacts Analysis 4.18-13
4.18.6 Mitigation Measures 4.18-16
4.18.7 Level of Significance After Mitigation 4.18-17
4.18.8 References 4.18-17
4.19 Wildfire 4.20-1
4.19.1 Existing Conditions 4.20-1
4.19.2 Relevant Regulations, Plans, Policies, and Ordinances 4.20-3
4.19.3 Methodology 4.20-8
4.19.4 Thresholds of Significance 4.20-8
4.19.5 Impacts Analysis 4.20-8
4.19.6 Mitigation Measures 4.20-11
4.19.7 Level of Significance After Mitigation 4.20-11
4.19.8 References 4.20-11

5 Cumulative Effects 5-1
5.1 Methodology 5-1
5.1.1 Cumulative Impact Analysis 5-3

5.2 References 5-11

6 Other CEQA Considerations 6-1
6.1 Significant Environmental Effects 6-1
6.2 Significant and Unavoidable Environmental Impacts 6-1
6.3 Significant Irreversible Environmental Impacts 6-2
6.4 Growth-Inducing Impacts 6-3
6.4.1 Economic Effects 6-5

7 Alternatives 7-1
7.1 Introduction 7-1
7.2 Project Objectives 7-2
7.3 Alternatives Considered and Rejected 7-3
7.4 Alternatives Analyzed 7-4
7.4.1 Alternative 1: No Project/No Development 7-5
7.4.2 Alternative 2: Reduced Development per the 2013 Tulare TOD Plan 7-6
7.4.3 Alternative 3: Development of Commercial Area Only 7-12
7.5 Summary Matrix 7-17
7.6 Environmentally Superior Alternative 7-18

8 List of Preparers 8-1
8.1 City of Tulare 8-1
8.2 Dudek 8-1

FIGURES

3.1 Project Location Map 3-11
3-2 Project Site 3-13
3-4 Proposed Chandler Grove Zoning 3-17
3-5 Proposed Chandler Grove Maser Plan Conceptual Master Plan 3-19
3-6 Proposed City of Tulare Annexation Area 3-21
3-7 Existing Land Use 3-23
3-8 Existing Zoning 3-25
3-9 Cumulative Projects 3-27
4.2-1 Farmland Mapping and Monitoring Designations 4.2-13
4.4-1 Biological Resources 4.4-29
4.7-1 Regional Fault Map 4.7-15
4.13-1 Ambient Sound Measurements and Modeled Receivers Locations 4.13-27
4.17-1 COS North Land Use Concept 4.17-17
4.17-2 Existing Transit Facilities 4.17-19
4.17-3 Project Location and Study Area 4.17-21
4.19-1 Fire Hazard Severity Zones for Local Responsibility Areas 4.20-13

7-1 2013 TOD Plan for the Project Site 7-20

TABLES

1-1 Summary of Project Impacts 1-4
1-2 Summary of Initial Study/Notice of Preparation Comments 1-50
2-1 Summary of Initial Study/Notice of Preparation Comments 2-5
3-2 Cumulative Projects 3-9
4.1-1 Project Development Standards for R-1-5, R-M-2, R-M-4, PL, C-3 Zones 4.1-15
4.2-1 Top 10 Commodities for Tulare County 2021 ..... 4.2-1
4.2-2 Tulare County Summary and Change by Land Use Category 4.2-3
4.3-1 Ambient Air Quality Standards 4.3-10
4.3-2 San Joaquin Valley Air Basin Attainment Status 4.3-21
4.3-3 Local Ambient Air Quality Data 4.3-23
4.3-4 SJVAPCD CEQA Significance Thresholds for Criteria Pollutants 4.3-25
4.3-5 Screening Levels for Potential Odor Sources 4.3-27
4.3-6 Construction Scenario Assumptions 4.3-30
4.3-7 AERMOD Principal Parameters – Ambient Air Quality Assessment - Construction 4.3-32
4.3-8 American Meteorological Society/Environmental Protection Agency Regulatory Model Principal Parameters – Construction HRA 4.3-33
4.3-9 AERMOD Principal Parameters – Ambient Air Quality Assessment - Operation 4.3-37
4.3-10 Estimated Annual Construction Criteria Air Pollutant Emissions - Unmitigated 4.3-39
4.3-11 Estimated Annual Operational Criteria Air Pollutant Emissions - Unmitigated 4.3-40
4.3-12 Estimated Maximum Daily Construction and Operational Criteria Air Pollutant Emissions - Mitigated 4.3-41
4.3-13 Construction AAQA – Unmitigated 4.3-42
4.3-14 Construction AAQA - Mitigated 4.3-44
4.3-15 Operational AAQA 4.3-47
4.3-16 Ambient Carbon Monoxide Concentrations for SCAQMD's Most Congested Intersection 4.3-51
4.3-17 Carbon Monoxide Emission Factors Predicted by the EMFAC Model 4.3-51
4.3-18 Construction Health Risk Assessment Results – Unmitigated 4.3-52
4.3-19 Construction Health Risk Assessment Results – Mitigated 4.3-52
4.4.1 Existing Land Cover Types on the Project Site 4.4-2
4.5-1 Previous Cultural Resources Studies 4.5-6
4.5-2 Previously Recorded Cultural Resources 4.5-6
4.5-3 Findings of Potential Effects 4.5-9
4.6-1 Total Project Construction Petroleum Demand 4.6-12
4.7-1 Active Earthquake Faults Within a 75-Mile Radius of Project Site 4.7-3
4.8-1 Greenhouse Gas Emissions Sources in California 4.8-5

4.8-2 City of Tulare Greenhouse Gas Emissions by Sectors (2007) 4.8-5
4.8-3 Summary of Applicable Greenhouse Gas–Related Laws and Regulations 4.8-26
4.8-4 Estimated Annual Construction Greenhouse Gas Emissions – Unmitigated 4.8-39
4.8-5 Estimated Annual Operational Greenhouse Gas Emissions 4.8-40
4.8-6 Table Title 4.8-40
4.8-7 Consistency with City of Tulare's Climate Action Plan 4.8-42
4.8-8 Project Potential to Conflict with 2022 Scoping Plan Climate Change Policies and Measures 4.8-46
4.8-9 Project Potential to Conflict with 2030 Scoping Plan GHG Emission-Reduction Strategies 4.8-50
4.8-10 Project Consistency with Tulare County Association of Governments' 2022 Regional Transportation Plan/Sustainable Communities Strategy 4.8-56
4.11-1 Chandler Grove Master Plan Land Use and Zoning 4.11-2
4.11-2 Consistency with Applicable Goals and Policies 4.11-10
4.11-3 Tulare County LAFCO's Policies 4.11-12
4.11-4 Land Use Element 4.11-13
4.13-1 Typical Noise Levels Associated with Common Activities 4.13-2
4.13-2 Outside-to-Inside Noise Attenuation (dBA) 4.13-4
4.13-3 Measured Baseline Outdoor Ambient Noise Levels 4.13-6
4.13-4 Significance of Changes in Roadway Noise Exposure 4.13-7
4.13-5 Selected Powered Equipment Noise Emission Levels from RCNM 4.13-14
4.13-6 Estimated Distances between Construction Activities and the Nearest Noise-Sensitive Receptors 4.13-15
4.13-7 Predicted Construction Noise Levels per Construction Phase 4.13-16
4.13-8 Project Related Off-site Traffic Noise Levels (dBA CNEL) 4.13-19
4.13-9 Roadway Traffic Noise Exposure Levels at Project Residences 4.13-20
4.13-10 Vibration Velocities for Typical Construction Equipment 4.13-22
4.13-11.Distance Radius From Construction Equipment to Vibration Level of 0.2 ips PPV 4.13-23
4.14-1 2030 Total County Population Forecast for Tulare County 4.14-2
4.14-3 2023 County Housing Needs Forecast 4.14-4
4.14-4 City of Tulare Population 4.14-4
4.14-5 Employment (Cities of Tulare, Porterville, Hanford, Visalia, and Tulare County) 4.14-4
4.14-6 Household Growth Trends (City of Tulare 1990-2014) 4.14-5
4.17-1. Home Based VMT Per Capita Comparison 4.17-11
4.17-2. Peak-Hour Queuing Summary for Opening Year (2032) plus Project Conditions 4.17-13
4.17-3. Peak-Hour Queuing Summary for Horizon Year (2040) plus Project Conditions 4.17-14
4.18-1 Existing and Proposed Water Demand 4.18-11
4.18-2 Anticipated Solid Waste Generation - Construction 4.18-12
4.18-3 Anticipated Solid Waste Generation - Operation 4.18-12
5-1 Cumulative Projects 5-2

7-1 Comparison of Proposed Project Development and Alternative 2 Development 7-6
7-2 Alternatives Summary Matrix 7-17

APPENDICES

A Notice of Preparation
B-1 Health Effects of Criteria Air Pollutants
B-2 Health Risk Assessment
B-3 Ambient Air Quality Assessment
C Biological Resources Assessment
D-1 Archaeological Resources Inventory Report
D-2 Built Environment Inventory and Evaluation Report
E Paleontological Resources Inventory Memorandum
F Hazardous Materials Assessment
G Water Supply Assessment
H Noise Technical Report
I Transportation Analysis

INTENTIONALLY LEFT BLANK

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
20X2020	20% reduction in water use by 2020
AAQA	Ambient Air Quality Analysis
AB	Assembly Bill
AC	Asphaltic Concrete
ACM	asbestos-containing materials
ACOE	Army Corp of Engineers
ADT	Average Daily Trips
AE-40	Exclusive Agricultural Zone – 40 Acre Minimum
AERMOD	Meteorological Society/Environmental Protection Agency Regulatory Model
AFY	acre-feet per year
APN	Assessor's Parcel Number
APSA	Aboveground Petroleum Storage Act
AST	aboveground storage tank
BACM	Best Available Control Measures
BAU	business-as-usual
BLS	United States Bureau of Labor Statistics
BMP	best management practice
BPS	best performance standard
BSA	Biological Study Area
BUG	backlight, uplight, and glare
CAAQS	California Ambient Air Quality Standards
CAC	Certified Asbestos Consultant
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CalGEM	California Geologic Energy Management Division
CALGreen	California Green Building Standards Code
CalOSHA	California Occupational Safety and Health Administration
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CBTP	Community-Based Travel Planning
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDMG	California Division of Mines and Geology
CDOT	California Department of Transportation
CEC	California Energy Code
CEQA	California Environmental Quality Act

Acronym/Abbreviation	Definition
CESA	California Endangered Species Act
CFC	California Fire Code
CFD	Community Facilities Districts
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resource Information System
CIWM	California Integrated Waste Management
CNEL	community noise equivalent level
CNG	compressed natural gas
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COS	College of the Sequoias
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted decibel
DGS	Department of General Services
DIF	Development Impact Fees
DOC	Department of Conservation
DOF	Department of Finance
DPM	diesel particulate matter
DSA	Division of the State Architect
DTSC	Department of Toxic Substances Control
DTSC-SL	DTSC-Modified Screening Levels
DWR	California Department of Water Resources
EDD	Employment Development Department
EERP	Enforcement and Emergency Response Program
EIR	environmental impact report
EISA	Energy Independence and Security Act of 2007
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERM	Environmental Resources Management
ESA	Environmental Site Assessment
ESL	Environmental Screening Level

Acronym/Abbreviation	Definition
EV	electric vehicle
EVSE	electric vehicle supply equipment
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FRAP	Fire and Resources Assessment Program
FTA	Federal Transit Authority
GHG	greenhouse gas
GKGSA	Greater Kaweah Groundwater Sustainability Agency
GLC	ground level concentration
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWP	global warming potential
H_2S	hydrogen sulfide
HAP	hazardous air pollutant
HCD	Housing and Community Development
HDR	High Density Residential
HERO	Human and Ecological Risk Office
HFC	hydrofluorocarbon
HHRA	Human Health Risk Assessment
HMBP	Hazardous Materials Business Plan
HMIS	Hazardous Material Inventory Statements
HMMP	Hazardous Material Management Plan
HOA	Homeowner's Association
HRA	health risk assessment
HSC	California Health and Safety Code
HVAC	heating, ventilation, and air conditioning
IBC	International Building Code
IDB	Infectious Diseases Branch
IFC	International Fire Code
IRA	Identified Resource Area
ISR	Indirect Source Review
ITS	Intelligent Transportation System
KDWCD	Kaweah-Delta Water Conservation District
LAFCO	Local Agency Formation Commission
LBP	lead-based paint

Acronym/Abbreviation	Definition
LCD	liquid crystal display
LCFS	Low Carbon Fuel Standard
LDR	Low Density Residential
LLAD	Landscaping and Lighting Districts
LOS	level of service
LRA	Local Responsibility Area
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
MDR	Medium Density Residential
MGD	gallons per day
MKGSA	Mid-Kaweah Groundwater Sustainability Agency
MLD	most likely descendant
MM-	Mitigation Measure
MMT	million metric tons
MPO	Metropolitan Planning Organization
MRZ	Mineral Resources Zones
MS4	municipal separate storm sewer system
MT	metric tons
MW	megawatt
MWELO	Model Water Efficient Landscape Ordinance
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standard
NAHC	Native American Heritage Commission
NC	Neighborhood Commercial
NESHAP	National Emission Standards for Hazardous Air Pollutants
NF_3	nitrogen trifluoride
NFIP	National Flood Insurance Program
NHMLA	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
PCB	polychlorinated biphenyl
PCC	Portland Cement Concrete
PCT	Pacific Crest Trail

Acronym/Abbreviation	Definition
PDF	project design features
PEA	Preliminary Endangerment Assessment
PFC	perfluorocarbon
PM	particulate matter
PM_{10}	coarse particulate matter
PPV	peak particle velocity
PR	Parks and Recreation
PRC	Public Resources Code
RACM	Reasonably Available Control Measures
RACT	Reasonably Available Control Technology
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
REL	reference exposure level
RFS	Renewable Fuel Standard
RHNA	Regional Housing Needs Assessment
RMA	Resource Management Agency
ROG	reactive organic gas
RPS	Renewables Portfolio Standard
RSL	Regional Screening Levels
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SDWA	Safe Drinking Water Act
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SFR	single-family residential
SGMA	Sustainable Groundwater Management Act
SIL	Significant Impact Level
SIP	State Implementation Plans
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLF	Sacred Lands File
SLM	sound level meter
SMARA	Surface Mining and Reclamation Act
SMP	Soil Management Plan
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SOI	Sphere of Influence

Acronym/Abbreviation	Definition
SOx	sulfur oxides
SP	service population
SPCC	Spill Prevention, Control, and Countermeasure
SPL	sound pressure level
SR	State Route
SRA	State Responsibility Area
SSJVIC	Southern San Joaquin Valley Information Center
ST	short-term
SUESD	Sundale Union Elementary School District
SVP	Society of Vertebrate Paleontology
SWMP	Storm Water Management Program
SWPPP	stormwater pollution prevention plan
SWRCB	California State Water Resources Control Board
SZ	Scientific Resource Zones
TAC	toxic air contaminant
TCAG	Tulare County Association of Governments
TCAT	Tulare County Area Transit
TCFD	Tulare County Fire Department
TCP	2,3-trichloropropane
TCR	Tribal Cultural Resources
TCSDK8	Tulare City School District
TDM	transportation demand management
TFD	Tulare Fire Department
TIME	Tulare InterModal Express
TIS	Transportation Impact Study
TJUHSD	Tulare Joint Union High School District
TMDL	total maximum daily load
TNM	Traffic Noise Model
TOD	Transit-Oriented Development
TPD	Tulare Police Department
TPL	Tulare Public Library
TSCA	Toxic Substances Control Act
TSM	transportation systems management
TWPCF	Tulare Water Pollution Control Facility
UDB	Urban Development Boundary
USACE	U.S. Army Corp of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
UWMPA	Urban Water Management Planning Act
VMT	vehicle miles traveled

Acronym/Abbreviation	Definition
WEAP	Worker Environmental Awareness Program
WRCC	Western Regional Climate Center
WUI	Wildland-Urban Interface
WWTF	wastewater treatment facility
ZEV	zero-emissions vehicle

INTENTIONALLY LEFT BLANK

1 Executive Summary

1.1 Introduction

This Environmental Impact Report (EIR) was prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental effects associated with implementation of the Chandler Grove Master Plan and Annexation Project (Project). It was prepared in accordance with Title 14, Section 15000 et seq. of the California Code of Regulations (CEQA Guidelines), and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Tulare (City). Consistent with CEQA Guidelines Section 15161, this document is a project-level EIR and evaluates the potential environmental impacts associated with a specific project. As the lead agency for the Project, the City must complete an environmental review to determine if the Project could potentially result in significant adverse environmental effects. A detailed description of the Project is provided in Chapter 3, Project Description.

CEQA Guidelines Section 15002 states that the basic purposes of CEQA are to:

- Inform governmental decision makers and the public about the potential significant environmental effects of proposed government actions (including the discretionary approval of development projects);
- Identify the ways that environmental damage can be avoided or significantly reduced; and
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.

If a project will be approved involving significant environmental effects, the lead agency must also disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose.

This Executive Summary summarizes the requirements of the CEQA Guidelines; provides an overview of the project, considered alternatives; states the purpose of this EIR; and summarizes the impacts of the project and the feasible mitigation measures; and states the controversy and issues to be resolved. This summary does not contain the extensive background and analysis found throughout the individual chapters within the EIR. Therefore, the reader should review the entire document to fully understand the Project and its environmental impact.

1.2 Project Location

The Project site is currently located within the western portion of unincorporated Tulare County (County) but would be annexed to the City of Tulare (City) as part of the Project. The Project site is comprised of four separate parcels and includes Assessor's Parcel Numbers [APNs] 184-050-007, 184-050-034, 184-050-035, and 184-050-010. The site is bound by S. Oakmore Street (Road 124) to the west, the East Tulare Villa community to the east, Avenue 228 to the north, and E. Bardsley Ave to the south. Present on the site is a walnut orchard and three residences and associated outbuildings in the north and one abandoned equipment paddock in the east portion of the site, as well as a ditch that traverses a portion of the site. There are also two mature Valley oak trees in the northwest portion of the site. The Project site is currently within the County's Exclusive Agricultural Zone – 40 Acre Minimum (AE-40), Ag Preserve Number 0002326, and under Ag Preserve Contract Number 06925. The Project site is located within the COS North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City of Tulare. Characteristics of transit-oriented development consist of

having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The proposed Project would be generally consistent with the TOD plan in its design.

In addition to the 231-acre Project site, the Project would annex into the City approximately 489.26-acres of land owned by the COS which comprises the existing COS Tulare Campus. The Project would also annex approximately 142.41-acres located south of E. Bardsley Avenue which is currently being utilized as a groundwater recharge basin and is owned by the Kaweah-Delta Water Conservation District (KDWCD). In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time.

1.3 Project Description

Project Summary

The proposed Project consists of a mixed-use development on approximately 231 acres of active agricultural land in Tulare County, CA (see Figure 3-1, Location Map and Figure 3-2, Project Site). 10.3 acres of perimeter right-of-way would be dedicated as part of the project, leaving approximately 220 acres for development. Once developed, proposed project site would include approximately 1,197 total units of low, medium, and high-density residential (163.1 acres), a central park (14.1 acres), a neighborhood commercial center (10.8 acres), a school (4.9 acres), and a community center (0.78 acres). Parks would act as natural areas, provide stormwater detention, and include playgrounds, plazas and shelters, open turf areas for field sports, as well as trails for recreation. Trails throughout the site would connect to schools, parks, the community center and the commercial center. An open irrigation canal currently passes through the property from the north to the south and would be piped underground within the same general alignment during project development and flow through the channel would not be changed. The housing would include approximately 364 units of low-density single-family units, 281 units of medium density single family units and townhomes, and 552 high density apartments.

As noted above, the project proposes to annex into the City the 231-acre Project site, approximately 489.26-acres of land owned by the COS which comprises the existing COS Tulare Campus, and approximately 142.41-acres located south of E. Bardsley Avenue which is currently being utilized as a groundwater recharge basin and is owned by the KDWCD. The intent of the annexation is to facilitate development of the approximately 231-acre 'Chandler Grove' area consistent with the City's adopted TOD Plan. The COS and KDWCD areas are included as part of the annexation request, but no changes in existing uses are proposed for these areas. Rather, these areas are being included in order to ensure an orderly manner of growth of the City, as these properties would be complimentary and supportive of the Chandler Grove proposed master plan area.

Project Construction

Construction of the proposed Project, if approved, would be completed in phases. Development is anticipated to be constructed over the course of up to 10 years. Utilities such as water, electrical, and gas required for the Project would tie into the existing infrastructure near the Project site within the road rights-of way. Perimeter improvements such as the installation of curbs, gutters, sidewalks on adjacent roads, and transit stops would be completed as required by the City's development standards and the TOD Plan.

1.4 Project Objectives

Section 15124(b) of the CEQA Guidelines requires that an EIR include a statement of the project objectives that "include the underlying purpose of the project and may discuss the project benefits." The following objectives have been identified for the Project:

1. Provide housing opportunities that are consistent with the City's Housing Element and the College of the Sequoias (COS) North Transit Oriented Development Plan Area, including having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities, while minimizing environmental effects.
2. Create a new community to serve existing and future Tulare residents as well as the COS community, by providing a plan that includes child- and family-oriented neighborhood amenities in a central location within the development where residents can access many of their basic activities and needs via walking or biking.
3. Provide functional compatibility with existing residential neighborhoods and development while enhancing the City's ability to provide for fiscally positive development.
4. Develop homes on a site that can be served by existing utilities, services, and street access.
5. Amend the City's jurisdictional boundary to include the Project site and adjacent property to be consistent with the Tulare County Local Agency Formation Commission's (LAFCO) mission to encourage the logical and orderly development of cities and to promotes the efficient extensions of municipal services.

1.5 Discretionary Actions

The following discretionary actions would be required for the proposed Project:

- Consideration and certification of EIR
- Approval of a zone amendment (pre-zoning for anticipated annexation)
- Approval of General Plan Amendment
- Exclusion from Agricultural Preserve Number 0002326,
- Cancellation of Agricultural Preserve Contract 06925, and
- Annexation of the property from the County of Tulare to the City of Tulare
- Upon completion of the annexation of the project site into City limits, a parcel map detailing site development per the approved land use and zoning designations would be submitted to the City for review and approval prior to the start of construction.
- Approval for water and sewer infrastructure
- Approval for surrounding roadway and perimeter improvements such as sidewalks, curbs, gutters
- Issue grading and building permits

1.6 Summary of Impacts

Table 1-1, Summary of Impacts, presents a summary of the Project's significant environmental impacts, mitigation measures, and the level of significance after the implementation of the mitigation measures.

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Aesthetics			
Have a substantial adverse effect on a scenic vista.	No Impact	No mitigation would be required.	No Impact
Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No Impact	No mitigation would be required.	No impact
In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.	Less than significant	No mitigation would be required	Less than significant
Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Less than significant	No mitigation would be required	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Agriculture and Forestry Resources			
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 Agency, to non-agricultural use.	Potentially Significant	**MM AG-1:** Prior to issuance of a grading or building permit, whichever occurs first, the Project proponent shall provide written evidence of completion of one or more of the following measures, consistent with Tulare General Plan Policy COS-P3.12 to mitigate the loss of agricultural land at a ratio of 1:1 for net acreage before conversion: Funding and/or purchasing agricultural conservation easements which shall be managed and maintained by an appropriate entity; Purchasing credits from an established agricultural farmland mitigation bank; Contributing agricultural land or equivalent funding to an organization that provides for the preservation of farmland in California; or Participating in any agricultural land mitigation program adopted by Tulare County that provides equal or more effective mitigation than the measures listed above. The net acreage calculation used to determine mitigation lands shall exclude the existing roads and areas already developed with structures on the project site. A site plan shall be submitted to the City of Tulare Community Development Department to substantiate the net acreage calculation, along with written evidence of compliance.	Significant and Unavoidable

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		Mitigation land shall meet the definition of Prime Farmland and be of similar agricultural quality or higher, as established by the Department of Conservation. Completion of the selected measure or a combination of selected mitigation measures can occur on qualifying land within the southern San Joaquin Valley (Kings, Tulare, or Kern County) that is located outside of a City's UDB and shall be approved by the City of Tulare Community Development Department Director.	
Conflict with existing zoning for agricultural use, or a Williamson Act contract.	Potentially Significant	**MM AG-1** **MM AG-2:** Prior to the issuance of a grading or building permit, Project proponent must submit proof of the executed exchange and cancellation of the Williamson Act Contract to the City of Tulare Planning Director.	Significant and Unavoidable
Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland ((as defined by the Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by the Government Code section 51104 (g)).	No Impact	**No mitigation would be required.**	No impact
Result in the loss of forest land or conversion of forest land to non-forest use.	No impact	**No mitigation would be required.**	No impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
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.	Potentially Significant	MM-AG-1 through MM-AG-2	Significant and Unavoidable
Cumulative Impacts	Potentially Significant	MM-AG-1 through MM-AG-2	Cumulatively Significant and Unavoidable
Air Quality			
Conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant	MM-AQ-1 **Low-VOC/Green Cleaning** Product and Low VOC Architectural Coating Educational Program. Prior to the occupancy of any on-site development, the Project Applicant or its designee shall provide evidence to the City of Tulare that the applicant/phase developer has developed a Green Cleaning Product and Architectural Coating (Paint) education program to be made available at rental offices, leasing spaces, and/or on websites. MM-AQ-2 **Tier 4 Final Equipment.** For heavy-duty diesel equipment with engines 75 horsepower or greater, use equipment equipped with Tier 4 Final engines. Prior to the commencement of construction activities for the Project, the Project Applicant shall require its construction contractor to demonstrate that all 75-horsepower or greater diesel-powered equipment is powered with California Air Resources Board (CARB)-certified Tier 4 Final engines. MM-AQ-3 **Multi-Family Residential Parking.** Applications for	Significant and Unavoidable

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		building permits submitted to City by the project proponent/developer shall include plans and specifications demonstrating that the following features have been incorporated into the building designs or specifications for multifamily residential buildings: • Visitor parking shall include preferentially located parking spaces for electric vehicles. • Bicycle parking shall be provided as specified in Section A4.106.9, Residential Voluntary Measures, of the California Green Building Standards (CALGreen) Code. **MM-AQ-4** **Multi-Family Residential and Park/Trail Parking.** Applications for a tentative tract map, parcel map (excluding financing map), or commercial site plan review, that include parking structures, parking lots with 20 or more parking spaces that serve uses other than residential or nonresidential buildings (e.g., trailhead, park), and parking structures and parking lots that serve multifamily residential buildings with 15 or more multifamily units, shall include a minimum of 5% of preferentially located parking spaces shall be reserved for electric and ride-share vehicles. **MM-AQ-5** **Preferential Parking and Electric Vehicle Charging for Nonresidential Buildings.** Applications for commercial site plan review and building permits for nonresidential buildings shall include preferential parking for electric cars, low emission vehicles, and carpools/vanpools to encourage use	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		of such vehicles. Proof of compliance shall be provided to the City prior to the issuance of occupancy permits. Preferential parking for such vehicles shall include two spaces for non-residential lots containing 10 to 25 spaces; four spaces for 26 to 50 space lots; six spaces for 51 to 75 space lots; nine spaces for 76 to 100 space lots; eleven spaces for 101 to 150 space lots; 18 spaces for 151 to 200 space lots; and at least 10% of total spaces for lots with more than 200 spaces.	
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard	Potentially Significant	MM-AQ-1 though MM-AQ-5	Significant and Unavoidable during construction; Less than significant during operations.
Expose sensitive receptors to substantial pollutant concentrations	Potentially Significant	MM-AQ-2	Less than significant
Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Potentially Significant	MM-AQ-1 through MM-AQ-5	Cumulatively significant and unavoidable
Biological Resources			
Have a substantial adverse effect, either directly or	Potentially Significant	MM-BIO-1 San Joaquin Kit Fox. The applicant shall have a qualified biologist conduct a pre-construction survey	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
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.		for San Joaquin kit fox no less than 14 days and no more than 30 days prior to any construction related activities. Surveys will be conducted on the Project site and within a 200-foot buffer zone within areas where legal access is available in order to evaluate and ascertain if kit fox is using the Project site. If an active kit fox den is observed within the work area or 200-foot buffer zone, the CDFW and USFWS shall be contacted prior to disturbance within 200 feet of the den to determine the best course of action. If no kit fox activity is detected, work shall continue as planned and a brief memo shall be submitted to the CDFW and USFWS after the completion of the pre-construction survey. While San Joaquin kit foxes are not anticipated to access the site during construction, the applicant shall implement precautionary measures following the *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* developed by the USFWS (2011) as follows: 1. Project-related vehicles shall observe a 20-mph speed limit in all Project areas, except on county roads and state and federal highways; this is particularly important at night when kit foxes are most active. Nighttime construction shall be minimized. Off-road traffic outside of designated Project areas shall be prohibited. 2. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe, becoming trapped or injured. If a San	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		Joaquin kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped. 3. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed regularly from a construction or Project site. 4. Use of rodenticides and herbicides in Project areas shall be restricted as follows. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of proven lower risk to kit fox. 5. Escape ramps shall be provided for all open trenches or ditches deeper than 2 feet to allow animals to escape. 6. Any contractor or employee who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their representative. The representative shall contact the USFWS & CDFW immediately in	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		the case of a dead, injured, or entrapped kit fox. 7. The USFWS and CDFW shall be notified in writing within 3 working days of the accidental death or injury to a San Joaquin kit fox during Project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. **MM-BIO-2** **Pre-Construction Surveys for Burrowing Owl and Avoidance.** One pre-construction burrowing owl survey shall be completed no more than 14 days before initiation of site preparation or grading activities, and a second survey shall be completed within 24 hours of the start of site preparation or grading activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction surveys, the Project site shall be resurveyed. Surveys for burrowing owl shall be conducted in accordance with protocols established in the 2012 Staff Report on Burrowing Owl Mitigation prepared by the California Department of Fish and Game [now California Department of Fish and Wildlife (CDFW). If burrowing owls are detected, a Burrowing Owl Relocation Plan shall be implemented in consultation with the CDFW. As required by the Burrowing Owl Relocation Plan, disturbance to burrows shall be avoided during the nesting season (February 1 through August 31). Buffers shall be established around occupied burrows in	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			accordance with guidance provided in the Staff Report on Burrowing Owl Mitigation or current version. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed. Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project area and within a buffer zone by installing one-way doors in burrow entrances. These doors shall be placed at least 48 hours prior to ground-disturbing activities. The Project area shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat shall be provided following the guidance in the Staff Report on Burrowing Owl Mitigation (current version). Where possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow.	
		MM-BIO-3	Swainson's Hawk. Should initiation of construction be scheduled during the Swainson's hawk nesting season (February 1 through September 15), the Project applicant shall have pre-construction Swainson's hawk surveys conducted by a qualified biologist in accordance with the California	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		Department of Fish and Wildlife (CDFW)-endorsed protocol for the Central Valley as detailed in the Swainson's Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Given the disturbed nature of the Project site, these surveys shall be conducted in areas of suitable nesting habitat within 0.25 mile of the site, including staging areas, where accessible. Pursuant to the protocols, surveys shall be conducted for at least two survey periods immediately prior to construction activities, if possible. If 21 days have lapsed from the end of the last survey to the beginning of construction activities, a pre-construction survey shall be conducted no more than 1 week prior to the start of scheduled construction activities during the Swainson's hawk nesting season. For any active Swainson's hawk nest found within 0.25 mile of proposed construction activities, a no-disturbance buffer shall be established and maintained until, as determined by periodic monitoring by a qualified biologist, the nest is empty, and the young are no longer dependent on the nest. The actual no-disturbance buffer distance shall be determined by a qualified biologist and shall take into consideration the level and extent of construction disturbance; nesting phase of the active nest; existing vegetative, topographic, noise, or visual barriers between the nest and the project site; and existing levels of human activity and land uses in the immediate area. The biologist shall prepare and issue periodic reports to the Client on	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		the status of the nesting hawks, noting whether hawks are still present and describing the stage of breeding activities and nesting behavior. Once the hawks have left the area, restrictions on construction shall be lifted. In addition, during the monitoring period, if any behaviors are observed indicating potential distress by the adult birds, the biologist will confer with the construction supervisors and CDFW to determine a course of action that will reduce distress levels for the nesting pair. If a no disturbance buffer is not feasible, the Project applicant shall consult with CDFW to determine whether the Project can avoid take. If take cannot be avoided, the Project applicant may need to apply for an Incidental Take Permit pursuant to Fish and Game Code Section 2081(b), prior to initiating ground-disturbing activities. MM-BIO-4 **Pre-Construction Nesting Bird Surveys and Avoidance.** Construction activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impact to birds that may be nesting in the survey area. If construction activities must occur during the migratory bird nesting season, the Project applicant shall have an avian nesting survey of the Project site conducted by a qualified wildlife biologist including within 500 feet of all impact areas to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be conducted within 72 hours prior to the start of construction. If an active bird nest is found, the nest shall be flagged and	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			mapped on the construction plans along with an appropriate "no disturbance" buffer established around the nest, which shall be determined by a the biologist based on various criteria including existing visual, noise, or topographic barriers between the disturbance area and the nest; the type, timing, and extent of the disturbance activity; and the nesting phase (nest building, incubation, age of young, etc.) of active nests being avoided and construction personnel shall be instructed on the sensitivity of nest areas. The nest area shall be avoided until the nest is vacated and the juveniles have fledged, as determined by the biologist. The biologist shall serve as a construction monitor during those periods when construction activities shall occur near active nest areas to ensure that no inadvertent impacts on these nests shall occur. No Project activities shall encroach into established buffers without the consent of the monitoring biologist.	
		MM-BIO-5	**Compliance Monitoring.** A qualified biologist shall be on site daily, or as otherwise determined to be necessary, if active bird nests were detected during the pre-construction nest surveys (MM-BIO-4) to ensure established no-disturbance buffers are recognized and to determine when such nest are no longer active. The qualified biologist shall also conduct compliance inspections to minimize incidental impacts to other sensitive biological resources; prevent unlawful take of those resources; to ensure that signs, stakes, and fencing are intact; and to ensure that impacts are only occurring within the permitted development footprint. Weekly written observation and inspection	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			records shall be prepared by the biologist that summarize oversight activities and compliance inspections and monitoring activities and be submitted to Client.	
		MM-BIO-6	**Education Program.** A Worker Environmental Awareness Program (WEAP) for all construction workers working in the Project area shall be administered before the initiation of any Project-associated ground disturbances occur. The WEAP shall consist of a presentation from a qualified biologist that includes a discussion of the biology and status of special-status animal species potentially occurring on the Project site and various biological resources mitigation measures described herein. Interpretation for non-English-speaking workers shall be provided if necessary, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project area. Upon completion of the WEAP, employees shall sign a form indicating attendance at the program and that all protection measures are understood.	
		MM-BIO-7	**Construction Monitoring.** The Project applicant shall retain a qualified biological monitor to maintain a construction-monitoring notebook on site throughout the construction period, which shall include a copy of the biological resources mitigation measures with attachments and a list of signatures of all construction personnel who have successfully completed the Worker Environmental Awareness Program. The biologist and/or project contractor shall ensure that a copy of the construction monitoring notebook is available for review at the Project site upon request by the California	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and/or the City of Tulare. **MM-BIO-8** **Hazardous Waste.** If any fuel or hazardous waste leaks or spills occurs during construction activities, the Project applicant shall immediately stop work and, pursuant to state and federal statutes and regulations, arrange for repair and clean up by qualified individuals at the time of occurrence, or as soon as it is safe to do so. **MM-BIO-9** **Nighttime Lighting.** If nighttime lighting for construction activities and operations is required and is within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, lighting shall be directed away from those areas that contain habitat for special-status wildlife. **MM-BIO-10** **Trash and Debris.** The following avoidance and minimization measures shall be implemented during Project construction: 1. Fully covered trash receptacles that are animal-proof shall be installed on-site during construction and used by all construction workers to contain food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles shall be removed at least once a week from the Project site. 2. Construction work areas shall be kept clean of debris, such as cables, trash, and construction materials. All construction/contractor workers shall collect all litter, vehicle fluids, and food	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		waste from the Project site on a daily basis and stored in a covered refuse container.	
Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	Less than significant	**No mitigation would be required.**	Less than significant
Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal wetlands and drainages, etc.) through direct removal, filling, hydrological interruption, or other means.	Potentially Significant	**MM-BIO-5 through MM-BIO-10 and** **MM-BIO-11 Aquatic Resources Mitigation.** The Project site supports aquatic resources that are potentially jurisdictional under the Army Corp of Engineers (ACOE), Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW). Prior to the initiation of any construction activity potentially affecting the onsite irrigation canal, the Project applicant shall conduct a formal jurisdictional delineation to determine whether or not the canal is considered waters of the U.S. and, if so, to determine the extent of the jurisdiction on the Project site. The delineation shall also serve to determine the extent of RWQCB and CDFW jurisdiction within the Project site. If the canal is considered under the jurisdiction of any or all of these resource agencies, impacts to jurisdictional areas shall require appropriate permits from each agency and implementation of any compensatory	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		mitigation required in each permit to mitigate the loss of the biological functions and values of the canal. The compensatory mitigation ratio shall be determined in consultation with the appropriate agencies with the goal of no net loss of habitat functions and values. Potential compensatory mitigation options include purchasing mitigation credits from an agency-approved wetlands mitigation bank or paying an agency-approved in-lieu fee. Where direct impacts to jurisdictional aquatic resources can be avoided, exclusion fencing shall be installed between the avoided aquatic resource and limits of disturbance to protect from indirect impacts. A qualified wetland specialist shall oversee and guide installation of exclusion fencing. Appropriate best management practices and spill prevention measures shall also be implemented to ensure protection of jurisdictional aquatic resources during Project construction.	
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.	Less than significant	**No mitigation would be required.**	Less than significant
Conflict with any local policies or ordinances protecting biological resources, such as a tree	Less than significate with migration incorporated	**MM-BIO-12** **Heritage Trees.** If Project construction requires removal of the on-site Valley oak trees that meet the City's definition of a heritage tree, the Project applicant shall obtain a heritage tree removal	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
preservation policy or ordinance.		permit. Within seven days of receipt of the application, the Director shall inspect the premises whereon the heritage trees are located and shall issue an intended decision in writing as to whether or not the application will be approved, with or without conditions; provided, however, that failure to render an intended decision within such period shall not be deemed approval. The intended decision of the Director shall be based upon reasonable standards, including, but not limited to, the following: A. The condition of the heritage tree with respect to its general health, status as a public nuisance, danger of falling, proximity to existing or proposed structures, interference with utility services and its status as host for plant, pest or disease endangering other species of trees or plants with infection or infestations. B. The necessity of the requested action to allow construction of improvements or otherwise allow economic or other reasonable enjoyment of property. C. The topography of the land and the effect of the requested action on soil retention, water retention and diversion or increased flow of surface waters. D. The number, species, size, and location of existing trees in the area and the effect of the requested action on shade areas, air pollution, historic values, scenic beauty, and the general welfare of the city as a whole. E. Good forestry practices such as, but not limited to, the number of healthy trees the subject	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		parcel of land will support. In the intended decision on an application for a permit, the Director may attach reasonable conditions to ensure compliance with the stated purposes of this chapter, such as, but not limited to, a condition requiring up to two replacement trees from 15-gallon containers or larger, in a suitable location as substitutes for the removed tree or trees, at the sole expense of the applicant. Any such intended decision shall include a statement for the reasons for the decision.	
Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	Less than significant	No mitigation would be required.	Less than significant
	Potentially Significant	MM-BIO-1 through MM-BIO-12	Less than cumulatively considerable
Cultural and Tribal Cultural Resources			
Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.	Potentially Significant	MM-CUL-1 **Workers Environmental Awareness Program (WEAP) Training.** All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified archaeologist to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP	Less than Significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the on-call archaeologist and if appropriate, tribal representative. Necessity of training attendance should be stated on all construction plans.	
		MM-CUL-2 **On-Call Archaeological Construction Monitoring.** In consideration of the general sensitivity of the Project site for cultural resources, a qualified archaeologist should be retained to conduct spot monitoring as well as on-call response in the case of an inadvertent discovery of archaeological resources. A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits. The archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency and the San Joaquin Valley Information Center with the results of the archaeological monitoring program.	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-CUL-3 **Inadvertent Discovery of Archaeological Resources.** All construction crew members shall be alerted to the potential to encounter archaeological material. In the unlikely event that cultural resources (sites, features, or artifacts) are exposed during construction activities, all construction work occurring within 100 feet of the find shall immediately stop and the lead agency representative contacted. A qualified specialist, meeting the Secretary of the Interior's Professional Qualification Standards, shall be assigned to review the unanticipated find, and evaluation efforts of this resource for the NRHP and CRHR listing shall be initiated in consultation with the lead agency. Prehistoric archaeological deposits may be indicated by the presence of discolored or dark soil, fire-affected material, concentrations of fragmented or whole freshwater bivalves shell, burned or complete bone, non-local lithic materials, or the characteristic observed to be atypical of the surrounding area. Common prehistoric artifacts may include modified or battered lithic materials; lithic or bone tools that appeared to have been used for chopping, drilling, or grinding; projectile points; fired clay ceramics or non-functional items; and other items. Historic-age deposits are often indicated by the presence of glass bottles and shards, ceramic material, building or domestic refuse, ferrous metal, or old features such as concrete foundations or privies. Preservation in place through avoidance, capping, or other options should be considered the preferred option for management of any inadvertent cultural discovery. If the discovery proves potentially significant under CEQA, and the area cannot be	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		feasibly avoided, additional work, such as preparation of an Archaeological Treatment Plan, testing, or data recovery, may be warranted.	
Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.	Potentially Significant	MM-CUL-1 through MM-CUL-3	Less than significant
Disturb any human remains, including those interred outside of dedicated cemeteries.	Potentially Significant	MM-CUL-4 **Inadvertent Discovery of Human Remains.** Should human remains be discovered, work shall halt in that area and procedures set forth in PRC Section 5097.98 and California Health and Safety Code Section 7050.5 shall be followed, beginning with notification to the County Coroner. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has reviewed the site conditions and determined, within 2 working days of notification of the discovery, if the remains are human and appropriate next steps. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant shall provide their recommendation within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner,	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		the disposition of the human remains.	
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)?	Potentially Significant	MM-CUL-3 and MM-CUL-4	Less than significant
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	Potentially Significant	MM-CUL-3 and MM-CUL-4	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			
Cumulative Impacts	Potentially Significant	MM CUL-1 through MM-CUL-4	Less than cumulatively considerable
Energy			
Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	Less than significant	No mitigation would be required.	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less than Significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Geology and Soils			
Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			
a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	No Impact	No mitigation would be required.	No Impact
b. Strong seismic ground shaking?	Less than significant	No mitigation would be required.	Less than significant
c. Seismic related ground failure including liquefaction?	Less than significant	No mitigation would be required.	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
d. Landslides?	No impact	No mitigation would be required.	No impact
Result in substantial soil erosion or the loss of topsoil.	Less than significant	No mitigation would be required.	Less than significant
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	No mitigation would be required.	Less than significant
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.	Less than significant	No mitigation would be required.	Less than significant
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.	No impact	No mitigation would be required	No impact
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant	MM-GEO-1 Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist as defined by the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The qualified paleontologist or their representative shall attend the preconstruction meeting and present a worker environmental awareness training	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)		Level of Significance After Mitigation
			to construction personnel. A paleontological monitor shall be on-site during any ground disturbance below a depth of ten feet below the ground surface to determine the feasibility for the sediments to contain paleontological resources. Based on subsurface observations by the paleontological monitor, in consultation with qualified paleontologist, monitoring needs may be increased or decreased. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Upon completion of the paleontological monitoring program, the qualified paleontologist shall prepare a final monitoring report documenting the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.	
Cumulative Impacts	Potentially Significant	**MM-GEO-1**		Less than cumulatively considerable
Greenhouse Gas Emissions				
Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the	Potentially Significant	**MM-GHG-1**	**Construction Emission Reductions.** Prior to the issuance of grading permits, the Project Applicant or its designee shall provide evidence to the City of Tulare that the following strategies are	Significant and Unavoidable

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
environment.		implemented: a) Use electric or hybrid powered equipment for generators and other small pieces of equipment (e.g., forklifts and saws), as commercially available. b) Use cleaner-fuel equipment such as replacing diesel fuel with compressed natural gas (CNG) or renewable diesel, as commercially available. c) Reduce idling time of heavy-duty trucks either by shutting them off when not in use or reducing the time of idling to no more than 3 minutes (5-minute limit is required by the state airborne toxics control measure 13 CCR § 2485). Commercially available equipment is herein defined as equipment sourced within 50 vehicle miles of the Project site and within 10% of the cost of the diesel-fueled-equivalent equipment. The Project Applicant must contact at least 3 contractors or vendors within Tulare County and submit to the City justification if the specified equipment is not commercially available.	
		MM-GHG-2 **Require Energy Efficient Appliances.** Prior to the issuance of building permits, the Project Applicant or its designee shall provide evidence to the City that exclusively ENERGY STAR-certified appliances shall be installed, which exceed the energy efficiency of conventional appliances.	
		MM-GHG-3 **Outdoor Electrical Outlets.** Prior to the issuance of building permits, the applicant or its designee shall provide evidence to the City of Tulare that the	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		design plans include electrical outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment. **MM-GHG-4** **Tree Planting.** Prior to the issuance of building permits, the applicant or its designee shall plant, at a minimum, one tree per every new residential dwelling unit proposed. Additionally, the applicant shall demonstrate that at least 75% of species planted are native to California or drought tolerant and appropriate for the climate zone region. These trees can be planted roadside, in medians, or in other commonly landscaped areas. **MM-GHG-5** **Water Use Efficiency and Water Conservation.** Prior to the issuance of building permits, the Project Applicant or its designee shall provide evidence to the City that the residential and recreational building design plans include the following water use efficiency and conservation measures, including: a) High-efficiency appliances/fixtures to reduce water use, and/or include water-efficient landscape design b) Low-flow or high-efficiency water fixtures c) Water-efficient landscapes with lower water demands than required by the California Department of Water Resources (DWR) 2015 Model Water Efficient Landscape Ordinance (MWELO) d) Planting of drought-tolerant plant species only e) Provide educational materials to future tenants and building occupants about water saving	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		behaviors and water-conserving landscaping. **MM-GHG-6** **Electric Vehicle Charging Infrastructure.** Prior to the issuance of building permits, the Project Applicant or its designee shall provide evidence to the City that the Project shall meet the EV charging infrastructure standards required by the most recent CALGreen standards. In order to be "EV Capable," the project shall provide EV charging infrastructure for 10% of parking spaces for medium- and high-density residential housing and the neighborhood commercial center.	
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Potentially Significant	MM-GHG-1 through MM-GHG-6	Significant and Unavoidable
Cumulative Impacts	Potentially Significant	MM-GHG-1 through MM-GHG-6	Cumulatively significant and unavoidable
Hazards and Hazardous Materials			
Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Potentially Significant	**MM-HAZ-1** **Soil Management Plan.** Prior to commencement of any earthwork or construction activities at the Project site, a Soil Management Plan (SMP) shall be developed that addresses potential impacts in soil associated with the prior uses of the Project site. The SMP shall outline procedures for characterization of soils in potentially impacted areas, including sampling procedures and screening levels for evaluation of current and future exposure scenarios (construction and residential, including future school site). Potential contaminants of concern may include, but are not limited to,	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		organochlorine pesticides due to historical agricultural use, petroleum hydrocarbons and volatile organic compounds due to former releases of automotive fluids and petroleum products, and metals associated with pesticide application and possible lead-based paints on structures. The SMP will outline which areas are above applicable regulatory screening levels, and outline procedures for removal and offsite disposal, or other disposition of impacted soils (burial under clean fill) during earthwork procedures. The SMP will include training procedures for identification of contamination, and shall describe procedures for assessment, characterization, management, and disposal of contaminated soils. Contaminated soils shall be managed and disposed of in accordance with local and state regulations. The SMP shall include health and safety measures, which may include but are not limited to periodic work breathing zone monitoring and monitoring for volatile organic compounds using a handheld organic vapor analyzer in the event impacted soils are encountered during excavation activities. The SMP will include procedures for characterization of imported fill materials, which will generally follow the 2001 DTSC Information Advisory, Clean Imported Fill Material (DTSC 2001). The applicant or its designee shall implement the SMP during excavation, grading, demolition, and construction activities for the proposed Project. **MM-HAZ-2** **Hazardous Building Material Survey and Abatement.** Prior to issuance of demolition permits,	

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		a survey shall be completed that identifies all hazardous building materials within the structures scheduled for demolition on the Project site. A California-licensed company will be contracted to conduct the survey; their report will include identification of all hazardous materials required for removal, and specifications for proper abatement. The Project applicant/developer shall ensure that the demolition contractor's contract specifications incorporate abatement procedures for the removal of materials containing asbestos, lead, polychlorinated biphenyls, hazardous material, hazardous wastes, and universal waste items. A California-licensed abatement contractor will be contracted to complete all abatement. A final report will be submitted following abatement that documents materials removed, disposal, permits, and licenses/certifications of contractors. Confirmation of adequate removal of such materials shall be provided prior to application of demolition permits. All abatement work shall be done in accordance with federal, state, and local regulations, including those of the U.S. Environmental Protection Agency (which regulates disposal), Occupational Safety and Health Administration, U.S. Department of Housing and Urban Development, California Occupational Safety and Health Administration (which regulates employee exposure), and the South Coast Air Quality Management District.	
Create a significant hazard to the public or the environment through	Potentially Significant	MM-HAZ-1 and MM-HAZ-2	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
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.	Potentially Significant	MM-HAZ-1 and MM-HAZ-2	Less than significant
Located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.	No impact	No mitigation would be required.	No impact
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No impact	No mitigation would be required.	No impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation would be required.	Less than significant
Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	No impact	No mitigation would be required.	No impact
Cumulative Impacts	Potentially Significant	MM-HAZ-1 and MM-HAZ-2	Less than cumulatively considerable
Hydrology and Water Quality			
Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	Less than significant	No mitigation would be required.	Less than significant
Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Less than significant	No mitigation would be required.	Less than significant
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river	Less than significant	No mitigation would be required.	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.			
Result in substantial erosion or siltation on or off site	Less than significant	No mitigation would be required.	Less than significant
Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.	Less than significant	No mitigation would be required.	Less than significant
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.	Less than significant	No mitigation would be required.	Less than significant
In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?	Less than significant	No mitigation would be required.	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Land Use and Planning			
Physically divide an established community.	No Impact	No mitigation would be required.	No Impact
Conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Mineral Resources			
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.	Potentially Significant	MM-MIN-1 If during development activities, any unknown oil, gas, or geothermal wells are encountered, CalGEM's construction site well review engineer in the Inland District Office will be immediately notified, and file for review of an amended site plan with well casing diagrams for review and approval by the District office.	Less than significant
Result in the loss of availability of a locally important mineral resource recovery site delineated on	Potentially Significant	MM-MIN-1	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
a local general plan, specific plan, or other land use plan.			
Cumulative Impacts	Less than cumulatively considerable	**No mitigation would be required**	Less than cumulatively considerable
Noise			
Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	Potentially significant	**MM-NOI-1** A temporary noise barrier of a minimum 12-foot height (as measured from the ground surface) shall be erected along any portions of the east boundary of the project site for construction activities that would take place within 300 feet of a given section of this boundary, and maintained in place for the duration of construction activities taking place within 300 feet of a given portion of the boundary.	Less than significant
Result in generation of excessive groundborne vibration or groundborne noise levels.	Less than significant	**No mitigation would be required.**	Less than significant
For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.	No impact	**No mitigation would be required.**	No impact

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Population and Housing			
Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	Less than significant	No mitigation would be required.	Less than significant
Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Public Services			
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:			
Fire protection	Less than significant	No mitigation would be required.	Less than significant
Police protection	Less than significant	No mitigation would be required.	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Schools	Less than significant	No mitigation would be required.	Less than significant
Parks	Less than significant	No mitigation would be required.	Less than significant
Other public facilities	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Recreation			
Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	Less than significant	No mitigation would be required.	Less than significant
Include recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Transportation			
Conflict with a program, plan, ordinance, or policy	Less than significant	No mitigation would be required.	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.			
Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	Less than significant	No mitigation would be required.	Less than significant
Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Potentially Significant	MM-TRA-1 **Local Site Access Analysis.** Conduct local site access analysis for individual driveway and access locations at the time detailed development plan(s) are proposed. Fair share costs shall be calculated when local access studies are completed as the plan area is developed.	Significant and unavoidable

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Result in inadequate emergency access.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Potentially Significant	MM-TRA-1	Significant and unavoidable
Utilities and Service Systems			
Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Less than significant	No mitigation would be required.	Less than significant
Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	Less than significant	No mitigation would be required.	Less than significant
Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant	No mitigation would be required.	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	Less than significant	No mitigation would be required.	Less than significant
Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable
Wildfire			
Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than significant	No mitigation would be required.	Less than significant
Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less than significant	No mitigation would be required.	Less than significant

Table 1-1. Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Less than significant	No mitigation would be required.	Less than significant
Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Less than significant	No mitigation would be required.	Less than significant
Cumulative Impacts	Less than cumulatively considerable	No mitigation would be required	Less than cumulatively considerable

Significant and Unavoidable Impacts

As identified in Table 1-1, the Project would result in significant and unavoidable impacts with regard to:

Agricultural Resources

- The conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- 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.
- Cumulative effect to agriculture resources

Air Quality

- 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 non-attainment under an applicable federal or state ambient air quality standard (construction only)
- Cumulative effect to air quality resources

Greenhouse Gas Emissions

- 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
- Cumulative effect on greenhouse gas emissions

Transportation

- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Cumulatively considerable transportation impacts.

These impacts are discussed in further detail below.

Agriculture and Forestry Resources. Implementation of the proposed project would result in the conversion of approximately 231 acres of active agricultural land into a master planned transit-oriented community. More specifically, approximately 169.1-acres of land within the project site is designated as Prime Farmland, 51.8-acres designated as Farmland of Statewide Importance, and 3.3-acres designated as Urban and Built-Up Land. The Project site has been actively farmed within the past 10 years and has a developed on-site irrigation water supply that is dependable. In addition, the site is currently within the County's Exclusive Agricultural Zone – 40 Acre Minimum (AE-40), Ag Preserve Number 0002326, and under Ag Preserve Contract Number 06925.

While the project site lands designated as "Prime Farmland" and "Unique Farmland" only represent a fraction of a percent of the 377,827 acres of Prime Farmland and Unique Farmland within Tulare County, the direct loss of the 231 acres of farmland is considered significant, even with implementation of Mitigation Measure (MM) AG-1. In addition, although the project proponent would be required to mitigate the loss of agricultural land at a ratio of 1:1 through implementation of a conservation easements and submit proof of the executed exchange and cancellation of the Williamson Act Contract on the active Williamson Act lands per MM-AG-1 and MM-AG-2, respectively, the proposed Project would still result in the cancellation of an existing Williamson Act Contract. Even with implementation of MM-AG-1 and MM-AG-2, the conversion of 231 acres of agricultural lands currently under a Williamson Act contract to non-agricultural uses as part of the proposed project would result in significant and unavoidable project level and cumulative level impacts to agricultural resources.

Air Quality. The SJVAB has been designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under national and/or California standards. The Project's annual construction emissions would not exceed the SJVAPCD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. The Project would implement MM-AQ-1 and MM-AQ-2 during construction. MM-AQ-1 was not quantified for this analysis. The Project would exceed the Level 1 Ambient Air Quality Analysis (AAQA) thresholds for 1-hour NO_2, 24-hour PM_{10}, annual PM_{10}, and 24-hour $PM_{2.5}$ during construction with the incorporation of MM-AQ-2. The Level 2 AAQA shows that the project would exceed the 24-hour $PM_{2.5}$ standard during construction with the incorporation of MM-AQ-2. As such, the project would have significant and unavoidable impacts related to criteria air pollutant emissions during construction activities even with the implementation of MM-AQ-1 through MM-AQ-2.

The project's combined annual area, energy, and mobile source emissions would not exceed the SJVAPCD's operational thresholds for CO, SO_x, or $PM_{2.5}$. However, the Project would exceed the SJVAPCD's operational threshold for VOC, NO_x, and PM_{10}. In addition, the project would exceed the 1-hour NO_2, 24-hour PM_{10}, annual PM_{10} 24-hour $PM_{2.5}$, and annual $PM_{2.5}$ Level 1 AAQA during operation; however, 24-hour PM_{10}, annual PM_{10}, and annual $PM_{2.5}$ passed the Level 2 significance test. In the Level 2 analysis, the project would still exceed the 1-hour NO_2 and 24-hour $PM_{2.5}$ significance thresholds during operation. The project would implement MM-AQ-3 through MM-AQ-5 during project operations; however, none of the measures were quantified for this analysis. Therefore, the Project would have significant and unavoidable impacts related to criteria air pollutant emissions during operational activities, even with the incorporation of MM-AQ-3 through MM-AQ-5.

The Project is in excess of the operational VOC, NO_x, CO, and PM_{10} thresholds and would exceed the 24-hour PM2.5 Level 2 AAQA standard during construction even with the incorporation of mitigation. The Project would exceed the 1-hour NO_2 and 24-hour $PM_{2.5}$ Level 2 AAQA significance thresholds during operation. Therefore, the Project's cumulative impacts with respect to such emissions would remain significant and unavoidable.

Greenhouse Gas Emissions. Construction of the Project would result in GHG emissions primarily associated with the use of off-road construction equipment, haul trucks, on-road vendor trucks, and worker vehicles. GHG emissions generated during construction of the Project would be short term, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Operation of the Project would generate GHG emissions through passenger vehicle to and from the Project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the Project); solid waste disposal; generation of electricity associated with water and wastewater use. Estimated annual Project-generated GHG emissions would be approximately 21,764 MT CO_2e per year as a result of Project operations and amortized construction. This project's efficiency metric is 6.36 MT CO_2e per service population (SP), assuming a project SP of 3,424; this exceeds the 2033 efficiency metric of 1.62 MT CO_2e. The project would implement GHG Emission reduction measures recommend by the SJVAPCD, which would provide a 6.625% reduction in GHG emissions

and would reduce the project's efficiency metric from 6.02 to 5.62 MT CO_2/SP. However, because this metric would still be greater than the City metric of 1.62 MT CO_2/SP, MM-GHG-1 through MM-GHG-6 would be implemented. Despite implementation of MM-GHG-1 through MM-GHG-6, impacts related to GHG emissions would remain significant and unavoidable. In addition, while the project would be consistent with most of the applicable, plans, policies, and regulations, it would be inconsistent with CARB's 2022 Scoping Plan. As such, impacts on the project-level and cumulatively would remain significant and unavoidable, even with the incorporation of mitigation.

Transportation. Multiple intersections the vicinity of the Project site are expected to experience periodic queuing issues during peak hours, which can lead to potential safety concern if a significant speed differential exists between queue vehicles and vehicles proceeding beyond the queue. The Project would result in additional traffic that would exacerbate these conditions under the Opening Year (2032) plus Project traffic conditions and Horizon Year (2040) plus Project conditions (queueing issues would continue to occur without Project-generated traffic for many intersections regardless of the Project). As such, improvement measures required to mitigate the project's level of service and queuing impacts would include fair-share contributions these intersections as detailed in MM-TRA-1. The City does not have jurisdiction over state facilities (SR-137 and SR-99), therefore these improvements cannot be assumed to be in place prior to project's occupancy. Therefore, the Project's impact to increase in hazardous conditions (i.e., queuing) would be partially mitigated with implementation of MM-TRA-1, but impacts would remain significant and unavoidable.

1.7 Alternatives to the Project

Section 15126.6(a) of the CEQA Guidelines states that an EIR shall describe "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project," as well as provide an evaluation of "the comparative merits of the alternatives." Under CEQA Guidelines Section 15126.6(a), an EIR does not need to consider alternatives that are not feasible, nor does it need to address every conceivable alternative to the project. The range of alternatives "is governed by the 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice" (14 CCR 15126.6[f]).

Alternative 1: No Project/No Development Alternative. This alternative assumes no development would occur, and the site would remain under the jurisdiction of Tulare County and in its current undeveloped condition and no land would be annexed.

Alternative 2: Reduced Development per the 2013 Tulare Transit-Oriented Development (TOD) Plan. This alternative assumes development of the site as described in the 2013 TOD Plan for the COS North Plan area. Similar to the proposed project, this alternative would include development of high, medium, and low density residential, a park, school, neighborhood commercial, and an area for public/cultural/community use. The total project site would be reduced by approximately 84 acres.

Alternative 3: Development of Commercial Area Only. This alternative assumes only the 10.8-acre neighborhood commercial center would be developed and the remaining approximately 210 acres of the site would remain in agricultural production. No residential areas, school, central park, bike trails, or community center would be developed as part of this alternative.

Environmentally Superior Alternative

Section 15126(e)(2) of the State CEQA Guidelines requires an EIR to identify an "environmentally superior alternative." If the No Project/No Development Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other Project alternatives.

Each of the three Project alternatives considered herein would lessen at least one environmental impact relative to the Project. As previously addressed, if the No Project/No Development Alternative is the environmentally superior alternative—which is the case in this analysis—the EIR must also identify another environmentally superior alternative among the remaining alternatives.

Based on a comparison of Alternative 2 and Alternative 3, all environmental impacts associated with development and operation would be less under Alternative 3 compared to Alternative 2. Alternative 3 would have a greater reduction to the significant and unavoidable impacts related to agricultural resources, air quality, greenhouse gas emissions, and transportation when compared to Alternative 2. Overall, based on these findings, Alternative 3 would be considered the environmentally superior alternative.

1.8 Areas of Controversy/Issues to Be Resolved

The scope of this EIR includes the potential environmental impacts identified in the Initial Study/Notice of Preparation (IS/NOP) that was available for public review from September 09, 2022, through October 10, 2022; comments received during a public scoping meeting held on September 29. 2022, at Tulare Public Library Olympic Room; and agency written comment received in response to the NOP.

A summary of these written comment letters is provided in Table 1-2. The written comments and the NOP are included as Appendix A of this EIR.

Table 1-2. Summary of Initial Study/Notice of Preparation Comments

Commenter	Date	Summary of Environmental Issues Raised	EIR Chapter/Section Where Comment is Addressed
State Agency			
Native American Heritage Commission	September 09, 2022	Recommendations for tribal consultation and consulting legal counsel regarding compliance with Assembly Bill 52, Senate Bill 18, and applicable laws.	Section 4.5, Cultural Resources; and Section 4.18, Tribal Cultural Resources
Department of Toxic Substances Control	September 21, 2022	Recommendations that DTSC, Regional Water Quality Control Board, or qualified local agency provide regulatory concurrence that the site is safe for construction and the proposed use.	Section 4.9, Hazards and Hazardous Materials

Table 1-2. Summary of Initial Study/Notice of Preparation Comments

Commenter	Date	Summary of Environmental Issues Raised	EIR Chapter/Section Where Comment is Addressed
State Agency			
		States the EIR should acknowledge the potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the project site. Requests the project to comply with California environmental regulations and polices.	
California Department of Conservation – Geologic Energy Management Division	September 28, 2022	Department's records confirmed the project site is not within an oil, gas, or production field and no wells are known within the project boundary. Provided recommendations for what should be done if any unknown wells are encountered during project development.	Section 4.12, Mineral Resources
California Department of Conservation Division of Land Resource Protection	October 06, 2022	Recommendations for consideration of agricultural conservation easements and inclusion of mitigation measures, if necessary.	Section 4.2, Agriculture and Forestry Resources
San Joaquin Valley Air Pollution Control District	October 10, 2022	Recommendations for a more detailed preliminary review in regard to the Project's construction and operational emissions. Potential impacts relating to construction, operational, and quantifying air emissions, and inclusion of mitigation measures, if necessary	Section 4.3, Air Quality

Table 1-2. Summary of Initial Study/Notice of Preparation Comments

Commenter	Date	Summary of Environmental Issues Raised	EIR Chapter/Section Where Comment is Addressed
State Agency			
California Department of Transportation	November 7, 2022	Recommendations for the implementation of "smart growth" regarding parking solutions and providing alternative transportation choices. Recommendations to analysis the Transportation Impact Study (TIS) and Vehicle Miles Traveled (VMT) and implement the improvements to reduce VMT.	Section 4.17, Transportation

Issues to be Resolved by Lead Agency

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain a discussion of issues to be resolved. With respect to the proposed project, the key issues to be resolved include decisions by the City, as lead agency, as to the following:

- Whether this environmental document adequately describes the environmental impacts of the Project.
- Whether the recommended mitigation measures should be modified and/or adopted.
- Whether there are other mitigation measures or alternatives that should be considered for the Project besides those identified in the Draft EIR.

2 Introduction

2.1 Purpose of the California Environmental Quality Act Process

This environmental impact report (EIR) was prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental effects associated with implementation of the Chandler Grove Master Plan and Annexation Project (Project). It was prepared in accordance with Title 14, Section 15000 et seq. of the California Code of Regulations (CEQA Guidelines), and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Tulare (City). Consistent with CEQA Guidelines Section 15161, this document is a project-level EIR and evaluates the potential environmental impacts associated with a specific project. As the lead agency for the Project, the City must complete an environmental review to determine if the Project could potentially result in significant adverse environmental effects. A detailed description of the Project is provided in Chapter 3, Project Description.

CEQA Guidelines Section 15002 states that the basic purposes of CEQA are to:

- Inform governmental decision makers and the public about the potential significant environmental effects of proposed government actions (including the discretionary approval of development projects);
- Identify the ways that environmental damage can be avoided or significantly reduced; and
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.

If a project will be approved involving significant environmental effects, the lead agency must also disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose.

This EIR provides project-level analysis of the potential environmental effects related to implementation of the Project. The level of impact analysis in this EIR corresponds to the degree of specificity deemed appropriate in accordance with CEQA Guidelines Section 15146. This EIR addresses the potentially significant environmental impacts that could occur as a result of construction and operation of the Project. This document also identifies appropriate and feasible mitigation measures, where necessary, and includes Project alternatives that could be adopted to reduce or avoid potential significant environmental effects.

This EIR provides project-level analysis of the potential environmental effects related to implementation of the Project. The level of impact analysis in this EIR corresponds to the degree of specificity deemed appropriate in accordance with CEQA Guidelines Section 15146. This EIR addresses the potentially significant environmental impacts that could occur as a result of construction and operation of the Project. This document also identifies appropriate and feasible mitigation measures, where necessary, and includes Project alternatives that could be adopted to reduce or avoid potential significant environmental effects.

This EIR is an informational document for public agencies and members of the public, allowing informed decisions to be made regarding the purpose, objectives, and components of the Project. This EIR is the primary reference document for the formulation and implementation of a mitigation monitoring and reporting program for the Project, in compliance with California Public Resources Code (PRC), Section 21081.6.

2.2 Legal Authority and Lead Agency

This EIR was prepared in accordance with all criteria, standards, and procedures of CEQA (PRC Section 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.).

Pursuant to CEQA Section 21067 and CEQA Guidelines Article 4 and Section 15367, the City is the lead agency under whose authority this EIR has been prepared. "Lead agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Serving as the lead agency and before taking action to approve the Project, the City has the obligation to (1) ensure that this EIR was completed in accordance with CEQA; (2) review and consider the information contained in this EIR as part of its decision-making process; (3) make a statement that this EIR reflects the City's independent judgment; (4) ensure that all significant impacts on the environment are eliminated or substantially lessened, where feasible; and, if necessary (5) make written findings for each unavoidable significant environmental effect stating the reasons why mitigation measures or Project alternatives identified in this EIR are infeasible and citing the specific benefits of the Project that outweigh its unavoidable adverse effects (14 CCR 15090–15093).

Pursuant to CEQA Guidelines Sections 15040 through 15043, and upon completion of the CEQA review process, the City will have the legal authority to do any of the following:

- Approve the Project;
- Require feasible changes in any or all activities involved in the Project to substantially lessen or avoid significant effects on the environment;
- Disapprove the Project, if necessary, to avoid one or more significant effects on the environment that would occur if the Project was approved as proposed; or
- Approve the Project even though the Project would cause a significant effect on the environment if the City makes a fully informed and publicly disclosed decision that (1) there is no feasible way to lessen the effect or avoid the significant effect, and (2) expected benefits from the Project will outweigh significant environmental impacts of the Project.

This EIR fulfills the CEQA environmental review requirements for the proposed zone amendment (pre-zoning for anticipated annexation), general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925, and annexation of the property from the County of Tulare to the City of Tulare, and all other governmental discretionary and ministerial actions related to the Project. Upon completion of the annexation of the project site into City limits, a parcel map detailing site development per the approved land use and zoning designations would be submitted to the City for review and approval prior to the start of construction.

This EIR is an informational document intended for use by City decision makers, trustee, and responsible agencies, and members of the general public in evaluating the physical environmental impacts of the Project. This EIR is the primary reference document for the formulation and implementation of a mitigation monitoring and reporting program for the Project, in compliance with PRC Section 21081.6. Environmental impacts cannot always be mitigated to a level considered less than significant. In accordance with Section 15093(b) of the CEQA Guidelines, if a lead agency approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the agency shall state in writing the specific reasons for approving the Project, based on the final CEQA documents and any other information in the public record. This is defined in Section 15093 of the CEQA Guidelines as "a statement of overriding considerations."

2.3 Responsible and Trustee Agencies

Responsible and Trustee Agencies

PRC Section 21104 requires that all EIRs be reviewed by state responsible and trustee agencies (see also 14 CCR 15082 and 15086[a]). As defined by CEQA Guidelines Section 15381, "the term 'Responsible Agency' includes all public agencies other than the Lead Agency which have discretionary approval power over the project." A trustee agency is defined in CEQA Guidelines Section 15386 as "a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California."

For this Project, the California Department of Fish and Wildlife is a trustee agency, because the Project has the potential to impact plant and wildlife species that are managed and protected by the state.

2.4 Summary of Project Analyzed in this Environmental Impact Report

The proposed Project consists of a mixed-use development on approximately 231 acres of active agricultural land in Tulare County, CA. Approximately 10.3 acres of perimeter right-of-way would be dedicated as part of the project, leaving approximately 220 acres for development. Once developed, proposed project site would include approximately 1,197 total units of low, medium, and high-density residential (163.1 acres), a central park (14.1 acres), a neighborhood commercial center (10.8 acres), a school (4.9 acres), and a community center (0.78 acres). Parks would act as natural areas, provide stormwater detention, and include playgrounds, plazas and shelters, open turf areas for field sports, as well as trails for recreation. Trails throughout the site would connect to schools, parks, the community center and the commercial center. An open irrigation canal currently passes through the property from the north to the south and would be piped underground within the same general alignment during project development. The housing would include approximately 364 units of low-density single-family units, 281 units of medium density single family units and townhomes, and 552 high density apartments. Perimeter improvements such as sidewalks, curbs, and gutters would be also constructed. In addition to the annexation of the project site to the City of Tulare, the City would also be requesting annexation of the properties south of Bardsley from this development, which include the College of the Sequoias Tulare Center Campus and groundwater recharge basins of the Kaweah Delta Water Conservation District, but no changes in existing development plans are proposed for these areas.

2.4.1 Requested Approvals

The following discretionary and ministerial actions under the jurisdiction of the City would be required. This EIR covers all state and local government, and quasi-government approvals that may be needed to implement the Project, whether or not they are explicitly listed in this section or elsewhere in this EIR (14 CCR 15124[d]). Details regarding each of these approvals is provided in Chapter 3, Project Description.

Discretionary Approvals

Planning Commission

- **Project Review.** A review by the Planning Commission is held in order to review the Project, including all requested entitlements. Such review will yield a recommendation to the City Council.
- **Recommendation Certification of EIR.** The Planning Commission will review the EIR and make a recommendation to the City Council to certify or reject this EIR, along with appropriate CEQA Findings and the mitigation monitoring and reporting program.

City Council

Discretionary actions for this project would include approval of a zone amendment (pre-zoning for anticipated annexation), general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925, and recommendation for the annexation from the County of Tulare to the City of Tulare.

- **Zone Amendment.** Project implementation would require approval of a zone amendment from Exclusive Agricultural Zone – 40 Acre Minimum (AE-40) to that proposed by the project.
- **General Plan Amendment.** Project implementation would require approval of General Plan Amendment to modify the site's land use designation to that proposed by the project.
- **Agricultural Preserve Exclusion.** Project implementation would require an exclusion from Agricultural Preserve Number 0002326.
- **Cancellation of Agricultural Preserve Contract.** Project implementation would require an exclusion from Agricultural Preserve Number 0002326.
- **Certification of EIR.** Certify or reject this EIR, along with appropriate CEQA Findings and the mitigation monitoring and reporting program.

Tulare County Local Agency Formation Commission (LAFCO)

- **Annexation into City of Tulare.** The project site would be annexed to the City of Tulare upon approval of LAFCO. In addition, to the project site, APNs 184-080-005, 184-080-006, 184-080-007, 184-090-011, 184-090-012, which make up the College of the Sequoia's Tulare College Center campus site and the Kaweah Delta Water Conservation District would be included in the annexation process.

Ministerial Approvals

City of Tulare Subsequent Implementing Approvals

- Upon completion of the annexation of the project site into City limits, a parcel map detailing site development per the approved land use and zoning designations would be submitted to the City for review and approval prior to the start of construction
- Approvals for water and sewer infrastructure
- Approvals for surrounding roadway and perimeter improvements such as sidewalks, curbs, and gutters
- Issue grading permits
- Issue building permits

2.4.2 Project of Statewide, Regional, or Area-Wide Environmental Significance

CEQA Guidelines Section 15206 identifies the types of projects considered to be of statewide, regional, or area-wide significance. When a project is so classified, its EIR must be submitted to the State Clearinghouse of the Governor's Office of Planning and Research, and the appropriate metropolitan area council of governments. This Project meets the following criteria of a project of statewide, regional, or area-wide significance:

- The Project has the potential for causing significant environmental effects extending beyond the City of Tulare.

2.5 Scope of this Environmental Impact Report

2.5.1 Notice of Preparation Scoping Process

The purpose of this EIR is to evaluate the potential environmental impacts associated with implementation of the Project. The City concluded that the Project could potentially have direct or indirect adverse effects on the environment. Accordingly, the City determined the need for preparation of an EIR for the Project. The scope of this EIR includes the potential environmental impacts identified in the Initial Study/Notice of Preparation (IS/NOP) that was available for public review from September 09, 2022, through October 10, 2022; comments received during a public scoping meeting held on September 29. 2022, at Tulare Public Library Olympic Room; and agency written comment received in response to the NOP.

A summary of these written comment letters is provided in Table 2-1. The written comments and the NOP are included as Appendix A of this EIR.

Table 2-1. Summary of Initial Study/Notice of Preparation Comments

Commenter	Date	Summary of Environmental Issues Raised	EIR Chapter/Section Where Comment is Addressed
State Agency			
Native American Heritage Commission	September 09, 2022	Recommendations for tribal consultation and consulting legal counsel regarding compliance with Assembly Bill 52, Senate Bill 18, and applicable laws.	Section 4.5, Cultural Resources; and Section 4.18, Tribal Cultural Resources
Department of Toxic Substances Control	September 21, 2022	Recommendations that DTSC, Regional Water Quality Control Board, or qualified local agency provide regulatory concurrence that the site is safe for construction and the proposed use. States the EIR should acknowledge the potential for historic or future activities on or near the project site to	Section 4.9, Hazards and Hazardous Materials

Table 2-1. Summary of Initial Study/Notice of Preparation Comments

Commenter	Date	Summary of Environmental Issues Raised	EIR Chapter/Section Where Comment is Addressed
State Agency			
		result in the release of hazardous wastes/substances on the project site. Requests the project to comply with California environmental regulations and polices.	
California Department of Conservation – Geologic Energy Management Division	September 28, 2022	Department's records confirmed the project site is not within an oil, gas, or production field and no wells are known within the project boundary. Provided recommendations for what should be done if any unknown wells are encountered during project development.	Section 4.12, Mineral Resources
California Department of Conservation Division of Land Resource Protection	October 06, 2022	Recommendations for consideration of agricultural conservation easements and inclusion of mitigation measures, if necessary.	Section 4.2, Agriculture and Forestry Resources
San Joaquin Valley Air Pollution Control District	October 10, 2022	Recommendations for a more detailed preliminary review in regard to the Project's construction and operational emissions. Potential impacts relating to construction, operational, and quantifying air emissions, and inclusion of mitigation measures, if necessary	Section 4.3, Air Quality
California Department of Transportation	November 7, 2022	Recommendations for the implementation of "smart growth" regarding parking solutions and providing alternative transportation choices. Recommendations to analysis the Transportation Impact Study (TIS) and Vehicle Miles Traveled (VMT) and implement the improvements to reduce VMT.	Section 4.17, Transportation

2.6 Organization of this Environmental Impact Report

This EIR contains all of the information required to be included in an EIR, as specified by the CEQA Statutes and Guidelines (PRC Section 21000 et seq.; 14 CCR 15000 et seq.). CEQA requires that an EIR contain, at a minimum, specified content. The following provides a quick reference in locating the CEQA-required sections within this document:

- **Chapter 1: Executive Summary.** The Executive Summary provides a summary of the Project and Project alternatives, including a summary of the Project and cumulative impacts, recommended mitigation measures, and the level of significance after mitigation for each environmental issue.
- **Chapter 2: Introduction.** The Introduction provides an overview of the Project and the CEQA process, and describes the purpose, scope, and components of this EIR.
- **Chapter 3: Project Description.** The Project Description provides a detailed description of the Project, including the location and Project characteristics. The intended uses of this EIR, Project background, Project objectives, and required Project approvals are also addressed.
- **Chapter 4: Environmental Analysis.** The Environmental Analysis chapter analyzes the environmental impacts of the Project. Impacts are organized into major environmental topic areas. Each topic area includes a description of the environmental setting, regulatory setting, significance criteria, individual and cumulative impacts, mitigation measures, and level of significance after mitigation. The following specific environmental areas are addressed in Chapter 4:
  - Section 4.1 – Aesthetics
  - Section 4.2 – Agriculture and Forestry
  - Section 4.3 – Air Quality
  - Section 4.4 – Biological Resources
  - Section 4.5 – Cultural and Tribal Cultural Resources
  - Section 4.6 – Energy
  - Section 4.7 – Geology and Soils
  - Section 4.8 – Greenhouse Gas Emissions
  - Section 4.9 – Hazards, Hazardous Materials
  - Section 4.10 – Hydrology and Water Quality
  - Section 4.11 – Land Use and Planning
  - Section 4.12 – Mineral Resources
  - Section 4.13 – Noise
  - Section 4.14 – Population and Housing
  - Section 4.15 – Public Services
  - Section 4.16 – Recreation
  - Section 4.17 – Transportation
  - Section 4.18 –Utilities and Service Systems
  - Section 4.19 – Wildfire

- **Chapter 5: Cumulative Impacts.** The Cumulative Impacts chapter provides an analysis of cumulative impacts, based on impacts of the proposed project combined with the impacts associated with past, present, and reasonably foreseeable projects.
- **Chapter 6: CEQA Considerations.** The CEQA Considerations chapter provides a summary of significant environmental impacts, including unavoidable, irreversible, and growth-inducing impacts.
- **Chapter 7: Alternatives.** The Alternatives chapter presents the impact analysis for the No Project Alternative and two project alternatives. This chapter also describes the alternatives that were considered, but eliminated from further consideration.
- **Chapter 8: List of Preparers.** The List of Preparers chapter provides a list of the organizations, persons consulted, and various individuals who contributed to the preparation of this EIR. This section also includes a list of the lead agency personnel and technical consultants used to prepare this EIR.
- **Technical Appendices.** The technical appendices contain the NOP (including public comments) and technical studies prepared to support the analyses and conclusions in this EIR.

The Final EIR will be prepared after the public review period for this EIR has been completed. The Final EIR will include comments and recommendations received on the EIR during the public review period; a list of persons, organizations, and public agencies commenting on the EIR; written responses to significant environmental issues identified in the comments received; and any other relevant information added by the City.

2.7 Documents Incorporated by Reference

Pursuant to CEQA Guidelines Section 15150, this EIR has referenced several technical studies, analyses, and previously certified environmental documents. Information from these documents, incorporated by reference, is briefly summarized in the appropriate chapters and sections. The documents that were used to prepare this EIR include the following:

- City of Tulare General Plan
- City of Tulare Transit Oriented Development Plan
- City of Tulare Municipal Code
- County of Tulare General Plan

These reference documents, in accordance with CEQA Guidelines Section 15150(b), are available for review at the following locations:

City of Tulare General Plan

https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000

City of Tulare Transit Oriented Development Plan

https://www.tulare.ca.gov/home/showdocument

City of Tulare Municipal Code (Code of Ordinances)

https://codelibrary.amlegal.com/codes/tulare/latest/tulare_ca/0-0-0-24582

County of Tulare General Plan

http://generalplan.co.tulare.ca.us/documents/GP/

2.8 Documents Prepared for the Project

The following technical studies and analyses were prepared for the Project and Project site and are incorporated into the technical appendices of this EIR:

- Notice of Preparation and Scoping Comments, Appendix A
- Health Effects of Criteria Air Pollutants, Appendix B-1
- Health Risk Assessment, Appendix B-2
- Ambient Air Quality Assessment, Appendix B-3
- Biological Resources Technical Report, Appendix C
- Archaeological Resources Inventory Report, Appendix D-1
- Built Environment Inventory and Evaluation Report, Appendix D-2
- Paleontological Resources Inventory, Appendix E
- Hazardous Materials Assessment, Appendix F
- Water Supply Assessment, Appendix G
- Noise Technical Report, Appendix H
- Transportation Impact Analysis, Appendix I

2.9 Review of the Draft Environmental Impact Report

Upon completion of this Draft EIR, the City prepared and filed a Notice of Completion with the Governor's Office of Planning and Research, State Clearinghouse to start the public review period (PRC Section 21161). Concurrent with the Notice of Completion, the City distributed a Notice of Availability in accordance with CEQA Guidelines Section 15087. The Notice of Availability was mailed to the agencies, organizations, and individuals who previously requested in writing to receive a copy. This Draft EIR was distributed to responsible and trustee agencies, other affected agencies, surrounding cities and municipalities, and all interested parties requesting a copy of this document in accordance with PRC Section 21092(b)(3). During the public review period, this Draft EIR, including the appendices, is available for review at the following locations:

In Person:

Tulare City Hall, Planning Department
411 E Kern Avenue
Tulare, California 93274

Tulare Public Library
475 N M Street
Tulare, California 93274

Online:

https://www.tulare.ca.gov/government/departments/community-economic-development/planning

Agencies, organizations, individuals, and all other interested parties not previously contacted, or who did not respond to the NOP, currently have the opportunity to comment on this Draft EIR during the public review period. Written or email comments on this Draft EIR should be addressed to:

Steven Sopp
City of Tulare Planning Department
411 E Kern Avenue
Tulare, California 93274
Phone: 559.684.4216
Email: ssopp@tulare.ca.gov

Upon completion of the public review period, written responses to all substantive environmental comments are prepared and made available prior to the public hearing on the Project before the City of Tulare's Planning Commission, at which the Project, the Final EIR, and requested entitlements are considered for recommendation to the Tulare City Council. The comments received and the responses to those comments will be included as part of the record for consideration for the Project.

3 Project Description

As required by Section 15124 of the California Environmental Quality Act (CEQA) Guidelines, this chapter describes the Chandler Grove Master Plan and Annexation Project (Project or proposed Project). This chapter includes a statement of the Project objectives, a general description of the Project's technical, economic, and environmental characteristics, and a summary of the discretionary actions required to approve the Project.

3.1 Project Overview and Environmental Setting

Project Overview

The proposed Project consists of a mixed-use development on approximately 231 acres of active agricultural land in Tulare County, CA (see Figure 3-1, Location Map and Figure 3-2, Project Site). The Project includes dedicating 10.3 acres of perimeter right-of-way leaving approximately 220 acres for development. Once developed, the proposed Project site would include approximately 1,197 total units of low, medium, and high-density residential (163.1 acres), a central park (14.1 acres), a neighborhood commercial center (10.8 acres), a school (4.9 acres), and a community center (0.78 acres). Parks would act as natural areas, provide stormwater detention, and include playgrounds, plazas and shelters, open turf areas for field sports, as well as trails for recreation. Trails throughout the site would connect to the school, parks, community center and the commercial center. An open irrigation canal currently passes through the property from the north to the south and would be piped underground within the same general alignment during Project development and flow through the channel would not be changed. The Project is proposing approximately 364 units of low-density single-family units, 281 units of medium density single-family units and townhomes, and 552 high density apartments (see Figure 3-3, Proposed Land Use, Figure 3-4, Proposed Zoning, and Figure 3-5, Conceptual Master Plan). The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632-acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this EIR is focused on the construction and operation of the proposed Chandler Grove Master Plan.

Discretionary actions for this Project would include approval of a zone amendment (pre-zoning for anticipated annexation), general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925, and annexation of the property from the County of Tulare to the City of Tulare. The annexation would also include properties adjacent to the Project site owned by the College of the Sequoias - Tulare College Center and the Kaweah Delta Water Conservation District. Upon completion of the annexation of the Project site into City limits, a parcel map detailing site development per the approved land use and zoning designations would be submitted to the City for review and approval prior to the start of construction.

Regional Setting

The City and County of Tulare are located in the San Joaquin Valley, part of California's Central Valley, one of the most important and productive agricultural regions in the United States. The City of Tulare is in the central western portion of Tulare County, approximately 45 miles southeast of the City of Fresno and about 60 miles northwest of the City of Bakersfield. While surrounded by agriculture, Tulare is a growing city, home to regional shopping destinations, employment centers, and the College of Sequoias (COS) campus. Tulare benefits from easy access to Highway 99 which runs north-south through the city and is served by local and regional transit. Additionally, Tulare has a central downtown area, the Tulare Outlet Center, a major regional shopping destination to the northeast, a large dairy manufacturing industry, and a mix of housing options.

Project Setting

The Project site is currently located within the western portion of unincorporated Tulare County (County) but would be annexed to the City of Tulare (City) as part of the Project. The Project site is comprised of four separate parcels and includes Assessor's Parcel Numbers [APNs] 184-050-007, 184-050-034, 184-050-035, and 184-050-010. The site is bound by S. Oakmore Street (Road 124) to the west, the East Tulare Villa community to the east, Avenue 228 to the north, and E. Bardsley Ave to the south, as shown on Figure 3-2, Project Site. Present on the site is a walnut orchard and three residences and associated outbuildings in the north and one abandoned equipment paddock in the east portion of the site, as well as a ditch that traverses a portion of the site. There are also two mature Valley oak trees in the northwest portion of the site. The Project site is currently within the County's Exclusive Agricultural Zone – 40 Acre Minimum (AE-40), Ag Preserve Number 0002326, and under Ag Preserve Contract Number 06925. The Project site is located within the COS North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City of Tulare. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The proposed Project would be generally consistent with the TOD plan in its design.

In addition to the 231-acre Project site, the Project would annex into the City approximately 489.26-acres of land owned by the COS which comprises the existing COS Tulare Campus. The Project would also annex approximately 142.41-acres located south of E. Bardsley Avenue which is currently being utilized as a groundwater recharge basin and is owned by the Kaweah-Delta Water Conservation District (KDWCD). See Figure 3-6, Proposed Annexation Area for details. The intent of the annexation is to facilitate development of the approximately 231-acre 'Chandler Grove' area consistent with the City's adopted TOD Plan. The COS and KDWCD areas are included as part of the annexation request, but no changes in existing uses are proposed for these areas. Rather, these areas are being included in order to ensure an orderly manner of growth of the City, as these properties would be complimentary and supportive of the Chandler Grove proposed master plan area.

Surrounding Land Uses

Figure 3-7, Existing Land Use and Figure 3-8, Existing Zoning, detail the Project's existing land use designation and zoning as well as land surrounding the Project site. Specific land uses located in the immediate vicinity of the Project site include the following:

- **North:** Avenue 228 is an east-west extending road that borders the northern boundary of the Project site. Agricultural land with scattered rural residences is located to the north of the site.
- **South:** E. Bardsley Avenue is an east-west extending road that borders the southern boundary of the Project site. The COS Tulare Campus, including the Campus' agricultural lands and a groundwater recharge basin owned by the Kaweah-Delta Water Conservation District are located immediately south of the proposed Master Plan area.
- **East:** A residential development (East Tulare Villas) and a small market are directly east of the Project site. A dairy, a fabricating facility, and agricultural lands are also located east of the proposed Master Plan area.
- **West:** S. Oakmore Street (Road 124) is a north-south extending road that borders the western boundary of the Project site. Scattered residences and Mission Oak High School are located to the west of the Master Plan area.

3.2 Project Objectives

Section 15124(b) of the CEQA Guidelines requires that an EIR include a statement of the project objectives that "include the underlying purpose of the project and may discuss the project benefits." The following objectives have been identified for the Project:

1. Provide housing opportunities that are consistent with the City's Housing Element and the College of the Sequoias (COS) North Transit Oriented Development Plan Area, including having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities, while minimizing environmental effects.
2. Create a new community to serve existing and future Tulare residents as well as the COS community, by providing a plan that includes child- and family-oriented neighborhood amenities in a central location within the development where residents can access many of their basic activities and needs via walking or biking.
3. Provide functional compatibility with existing residential neighborhoods and development while enhancing the City's ability to provide for fiscally positive development.
4. Develop homes on a site that can be served by existing utilities, services, and street access.
5. Amend the City's jurisdictional boundary to include the Project site and adjacent property to be consistent with the Tulare County Local Agency Formation Commission's (LAFCO) mission to encourage the logical and orderly development of cities and to promotes the efficient extensions of municipal services.

3.3 Project Components

The proposed Project includes approximately 1,197 total units of low, medium, and high-density housing, a neighborhood commercial center, a community center, and a Kindergarten through 8th grade public school, and a central park. These land uses are summarized in Table 3-1, Chandler Grove Master Plan Proposed Land Use and Zoning Summary, below. Refer also to Figure 3-3, Proposed Land Use and Figure 3-4, Proposed Zoning.

Table 3-1. Chandler Grove Master Plan Proposed Land Use and Zoning Summary

Land Use	Total Land Use Acreage	Total Units	Density (DU/Acre)	Zoning	Zoning Acreage
Residential Development					
Low Density Residential	100.3	364	3.6	R-1-5 (Single Family 5,000 SF Min. Lot Size)	108.7
Medium Density Residential	32.9	281	8.5	RM2 (Multiple Family 3,000 SF Min. Lot Size)	45.5
High Density Residential	29.9	552	18.5	RM4 (Multiple Family 1,500 SF Min. Lot Size	33.4
Residential Total	**163.1**	**1,197**			**187.6**

Table 3-1. Chandler Grove Master Plan Proposed Land Use and Zoning Summary

Land Use	Total Land Use Acreage	Total Units	Density (DU/Acre)	Zoning	Zoning Acreage
Other Development					
Parks and Recreation (Central Park)	14.1			PL (Public Lands)	21.4*
Natural Areas	12.3			Included in the R-1-5 and RM2 Areas	
Neighborhood Commercial Center	10.8			C-3 (Retail Commercial)	11.9
Perimeter Right-of-Way	10.3			Not Applicable	
Public/Quasi-Public (School)	4.9			PL (Public Lands)	
Public/Quasi- Public (Community Center)	0.78			PL (Public Lands)	
Other Development Total	**53.18**				**33.3**

Source: Figure 3-5, Conceptual Master Plan
Note:
* This Zone district acreage is inclusive of the Parks and Recreation, Public/Quasi-Public School, and Public/Quasi-Public Community Center Land Uses.

3.3.1 Land Uses

Sphere of Influence

A Sphere of Influence (SOI) is the probable extent of a City's boundary and service area. The SOI is an important tool used by LAFCO to encourage the orderly formation and growth of local government agencies, preserve open space and agricultural lands, discourage urban sprawl, and encourage the efficient provision of services. State law also requires LACFO's to update information about municipal services before adopting Sphere updates (Government Code section 56430). The City's SOI includes land use assumptions for a 20-year development horizon.

Tulare Transit-Oriented Development Plan

The Project site is within the COS North Transit Oriented Development Plan Area that is outlined in the City Council adopted 2013 Tulare Transit-Oriented Development (TOD) Plan and designated as such on the City's 2035 General Plan Land Use Map. According to the TOD Plan, development within the Plan Area calls for a mix of land uses centered on access to public transit to create walkable and bikeable neighborhoods with easy access to daily needs and bus services. The plan details three key components for development of a successful TOD, including:

- **Transit.** Development that provides access to a robust transit network (within ¼-mile).
- **Land Use Mix.** Development that provides a good mix of housing types, businesses, and public uses while auto-oriented land uses are discouraged.
- **Pedestrian and Bicycle Facilities.** Development that provides safe pedestrian and bicycle access to services and daily needs within the plan area.

The City's 2035 General Plan addresses the TOD in the Land Use and Transportation and Circulation Elements. Development of the Chandler Grove Master Plan would be in accordance with the goals, policies, and visions set forth in the Tulare TOD Plan and the City's General Plan. A summary of each component in the proposed development is describe below.

Residential Uses

The 231-acre Master Plan Project site would be developed with approximately 1,197 units of low, medium, and high-density housing, with the low density single-family detached lots on the northern portion of the site and the medium and high-density residential lots on the southern portion of the site (see Figure 3-5). As detailed in the City's 2035 General Plan Land Use Element, Low Density Residential has a density of 3.1 to 7 dwelling units per acre with a minimum lot size of 5,000 square feet, Medium Density Residential has 7.1 to 14 dwelling units per acre with a minimum lot size of 3,000 square feet, and High Density Residential 14.1 to 29 dwelling units per acre with a minimum lot size of 1,500 square feet. Based on 2021 U.S. Census data the average household size in the City is 3.49 persons per household. Based on a persons per household of 3.49 the Project would generate a population of 4,178. As shown in Table 3-1, Chandler Grove Master Plan Land Use and Zoning Summary, the density of the proposed residential development would adhere to these density requirements.

Low Density Residential

Development of low density residential is planned for approximately 100.3 acres of the northern portion of the Project site and would include approximately 364 single family residential lots. The main access points to this development would be from one of three roads connecting to Avenue 228 to the north, with a collector road linking the area to the neighborhood commercial center, community center, school, and central park to the south. This area would include natural areas for stormwater detention with trails for use by residents.

Medium Density Residential

The Project includes development of both medium density single-family detached lots and medium density town homes that would include approximately 281 units on roughly 33 acres. There are two development areas with single-family detached lots within the Project site: on the west side of the Project site, just north of the neighborhood commercial center and on the east side of the Project site, east of Central Park. In addition, medium density townhomes are proposed in the southeast corner of the Project site. Access to the medium density residential is via one of three roads connecting to E. Bardsley Avenue on the south or via a collector road off S. Oakmore Street. This portion of the site would include areas with trails for use by residents.

High Density Residential

High density residential development would occur on approximately 29.9 acres of the Project site and consists of 1-, 2-, and 3-bedroom apartments. The apartment buildings would be located in the south-central portion of the Project site and provide a total of approximately 552 units. Access to the high density residential is via one of three roads connecting to E. Bardsley Avenue on the south or via a collector road off S. Oakmore Street. This area would also include trails for use by residents.

Parks and Trails

Proposed parks and recreation land uses include a 14.1-acre Central Park which would be located near the core of the Project site. Two natural areas, that also provide stormwater detention during storm events, are available for use by residents and are surrounded by a trail system that runs through the entire Project site. This trail system connects the residential areas to the parks, schools, and neighborhood commercial center, as well as to the multiple transit stops available throughout the Project site. All developed areas would be landscaped and would provide green space throughout the entire site.

Neighborhood Commercial

The 10.8-acre neighborhood commercial development would be located in the southwestern corner of the Project site. Access to this center is via S. Oakmore Street and E. Bardsley Avenue. In addition, two transit stops are located at each corner of the commercial development and the area would be pedestrian and bicycle friendly.

School and Community Use Area

A kindergarten through 8th grade school would be located at the core of the Project site, adjacent to Central Park. This 4.9-acre area would be dedicated to the Sundale Union Elementary School District for future development of the school to serve Project residents and nearby neighborhoods. A community center would be sited on approximately 0.78 acres directly adjacent to the school. This would provide a joint use area for school use and a place for community activities, meetings, and gatherings.

Utilities and Planned Infrastructure Improvements

Water System

The proposed Project would involve the construction of water distribution infrastructure (e.g., pipes, valves, meters) to provide domestic water and irrigation water to serve the new buildings and facilities within the Project site. The on-site water facilities would be connected to the 12-inch water lines in East Bardsley Avenue, although as noted above, the existing onsite groundwater wells may be used for irrigation. The on-site facilities and installation/construction of tie-ins are considered part of the proposed Project. Other than the lateral connections from the Project site to existing water mains, the proposed Project is not expected to require or result in construction or expansion of off-site infrastructure.

Wastewater System

The Project would require construction of new wastewater infrastructure within the Project site to serve the buildings and facilities of the proposed Project. There is no existing wastewater infrastructure on the Project site. The existing residences are served by septic systems. Construction impacts within the Project site associated with wastewater infrastructure would primarily be confined to trenching for miscellaneous utility lines and connections to public infrastructure. Installation of wastewater infrastructure would be limited to on-site wastewater distribution, and minor off-site work associated with connections to the public main that is located within E. Bardsley Avenue.

Storm Drainage

The Project site would include construction of a new storm management system, including drainage collection systems and natural areas that would be used as detention basins for stormwater that would minimize the amount

of stormwater that is discharged offsite. The Project does not propose the expansion of any existing off-site stormwater facilities or in the construction or relocation of new off-site facilities beyond the tie in connections to existing storm drain lines adjacent to the Project site on East Bardsley Avenue and the west side of South Oakmore Street. The project's stormwater management system would be constructed in compliance with all applicable regulatory requirements.

Regulated Public Utilities

Connections upgrades would be required with respect to electric power, natural gas, and telecommunication facilities (i.e., cable television services), based on the change in land use (i.e., greater intensification). These utilities would be provided by Southern California Edison and Southern California Gas Company and would be part of a dry utility package that would be installed on site and in the adjacent public roadways to provide service to the Project. Upgrades would be confined to the connections to the Project site and not any off-site centralized facilities. The existing overhead electrical infrastructure located along S. Oakmore and Avenue 228 are adjacent to the Project site. No natural gas infrastructure is currently available within the Project site. Connection to these existing utilities would require limited construction, which would be temporary and limited to overhead electrical line connections and also trenching, to the depth of the underground lines.

3.3.2 Access and Circulation

To provide adequate access to the Project site, the Project has three primary points of access: off Avenue 228, off S. Oakmore Street, and three off E. Bardsley Avenue. In addition, internal circulation would be comprised of two main collector roads that would serve as the primary artery though the proposed development area. Connected to these collectors would be multiple local roads which would provide access to the residential areas. All new roads would be designed in accordance with the City's Fire Department and the Transportation System Management Plan requirements. As part of Project implementation, it is anticipated that Avenue 228, S. Oakmore Street, and E. Bardsely Avenue within the perimeter of the Project site would require new paving and improvements such as sidewalks, curbs, and gutters per the City's Engineering conditions established during Site Plan Reviews. As a transit-oriented development, approximately 6 transit stops, as approved by the Regional Transit Agency, would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas.

3.4 Construction and Phasing

Construction of the proposed Project, if approved, would be completed in phases. Development is anticipated to be constructed over the course of up to 10 years. Utilities such as water, electrical, and gas required for the Project would tie into the existing infrastructure near the Project site within the road rights-of way. Perimeter improvements such as the installation of curbs, gutters, sidewalks on adjacent roads, and transit stops would be completed as required by the City's development standards and the TOD Plan.

3.5 Annexation of Project Site

The Project site is located within the jurisdiction of unincorporated Tulare County but is within the City of Tulare's SOI, and Urban Development Boundary (UDB). As described in the City's 2013 Final Municipal Service Review, state law requires that LAFCO conduct periodic reviews and updates of the SOI of each city and district in Tulare County

(Government Code section 56425(e)). As part of the proposed Project, the Master Plan Project site would be annexed to the City upon approval of LAFCO. In addition, to the Project site, APNs 184-080-005, 184-080-006, 184-080-007, 184-090-011, 184-090-012, which make up the COS Tulare College Center campus site and the Kaweah Delta Water Conservation District would be included in the annexation process for a total of approximately 863-acres. In addition, at the time of annexation proceedings by Tulare County LAFCO for the proposed project, LAFCO will consider including additional land west of the project site (see Figure 3-6) for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time.

3.6 Permits and Approvals

Discretionary actions for this Project would include approval of a zone amendment (pre-zoning for anticipated annexation), general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925, and annexation of the property from the County to the City. Upon completion of the annexation of the Master Plan Project site into the City limits, a parcel map detailing site development per the approved land use and zoning designations would be submitted to the City for review and approval prior to the start of construction.

3.7 Cumulative Projects

In many cases, the impact of an individual project may not be significant, but its cumulative impact may be significant when combined with impacts from other related projects. California Environmental Quality Act (CEQA) Guidelines Section 15355 defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines Section 15130(b) states that "the discussion [of cumulative impacts] need not provide as great detail as is provided for the effects attributable to the project alone." Section 15130(b) further states that a cumulative impacts discussion "should be guided by standards of practicality and reasonableness."

Cumulative impacts can also occur from the interactive effects of a single project. For example, the combination of noise and dust generated during construction activities can be additive and can have a greater impact than either noise or dust alone. However, substantial cumulative impacts more often result from the combined effect of past, present, and future projects located in proximity to a proposed project. Thus, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future projects, the impacts of which might compound or interrelate with those of the project under review.

As provided by CEQA Guidelines Section 15130(b), the following elements are necessary to an adequate discussion of cumulative impacts:

- Either: (A) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency; or (B) a summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or area wide conditions. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.
- 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.

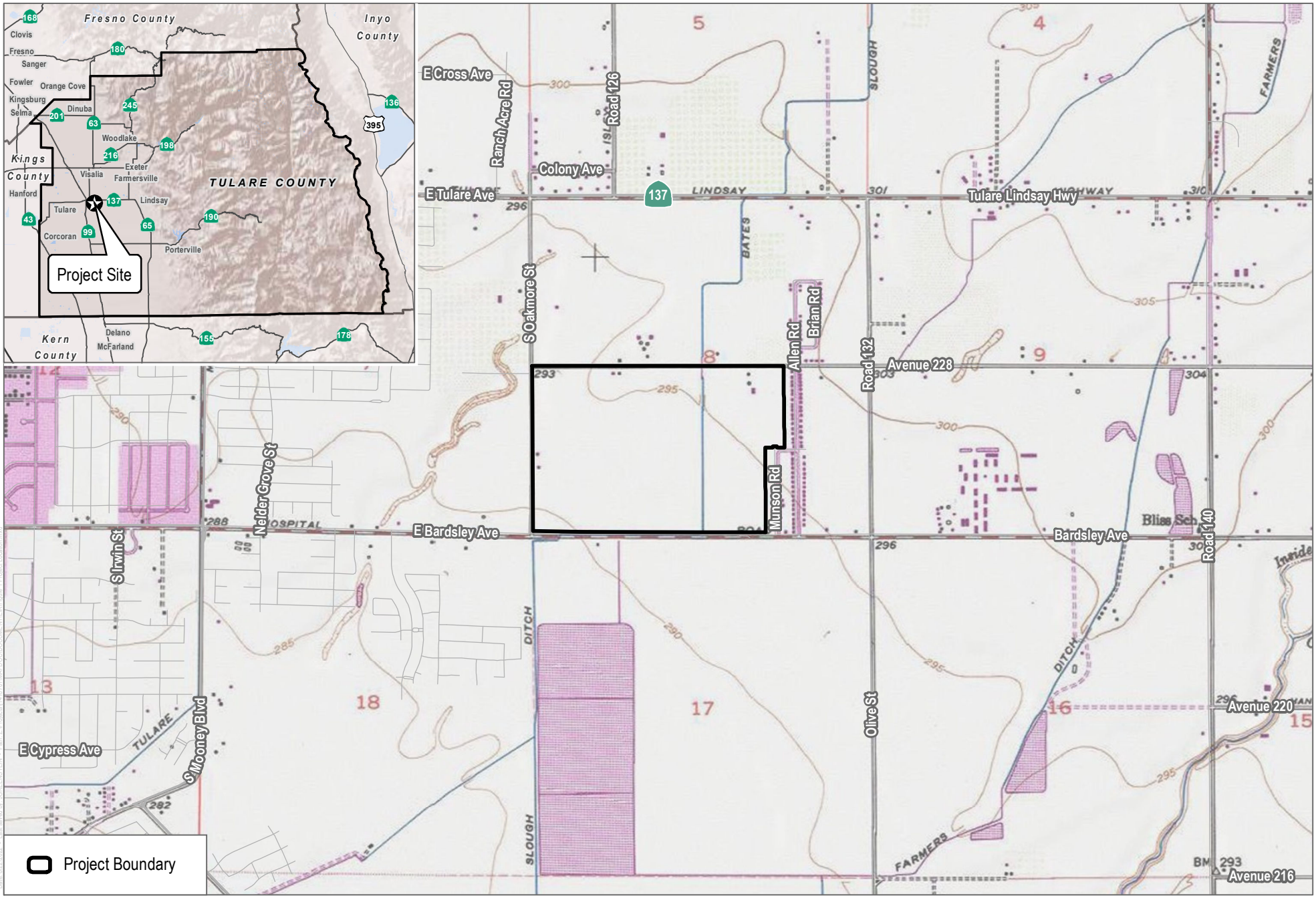
- A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable options for mitigating or avoiding any significant cumulative effects of the proposed projects.

For the analysis of cumulative impacts associated with the Project, a cumulative project list was developed through consultation with the City and County, as well as research and the understanding of other past, present, or reasonably foreseeable projects that would be included within a list of cumulative projects. Table 3-2 provides a list of these cumulative projects and their associated land use. Cumulative project locations are shown in Figure 3-9, Cumulative Projects.

Table 3-2. Cumulative Projects

Project	Project Description	Location	Status
Mission Creek Development	162 single-family units & 192 apartment units	SW corner of Bardsley Ave. & Oakmore St.	Site Plan Review
St. Rita's Catholic Church	New church campus	SW corner of Bardsley Ave. & Morrison St.	Under Construction
Fulton Estates Subdivision	New residential subdivision w/ 197 single-family residential lots & a commercial corner for retail and/or service station	SW corner of Oakmore (Rd 124) & Tulare Ave. (SR-137)	Entitlement applications have just been submitted, including a request for annexation into the City limits
East Bardsley Apartments	New apartment community consisting of 79 units across several buildings	2970 E. Bardsley Ave, near NW corner of Bardsley Avenue & Morrison Street	Site Plan Review
Hidden Ridge Subdivision	New residential subdivision w/ 32 single-family residential lots	Two parcels west of the East Bardsley Apartments, adjacent to the existing developed single-family subdivision	Under Construction
Fernjo Estates Subdivision	New residential subdivision w/ 83 single-family lots	1468 S. Mooney Blvd.	Under Construction
Farrar Estates Subdivision	New residential subdivision w/ 358 single-family lots	NW corner of Tulare Avenue (SR-137) & Morrison Street	Under Construction
Greens @ Oak Creek Subdivision	New residential subdivision w/ 139 lots	Two parcels north of the old waterslides/fun park on the NE corner of Mooney (SR-63) & Tulare Ave. (SR-137)	2/3 constructed, other 1/3 under construction
Oak Creek 3 & 4	New residential multi-family developments for a total of 27 lots with 4 units per lot = 108 units	Just north of The Greens @ Oak Creek Subdivision	Under Construction
KCOK Residential Community	New residential subdivision w/ 355 lots	NW corner of Seminole Ave. & Morrison St., just north of Farrar Estates subdivision.	Under Construction Phase 2b (40 lots) is under construction, and 106 other lots have been built.

INTENTIONALLY LEFT BLANK



SOURCE: USGS 7.5-Minute Series Tulare Quadrangle

DUDEK

FIGURE 3-1

Project Location Map

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK



SOURCE: NAIP 2020

DUDEK

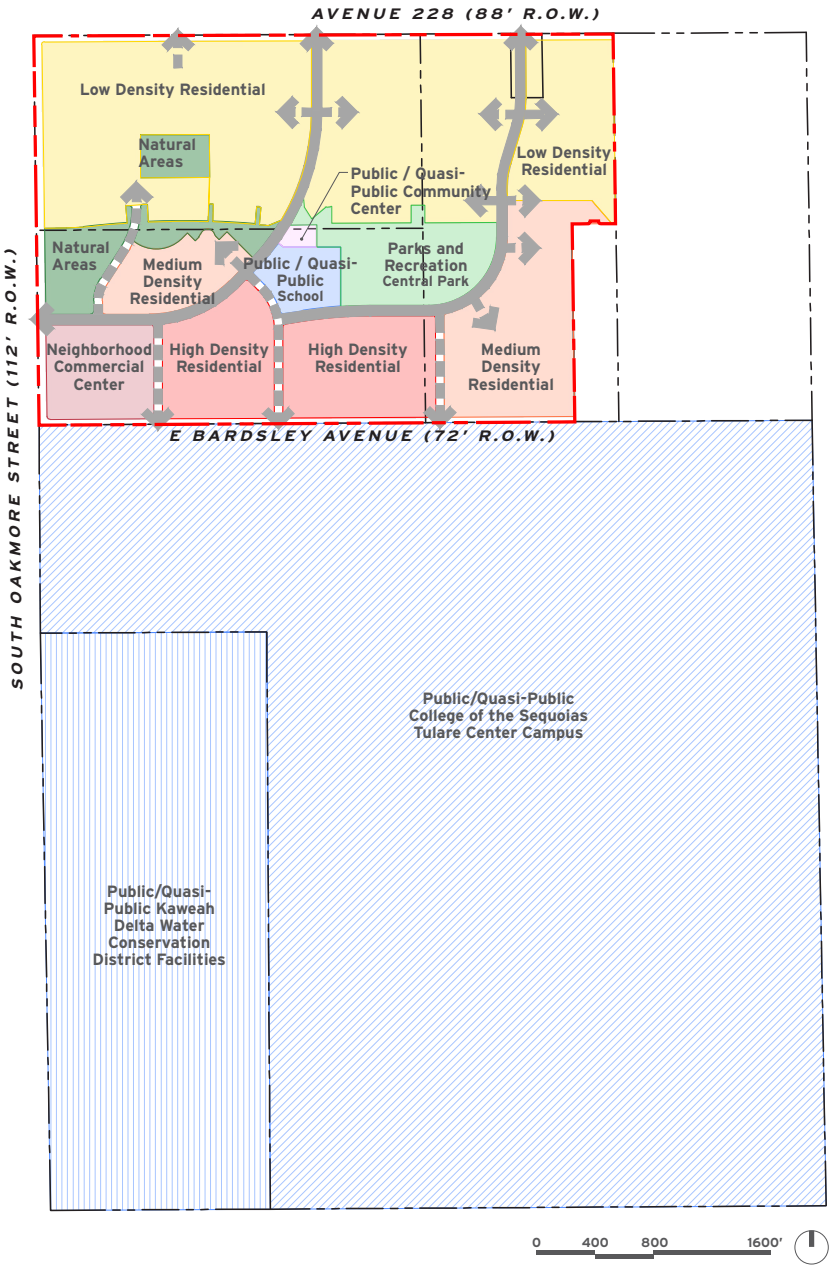
0 250 500 Feet

FIGURE 3-2

Project Site

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK



Land Use

Land Use	Quantity
Low Density Residential	
	364 Units
Total Acreage	100.3 AC
Density (DU/AC)	3.6 DU/AC
Medium Density Residential	
	281 Units
Total Acreage	32.9 AC
Density (DU/AC)	8.5 DU/AC
High Density Residential	
	552
Total Acreage	29.9 AC
Density (DU/AC)	18.5 DU/AC
Other Uses	
Parks and Recreation (Central Park)	14.1 AC
Natural Areas	12.3 AC
Neighborhood Commercial Center	10.8 AC
Public / Quasi-Public (School)	4.9 AC
Public / Quasi -Public (Community Center)	0.78 AC

Legend

Property line

Collector Road (public right-of-way - area not calculated)

Local Road connections (public right-of-way - area not calculated)

SOURCE: Russell Mills 2022

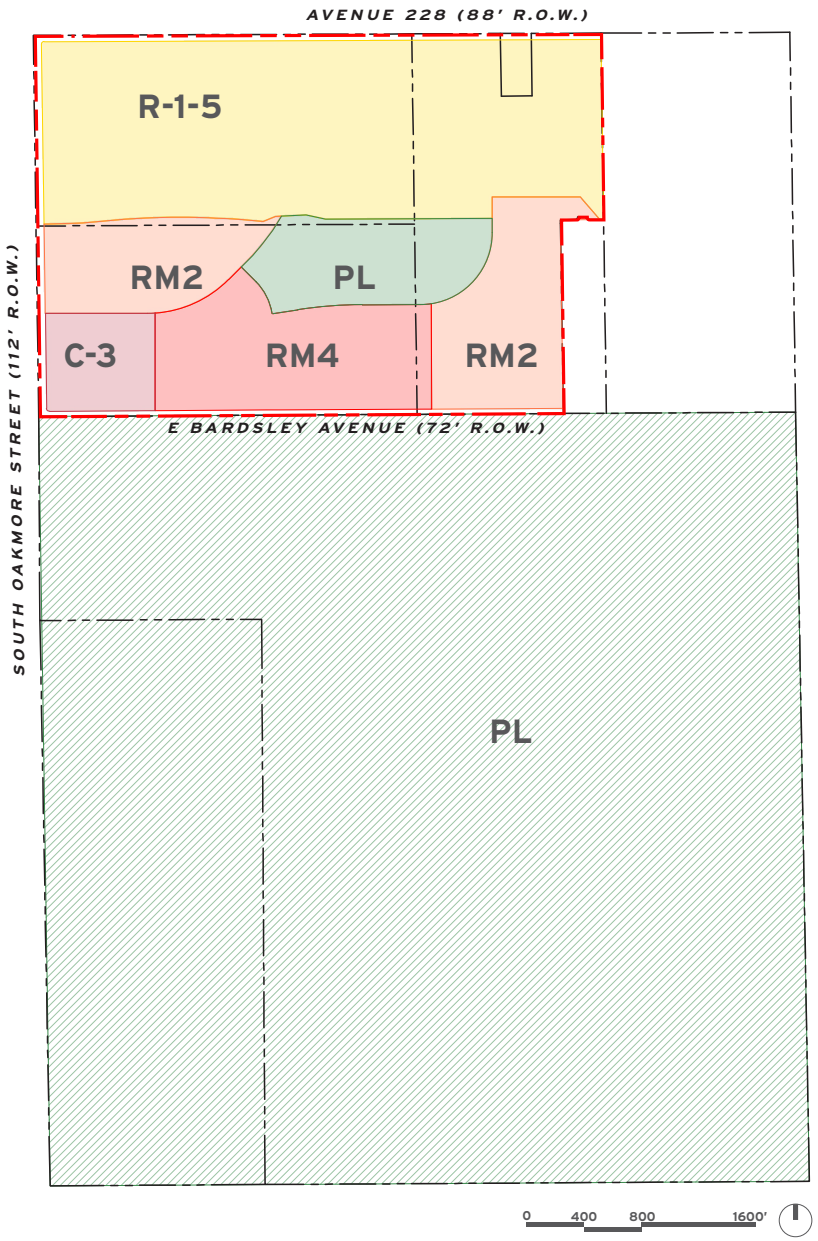
FIGURE 3-3

Proposed Chandler Grove Land Use

Chandler Grove Master Plan and Annexation Project

DUDEK

INTENTIONALLY LEFT BLANK



Zoning

Zoning	Information
R-1-5	
	Single Family 5,000 SF minimum lot size
RM2	
	Multiple Family 3,000 SF minimum lot size
RM4	
	Multiple Family 1,500 SF minimum lot size
C-3	
	Retail Commercial
PL	
	Public Lands (School, Central park, Community Center)

Legend

Property line

SOURCE: Russell Mills 2022

DUDEK

FIGURE 3-4

Proposed Chandler Grove Zoning

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK



Land Use

Land Use	Quantity
Low Density Residential	
	364
Total Acreage	100.3 AC
Density (DU/AC)	3.6 DU/AC
Medium Density Residential	
	160
	121
Total Medium Density Units	281
Total Acreage	32.9 AC
Density (DU/AC)	8.5 DU/AC
High Density Residential	
	552
Total Acreage	29.9 AC
Density (DU/AC)	18.5 DU/AC
Total Units	
1,197	
Other Uses	
Parks and Recreation (Central Park)	14.1 AC
Neighborhood Commercial Center	10.8 AC
Public / Quasi-Public (School)	4.9 AC
Public / Quasi -Public (Community Center)	0.78 AC

Legend

- Property line
- Piped irrigation canal
- Proposed bus stop

SOURCE: Russell Mills 2022

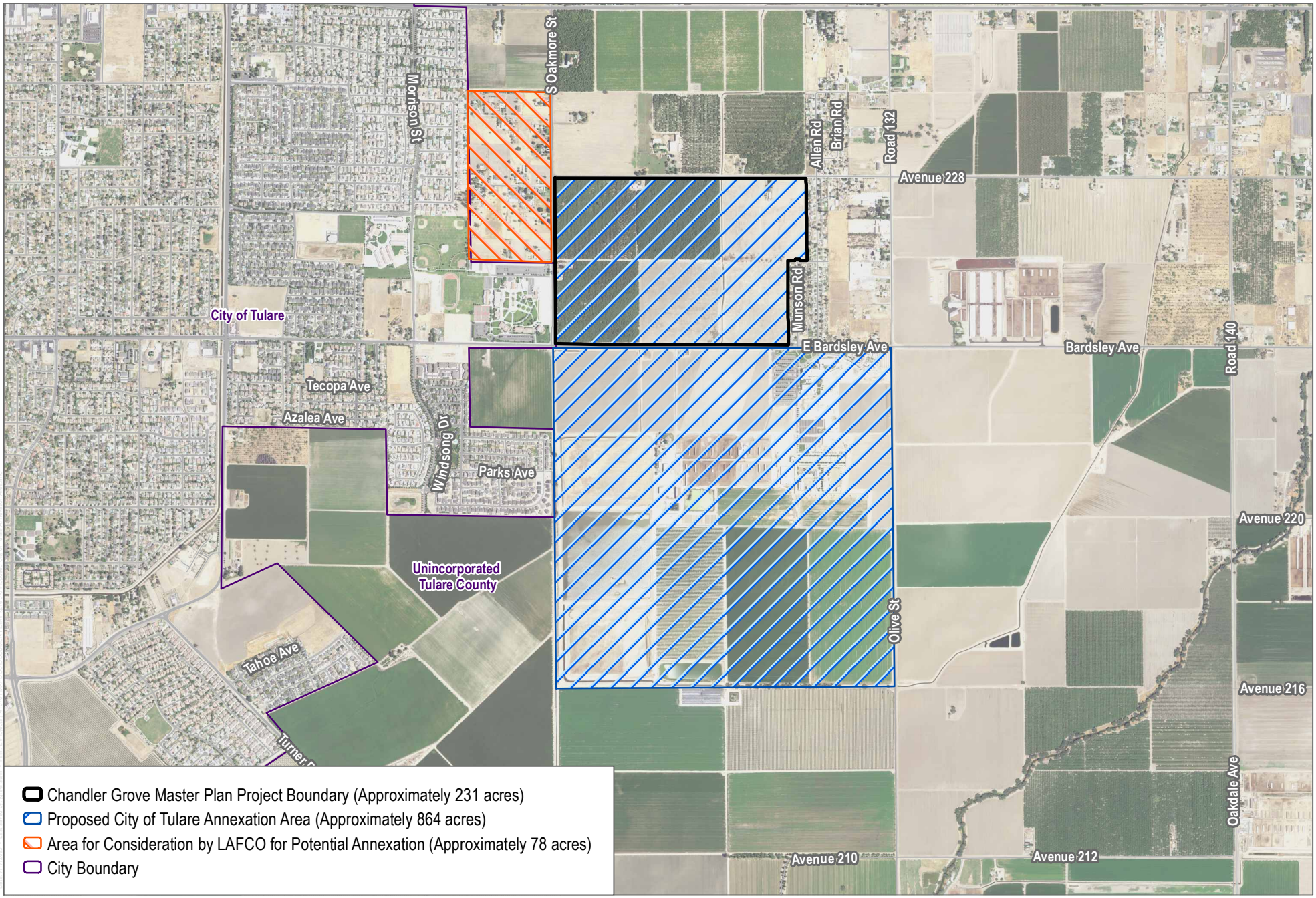
FIGURE 3-5

Proposed Chandler Grove Master Plan Conceptual Master Plan

Chandler Grove Master Plan and Annexation Project

DUDEK

INTENTIONALLY LEFT BLANK



SOURCE: NAIP 2020

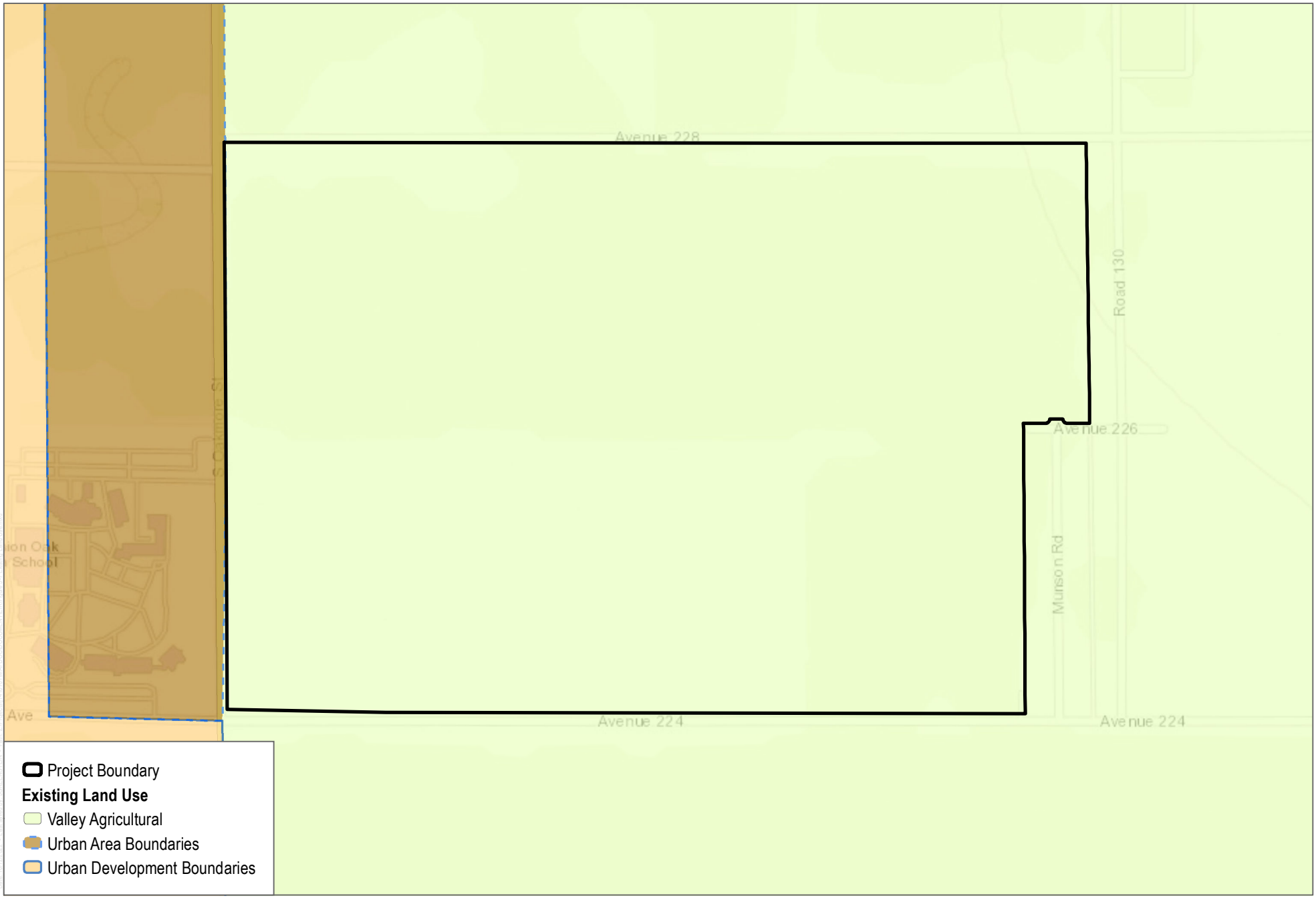
DUDEK

FIGURE 3-6

Proposed City of Tulare Annexation Area

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK



SOURCE: NAIP 2020; Tulare County 2022

DUDEK

0 250 500 Feet

FIGURE 3-7

Existing Land Use

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK



SOURCE: NAIP 2020; Tulare County 2022

DUDEK

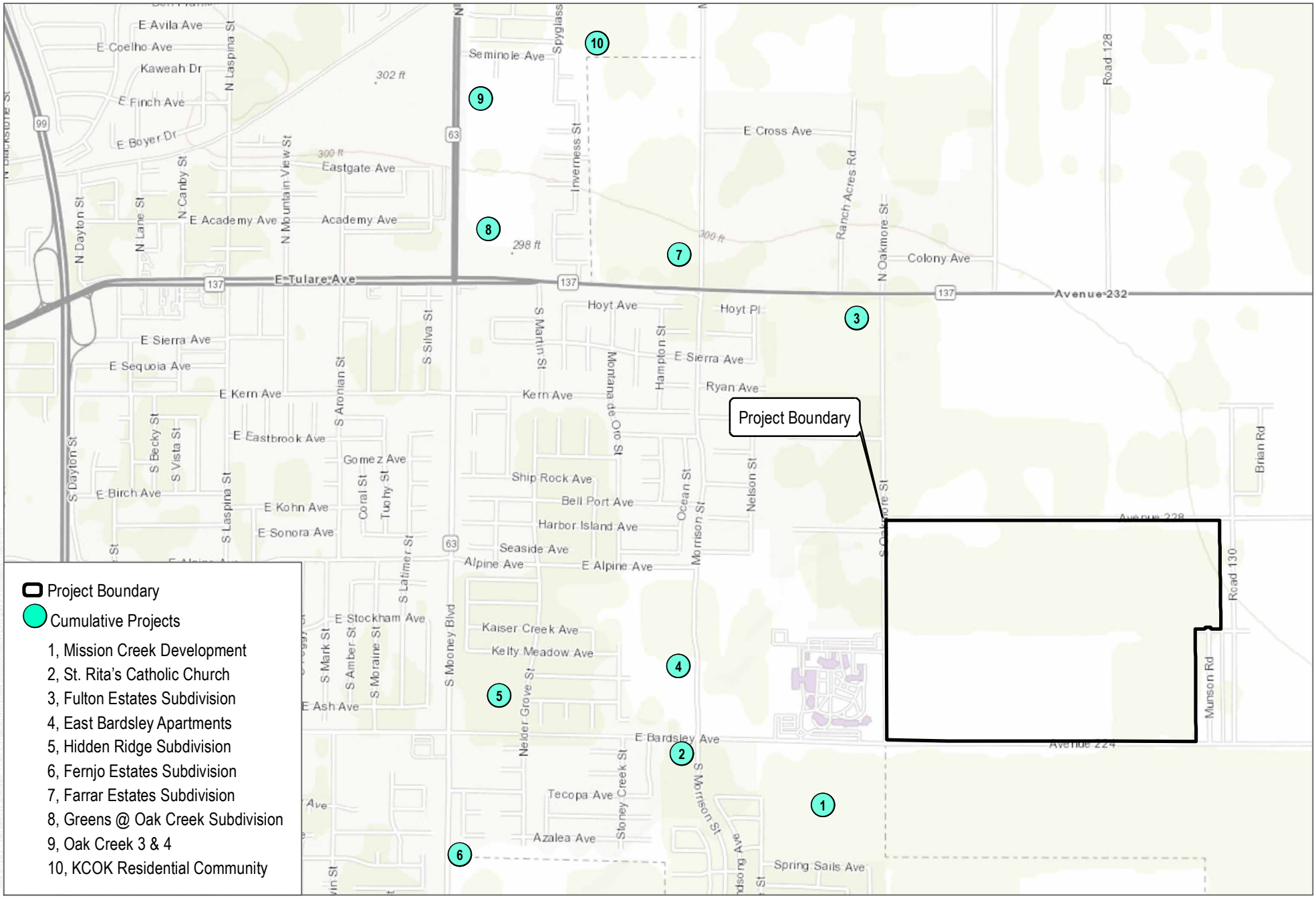
0 250 500 Feet

FIGURE 3-8

Existing Zoning

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK



SOURCE: NAIP 2020; Tulare County 2022

DUDEK

0 500 1,000 Feet

FIGURE 3-9

Cumulative Projects

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK

4 Environmental Analysis

Introduction to Environmental Analysis

The purpose of this environmental impact report (EIR) is to evaluate the potential environmental effects of the Chandler Grove Annexation Project (Project). The City of Tulare (City) circulated a Notice of Preparation (NOP) beginning on September 9, 2022, with the public review period ending on October 10, 2022. The NOP was transmitted to the State Clearinghouse, responsible agencies, other affected agencies, and other public and private potential stakeholders to solicit feedback regarding the scope of the environmental analysis to be addressed in the Project's EIR. The NOP and comment letters received are contained in Appendix A of this EIR.

Sections 4.1 through 4.19 of this EIR contain the potential environmental impacts analysis associated with implementation of the Project, and focus on the following issues:

- Section 4.1 – Aesthetics
- Section 4.2 – Agriculture and Forestry
- Section 4.3 – Air Quality
- Section 4.4 – Biological Resources
- Section 4.5 – Cultural and Tribal Cultural Resources
- Section 4.6 – Energy
- Section 4.7 – Geology and Soils
- Section 4.8 – Greenhouse Gas Emissions
- Section 4.9 – Hazards, Hazardous Materials
- Section 4.10 – Hydrology and Water Quality
- Section 4.11 – Land Use and Planning
- Section 4.12 – Mineral Resources
- Section 4.13 – Noise
- Section 4.14 – Population and Housing
- Section 4.15 – Public Services
- Section 4.16 – Recreation
- Section 4.17 – Transportation
- Section 4.18 –Utilities and Service Systems
- Section 4.19 – Wildfire

The Chandler Grove Master Plan and Annexation Project (proposed Project) proposes a mixed-use development on approximately 231 acres of active agricultural land currently located in unincorporated Tulare County (County), within the City of Tulare's (City) Sphere of Influence (SOI). For the purposes of this EIR the 231-acre Master Plan Project site is referred to as "Project site" throughout this document. Approval of a zone amendment (pre-zoning for anticipated annexation) and general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925 would be required for Project implementation. Approval of a tentative map is not requested at this time. The Project also includes annexing approximately 863 acres into the

City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632-acres of the annexation area. As such, the EIR only evaluates construction and operation of the proposed Master Plan based on what is allowed under the land use designations and zoning. Because there are no changes proposed to the remaining 632 acres, the EIR only evaluates consistency with the Tulare County LACFCO policies for the annexation of this land to the City.

Implementation of the proposed Project must be consistent with the City's General Plan and Transit Oriented Development Plan goals and policies, Municipal Code, and all applicable regulations such as California Building Code standards. Therefore, such policies and standards are not identified as mitigation, and compliance with relevant goals, policies, and federal, state or City requirements are instead described within the impact analysis.

Technical Studies

A number of technical studies were prepared for the proposed project and are included in the technical appendices. Studies prepared include the results of the air quality and greenhouse gas models and outputs (Appendix B), a Biological Resource Technical Report (Appendix C), Archaeological Resources Inventory Report and a Built Environment Inventor and Evaluation Report (Appendix D), Paleontological Resources Inventory (Appendix E), Hazardous Materials Assessment (Appendix F), Water Supply Assessment (Appendix G), a Noise Technical Report (Appendix H), and a Transportation Impact Analysis (Appendix I).

Environmental Setting

According to subdivision (a) of Section 15125 of the California Environmental Quality Act (CEQA) Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project as they exist at the time when the Notice of Preparation (NOP) is published. This "environmental setting" will normally constitute the "baseline condition" against which project-related impacts are compared. Therefore, the baseline conditions for this EIR, unless noted otherwise, are based on conditions that existed in September 2022, when the NOP was published and circulated. The CEQA Guidelines recognize that the data for establishing an environmental baseline cannot be rigid. Because physical environmental conditions may vary over a range of time, the use of environmental baselines that differ from the date of the NOP is reasonable and appropriate in certain circumstances when doing so results in a more accurate or conservative environmental analysis.

Section Format

The EIR assesses how the Project would impact each of the above-listed resource areas. Each environmental issue addressed in this EIR is presented in terms of the following subsections:

- **Existing Conditions:** Provides information describing the existing setting on and/or surrounding the Project site that may be subject to change as a result of implementation of the Project. This setting discussion describes the conditions that existed when the NOP was sent to responsible agencies and the State Clearinghouse.
- **Relevant Regulations, Plans, Policies, and Ordinances:** Provides a discussion of federal, state, regional, and local regulations, plans, policies, and ordinances applicable to the Project.
- **Thresholds of Significance:** Provides criteria for determining the significance of Project impacts for each environmental issue.
- **Impact Analysis:** Provides a discussion of the characteristics of the Project that may have an impact on the environment, analyzes the nature and extent to which the Project is expected to change the existing environment, and indicates whether the Project's impacts would meet or exceed the levels of significance thresholds.

- **Mitigation Measures and Level of Significance After Mitigation:** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible and provides a discussion of significant adverse environmental impacts that cannot be feasibly mitigated or avoided, significant adverse environmental impacts that can be feasibly mitigated or avoided, adverse environmental impacts that are not significant, and beneficial impacts.
- **References Cited:** Lists the sources cited during preparation of the EIR.

Scope of the Analysis

The impact analysis contained in Chapter 4 has been written against the backdrop of CEQA case law addressing the scope of analysis required in EIRs for potential impacts resulting from existing environmental hazards found at the site or in the vicinity of a site for a proposed project. In *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, 377, the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents." (Italics added.) The court reasoned that "ordinary CEQA analysis is concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents." (Id. at p. 378.)

The court did not hold, however, that CEQA never requires consideration of the effects of existing environmental conditions on the future occupants or users of a proposed project. But the circumstances in which such conditions may be considered are narrow: "when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions." (*Id*. at pp. 377-378, italics added.)

Cumulative Analysis

According to CEQA, "cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355). CEQA requires that cumulative impacts be discussed when the "project's incremental effect is cumulatively considerable" (CEQA Guidelines, Section 15130 (a)).

An analysis of cumulative impacts is provided in Chapter 5, Cumulative Effects. As defined in CEQA Guidelines, Section 15355, cumulative impacts refer to two or more past, present and/or reasonably foreseeable future actions which, when considered together, result in a significant impact. The cumulative impacts analyze the extent to which the project would contribute to cumulative impacts, and whether that contribution would be considerable (i.e., would cause a cumulative condition to be significant and/or substantially increase the severity of a cumulative impact that would be significant whether or not the project was developed. An introductory statement that defines the cumulative analysis methodology and the cumulative context for respective sections (e.g., buildout of the City's General Plan, development within the San Joaquin Valley Air Basin) is at the beginning of the "Cumulative Analysis" discussion. In some instances, a Project-specific impact may be considered less than significant, but would be considered potentially significant in combination with other development within the surrounding area. Or, in some instances, a potentially significant impact could result on a project level, but would not result in a cumulatively considerable impact.

Terminology Used in the EIR

This Draft EIR uses the following terminology to describe environmental effects of the proposed project:

- **Standards of Significance:** A set of criteria used by the lead agency to determine at what level or "threshold" an impact would be considered significant. Standards of significance used in this EIR include those set forth in CEQA Guidelines Section 15065 (Mandatory Findings of Significance) and those derived from questions set forth in Appendix G to the CEQA Guidelines; criteria based on regulatory standards of local, state, and federal agencies; and criteria based on goals and policies identified in the City of Tulare General Plan and other applicable planning documents. In fashioning criteria based on these sources, City staff and the EIR preparers have also relied on their own professional judgment and experience in some instances. In determining the level of significance, the analysis assumes that the proposed project would comply with relevant federal, state, and local regulations and ordinances.
- **Less-than-Significant Impact:** A project impact is considered less than significant when it does not reach the standard of significance, indicating that there would be no substantial change in the environment. No mitigation is required for less-than-significant impacts.
- **Potentially Significant Impact:** A potentially significant impact is an environmental effect that could cause a substantial adverse change in the environment; however, additional information is needed regarding the extent of the impact to make the determination of significance. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact.
- **Significant Impact:** A project impact is considered significant if it results in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects in the context of specified significance criteria. When available, potentially feasible mitigation measures and/or project alternatives are identified to reduce these effects to the environment.
- **Significant and Unavoidable Impact:** A project impact is considered significant and unavoidable if it results in a substantial adverse change in the physical conditions of the environment and there are no potentially feasible mitigation measures and/or project alternatives available to reduce these effects to less than significant.

4.1 Aesthetics

This section describes the existing visual conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This section assesses potential effects on aesthetic resources that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632-acres. In addition, at the time of annexation proceedings by Tulare County LAFCO for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information contained in this section is based on publicly available data and reports from the City including the City's General Plan and Municipal Code, as well as Project Site reconnaissance, the conceptual master plan, and mapping/visual resource analysis tools. Other sources consulted are listed in Section 4.1.8, References, of this section.

No comments were received related to aesthetic resources during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.1.1 Existing Conditions

Regional Setting

The City of Tulare is located in the San Joaquin Valley, part of California's Central Valley, one of the most important and productive agricultural regions in the United States. Agricultural lands (crop and commodity production and grazing) are also the City and County's most visible source of open space lands. The City of Tulare is in the central western portion of Tulare County, approximately 45 miles southeast of Fresno and about 60 miles northwest of Bakersfield. While surrounded by agriculture, Tulare is a growing city, home to regional shopping destinations, employment centers, and the College of Sequoias (COS) Tulare College Center Campus. Tulare benefits from easy access to Highway 99 which runs north-south through the city and is served by local and regional transit. Additionally, Tulare has a central downtown area, the Tulare Outlet Center, a major regional shopping destination to the northeast, a large dairy manufacturing industry, and a mix of housing options.

Project Setting

The Project site is currently located within unincorporated Tulare County (County) but would be annexed to the City as part of this Project along with the parcels associated with the COS's Tulare College Center Campus site and the Kaweah Delta Water Conservation District. The Project site is located near the eastern boundary the City and is within the City's Sphere of Influence (SOI) and Urban Development Boundary. The Project site is bound by S. Oakmore Street (Road 124) to the west, the East Tulare Villa community to the east, Avenue 228 to the north, and E Bardsley Ave to the south. Currently, the Project site it is used for agricultural purposes, more specifically black walnut and almond orchards occupying more than 90 percent of the Project site. On-site farming practices include soil discing and herbicide application, including regular anthropogenic[1] maintenance and disturbance of the orchards. The Project site

[1] Something that is caused or created by human activity.

and immediate surrounding area is relatively flat with a slight slope from the northeastern to southwestern corner. The Project site ranges between approximately 270 and 300 feet above mean sea level (amsl).

Surrounding Land Use

Figure 3-7, Existing Land Use, and Figure 3-8, Existing Zoning, detail existing land use and zoning surrounding the Project site. Specific land uses located in the immediate vicinity of the Project site include the following:

- **North:** Avenue 228 is an east-west extending road that borders the northern boundary of the Project site. Agricultural land with scattered residences is located to the north of the site.
- **South:** E. Bardsley Avenue is an east-west extending road that borders the southern boundary of the Project site. The COS Tulare Campus, including the Campus' agricultural lands and a groundwater recharge basin owned by the Kaweah-Delta Water Conservation District are located immediately south of the proposed Master Plan area.
- **East:** A residential development (East Tulare Villas) and a small market are directly east of the Project site. A dairy, a fabricating facility, and agricultural lands are also located east of the proposed Master Plan area.
- **West:** S. Oakmore Street (Road 124) is a north-south extending road that borders the western boundary of the Project site. Scattered residences and Mission Oak High School are located to the west of the Master Plan area.

Scenic Vistas

Scenic vistas are designated viewing areas or areas known for high scenic quality. Scenic vistas may be designated by a federal, State, or local agency. Scenic vistas can also include an area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing. There are no designated federal, State, or County scenic vistas in the vicinity of the proposed Project. In addition, the City's General Plan does not identify any aesthetic resources (City of Tulare 2014).

Scenic Routes

According to the California Department of Transportation (Caltrans), there are no officially designated state scenic highway in the County and only one eligible scenic highway (Caltrans 2019). Route 198 is the eligible scenic highway that is closest to the Project site, located approximately 10 miles north of the Project site. None of the County's officially designated or eligible scenic highways are visible from the Project site, nor is the Project site visible from the highways.

Light and Glare

The Project site does not currently support any existing sources of light or glare. Existing sources of light and glare in the Project site include vehicular headlights, streetlights and exterior building lights in scattered residences and school campuses.

Viewshed and Visibility

Due to the relatively flat nature of the Project site and surrounding area, the site is visible from surrounding roads and land uses, including from the existing residential, agricultural, and educational uses. Views of the Project site from surrounding public vantage points consist of lush, green agricultural land with young trees growing across the

Project site. Views from public vantage points were analyzed and photographed in the field to document the existing visual environment.

Viewer groups afforded views to the Project site include motorists traveling on nearby highways and roads, and those frequenting the nearby residential, agricultural, and educational areas. Viewer groups in the Project site are further described below.

Viewpoints

Viewpoint 1— Intersection of S. Oakmore St. (Road 124) and E. Bardsley Ave., Looking East

Viewpoint 1 shows the view from the Mission Oak High School with the Project site on the left filled with large trees, while the site adjacent to the southern boundary of the Project site is barren. The area is generally flat and covered with either crops or exposed soils.

Viewpoint 1: From the Intersection of S. Oakmore St. (Road 124) and E. Bardsley Ave. Looking East



Viewpoint 2 – Intersection of S. Oakmore St. (Road 124) and E. Bardsley Ave., Looking North

Viewpoint 2 shows the Mission Oak High School and parking on the left and the Project site on the right side of the street. The Project site is filled with large trees. Utility poles and lamp posts can be seen extending throughout the street.

Viewpoint 2: From the Intersection of S. Oakmore St. (Road 124) and E. Bardsley Ave. Looking North



Viewpoint 3 – From Avenue 228, Looking East

Viewpoint 3 details the view on Avenue 228, looking east, with the Project site on the right and a residence and agricultural land on the left. The Project site is covered with large trees while the land adjacent to the site supports agricultural uses.

Viewpoint 3: From Avenue 228, Looking East



Viewpoint 4 – From COS's Western Campus Entrance on E. Bardsley, Looking East

Viewpoint 4 details the view from the College of the Sequoias Tulare College Center with the Project site covered with small trees on the right and the COS's agricultural lands on the left.

Viewpoint 4: From COS's Western Campus Entrance on E. Bardsley, Looking West



Viewer Groups

The Project site can be seen from the immediately surrounding areas due to the relatively flat topography of the area. Viewers of the Project site include motorists traveling on the adjacent roadways, users of the adjacent educational facilities, and residents that live near the Project site.

4.1.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations pertaining to aesthetics for the proposed Project.

State

California Scenic Highway Program

California's Scenic Highway Program was created by the state legislature in 1963. This program's purpose is to "preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways" (Caltrans 2023). The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The California Scenic Highway System includes a list of highways that are officially designated as scenic highways or eligible for designation as scenic highways. As discussed in Section 4.1.1, Existing Conditions, there are no state-designated or eligible state scenic highways within the viewshed of the Project site.

California Code of Regulations

Title 24 – California Building Standards Code

Title 24, California Building Standards Code, consists of regulations to control building standards throughout the state. The following components of Title 24 include standards related to lighting:

Title 24, Part 1 – California Building Code / Title 24, Part 3 – California Electrical Code

The California Building Code (Title 24, Part 1) and the California Electrical Code (Title 24, Part 3) stipulate minimum light intensities for pedestrian pathways, circulation ways, parking lots, and paths of egress.

Title 24, Part 6 – California Energy Code

The California Energy Code (CEC) (Title 24, Part 6) contains energy conservation standards applicable to all residential and non-residential building throughout California, including schools and community colleges. This Part stipulates allowances for lighting power and provides lighting control requirements for various lighting systems, with the aim of reducing energy consumption through efficient and effective use of lighting equipment.

Title 24, Part 11 – California Green Building Standards Code

The California Green Building Standards Code (CALGreen) (Title 24, Part 24) is commonly referred to as the CALGreen Code. The CALGreen Code stipulates maximum allowable light levels, efficiency requirements for lighting, miscellaneous control requirements, and light trespass requirements for electric lighting and daylighting.

California Vehicle Code

Chapter 2, Article 3 of the California Vehicle Code stipulates limits to the location of light sources that may cause glare and impair the vision of drivers.

Article 3. Offenses Relating to Traffic Devices [21450–21468] (Article 3 enacted by Stats. 1959, Ch. 3.), Section 21466.5. No person shall place or maintain or display, upon or in view of any highway, any light of any color of such brilliance as to impair the vision of drivers upon the highway.

Local

City of Tulare General Plan

Aesthetic resources are protected through policies in the City's General Plan Land Use, Transportation, and Conservation and Open Space Elements. The goals and policies in the City's General Plan for aesthetics applicable to the Project are provided below. The General Plan contains additional goals and policies that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below, but as stated in Chapter 2, Introduction, all goals and policies in the City's General Plan are incorporated by reference (City of Tulare 2014).

Land Use Element

Goals:

LU - 2 To grow in an orderly pattern consistent with the economic, social and environmental needs of Tulare and taking regional impacts into account.

LU - 13 The City will continue to improve the appearance and image of the City

Policies:

LU-P2.2 Compact Development**.** The City shall promote development patterns that are compact and use space in an efficient but aesthetic manner to promote more walking, biking, and use of public transit.

LU - P2.9 Maintain Urban Edge. The City shall maintain a distinct urban edge, while creating a gradual transition between urban uses, rural uses, and open space. The City shall maintain rural residential and residential estate designations or utilize project design to incorporate a distinct urban edge, along the City's edge to provide this transition.

LU - P4.12 Commercial Signage. The City shall require that signage in commercial development complement, rather than detract, from the visual quality of the commercial development and surrounding neighborhoods.

LU - P4.14 Minimize Visual Impact. The City shall require new commercial development to be designed to minimize the visual impact of parking areas on public roadways.

LU-P13.1 City Character and Identity. The City shall reinforce the city's unique character, scale, and identity through urban design programs, including principles and guidelines.

LU-P13.2 City Image. The City shall encourage a high level of design quality (architectural and landscape) for all new development in order to create a pleasant living environment, a source of community pride, and an improved overall City image.

LU-P13.3 Innovative Development. The City shall promote flexibility and innovation in residential, commercial, industrial, mixed-use and other land uses through the use of planned unit developments, developer agreements, specific plans, mixed-use projects, and other innovative development and planning techniques.

LU - P13.4 Public Art. The City shall promote a stimulating and engaging environment through an increase in the incorporation of artwork in public places as part of new commercial centers and associated with new Village centers.

LU-P13.8 Neighborhood Identification. The City shall encourage the creation of neighborhoods which have distinct individual identities based on incorporation of high quality individual residential designs and increased emphasis on common design elements (comfortable street scales, street tree canopies, designed entrances, common landscaping, custom street lighting and signage design, common open spaces, etc.).

LU-P13.9 Neighborhood Interaction. The City shall encourage the inclusion of elements in residential design which stimulate neighborhood interaction, (e.g., inclusion of front porches in home design, limitations on front yard fenced areas, etc.).

LU-P13.10 Subdivision Design**.** The City shall discourage residential design approaches within subdivisions which create monotonous or non-aesthetically pleasing neighborhoods (e.g., excessive repetition in house form, setback, and building height; repetitive driveway configurations; prominence of garage doors; etc.).

LU-P13.11 Quality Multi-Family Housing**.** The City shall promote quality design and appearance of all new multi-family units so that they complement the existing fabric of the community, add value to the community's built environment, and reduce potential for community objection.

LU-P13.13 Visual Focal Points. The City shall encourage existing and future City neighborhood and community park facilities be designed, improved, and maintained as key visual focal points, as well as recreational resources.

LU-P13.14 Scenic Features and Views. The City shall preserve its scenic features and view corridors to the mountains

LU-P13.17 Design Review. The City shall continue to conduct design review of all multi-family, commercial, and industrial applications.

LU-P13.22 Night Sky Protection**.** Upon demonstrated interest by a village or neighborhood, the City will determine the best means by which to protect the visibility of the night sky.

LU-P13.24 Minimize Lighting Impacts. The City shall ensure that lighting in residential areas and along roadways shall be designed to prevent artificial lighting from reflecting into adjacent natural or open space areas.

LU-P13.25 Outdoor Lighting. The City shall ensure that future development includes provisions for the design of outdoor light fixtures to be directed/shielded downward and screened to avoid nighttime lighting spillover effects on adjacent land uses and nighttime sky conditions.

Transportation and Circulation Element

Policy:

TR-P5.8 Visual Integration. The City shall require parking lots along street frontages to be well designed to reduce their visual impact and maximize pedestrian and bicycle compatibility and safety.

Conservation and Open Space Element

Policy:

COS-P8.7 Minimize Adverse Impacts. Minimize the adverse effects on environmental features such as water quality and quantity, air quality, flood plains, geophysical characteristics, biotic, archaeological and aesthetic factors.

City of Tulare Municipal Code

The City provides landscaping guidelines and regulations through Chapter 10.196 Landscaping of the Municipal Code. The purpose of this chapter is to provide water conservation and landscape development standards and guidelines that will promote the general welfare of the City's residents by creating a responsible outdoor environment. The landscape regulations aim to achieve a diversity of drought-tolerant landscaping that is appropriate to the environment and creates aesthetically pleasing views and vistas along public streets.

Chapter 7.28 Nuisances Generally (Section 7.28.140 Exterior Lighting) which contains general performance standards related to light and glare for all types of development in City (City of Tulare 2002). As such, the Project would be required to adhere to this regulation.

Tulare Transit-Oriented Development Plan

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City (City of Tulare 2013). Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City's General Plan documents (City of Tulare 2014). The following aesthetic-related policies and measures contained in TOD are applicable to the proposed Project.

LU-2.2 The City shall promote development patterns that are compact and use space in an efficient but aesthetic manner to promote more walking, biking and use of public transit.

LU-8.4 The City will look at the following design concepts in the village areas: provide a variety of transportation choices, offer housing choices and opportunities, take advantage of compact development, mixed land uses, preserve open space and natural beauty through natural resources conservation, and preserve farmland in the surrounding unincorporated areas through design measures designed to avoid land use conflicts, encourage distinctive, attractive communities with quality design, incorporate park and open space areas within the Village Center, a neighborhood commercial center should complement other community areas within the Village Center, and the Village Center shall provide a convenient hub for accessing transit services, and be supported by adequate parking and trail access

Chapter 5, Design Guidelines

Chapter 5, Design Guidelines of the Tulare TOD Plan provides general design guidelines to help ensure that new development within the TOD Plan areas corresponds to, supports, and accomplishes the vision and goals set forth in the Plan. The design guidelines listed in Chapter 5 promote vibrant and attractive new development, streetscape improvements, and public gathering places. The General Design Guidelines include those for Connectivity, Public Realm, Access to Transit, Landscaping, Building Design, and Parking.

Section D, College of the Sequoias North Design Guidelines provides recommend design guidelines specific to the proposed Master Plan area as follows:

The COS North guidelines encourage the development of a new neighborhood in Tulare with access to amenities within walking and biking distance. The envisioned rigid development pattern uses references to the agricultural context and builds on synergies with the COS Tulare campus.

1. Gateway
    - The east side of the Plan area is the point of entry to Tulare when traveling west on Bardsley Avenue and should be articulated as a gateway. A gateway can be created here through building placement and articulation, a roundabout, trees, signage, public art, or architectural elements.
    - The proposed commercial use, combined with the future Campus Transit Center, will create pedestrian activity, so the gateway should include a new pedestrian crossing.
2. Streets
    - New streets should be built on a north-south and east-west grid.
    - Integrate existing streets in the new street system.
    - Create small, walkable blocks with a length not exceeding 750 feet and a typical length of 300 feet.
    - Design block sizes to accommodate different housing typologies, with larger blocks for higher density residential located along Bardsley Avenue, and gradually smaller blocks for detached single-family homes to the north.
    - Connect all streets and discourage cul-de-sacs.
    - Define the northern edge of the development with a curvilinear street or a distinct row of street trees. Include a landscaped buffer between the northern edge of residential development and existing agricultural land to minimize conflicts.
    - Provide new pedestrian crosswalks at key intersections with Bardsley Avenue, at a minimum to the new Campus Transit Center, at the new park, and at Oakmore Street.
    - Design all streets as complete neighborhood streets with sidewalks, parallel on street parking, street trees, and crosswalks at intersections. The right-of-way should not be greater than 60 feet unless wider sidewalks or bike facilities need to be accommodated.
    - Upgrade existing streets to complete neighborhood streets.
    - Implement street improvements on Bardsley Avenue, including street trees, continuous sidewalks with a minimum width of 6 feet, bike lanes, and bus stop facility.

3. Pedestrian and Bike Connections
   - Accommodate sidewalks along new neighborhood streets to connect the campus and the planned development south of Bardsley Avenue with the open space to the north, with Mission Oak High School to the west, and the existing residential neighborhood to the east.
   - Bike and pedestrian connections should be included on the north-south street along the park, along the north-south street connecting to the Transit Center, along the east-west street at the northern edge of the development, and along the east-west street that connects Mission Oak High School, the proposed school, and the central park.
   - Streets that are designated pedestrian and bike paths should include continuous rows of large canopy trees for shading, landscaped sidewalks, and signage for bike routes.
4. Parks
   - In reference to the former use, integrate a portion of the orchard into the park design.
   - Connect paths to the surrounding street network.
   - Design the park for active and passive uses.
   - Provide plenty of seating and generous shading through large canopy trees and/or shading structures.
   - Accommodate ball fields and other recreational facilities that can be shared with the new school.
   - Locate a new public building for community use at the north end of the park and in proximity to the school.
   - Emphasize the edges of the park with trees, structures, or park buildings, particularly on Bardsley Avenue.
   - Ensure access from the new development through several, visible entrances.
   - Encourage the creation of smaller public or semi-public parks and open spaces within new development.
5. Landscaping
   - To provide sufficient shading and visual continuity, encourage the use of one or two species of large canopy trees along each street, particularly along streets that run across the neighborhood.
   - Use different species along different streets to create variety in street character.
   - Provide landscaped strips along the sidewalks.
   - Consider the integration of bioswales in the landscaped strips to reduce stormwater run-off.
6. Buildings

   ### Residential

   - High and medium density buildings should have a landscaped setback of 15 feet from the sidewalk.
   - Single family homes should have a front yard of up to 25 feet, measured from the sidewalk.

   ### Neighborhood Commercial

   - Place new buildings at the corner of Bardsley Avenue and the new north-south street.
   - Buildings should front onto the street with at least one entrance located on the side street.
   - Provide pedestrian amenities such as a small plaza or seating areas.

   ### Public/Cultural/Community

   - Locate the school building close to the park to ensure good connectivity and visibility.
   - A new public building should be located close to the school to create a neighborhood destination.
   - The layout or design of a new public building should take advantage of its location close to the park. Orient open spaces, courtyards, and rooms with high activity towards the park.

7. Parking
    - Place parking for neighborhood retail behind the building and minimize the number of driveways to access the parking lot.
    - Parking access should not conflict with the pedestrian crossing and the new side street or on the eastern end of the parcel at Bardsley Avenue.
    - Locate parking for the park away from Bardsley Avenue along the new side streets.
    - Parking areas for the school and the public building should be located away from the street or include a landscaped buffer of 10 feet minimum.

4.1.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to aesthetics are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to aesthetics would occur if the Project would:

a. Have a substantial adverse effect on a scenic vista.
b. Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality.
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.4 Methodology

Aesthetic/Visual Character Analysis

The aesthetic/visual character analysis considers whether implementation of the proposed Project would represent a potentially significant impact on the visual setting of the City. The assessment of aesthetic impacts is more of a qualitative evaluation and not a discrete set of quantifiable parameters. Site photos and City's General Plan documents have been used to complete the analysis (City of Tulare 2014).

Light and Glare Analysis

The light and glare analysis identifies the existing light and glare sources in the Project site and describes the light and glare sources under the proposed Project and qualitatively evaluates whether the proposed Project would result in a substantial increase in the Project's temporary and permanent light and glare sources.

4.1.5 Impacts Analysis

Threshold a: Would the Project have a substantial adverse effect on a scenic vista?

No Impact. As discussed in Section 4.1.1, the Project site and surrounding area contain agricultural lands with scattered residents. In addition, the Mission Oak High School and the COS Tulare College Center Campus are

adjacent to the Project site. Physical improvements proposed as part of the Project would be limited to the Project site and the immediate vicinity. Given that no scenic resources are located in the Project's disturbance footprint, the Project would not result in any physical modifications to scenic resources that would comprise a scenic vista.

A project could also have a potential indirect impact on a scenic vista if it results in a significant loss of viewing opportunities from publicly available viewpoints. There are no federal, State, or County designated scenic vistas in the vicinity of the proposed Project. In addition, the City's General Plan does not designate the Project site as a scenic area or within an area having scenic value (City of Tulare 2014). As such, development of the proposed Project would have no impacts related to a scenic vista. No mitigation measures would be required.

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

No Impact. There are no officially designated scenic roads or highways within City boundaries. The nearest eligible scenic highway, Route 198, is located approximately 10 miles north of the Project site (Caltrans 2019). Due to distance and intervening terrain, vegetation and development, the eligible scenic highway is not visible from the Project site, nor is the Project site visible from this highway. Therefore, no impacts associated with scenic resources within a state scenic highway would occur.

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

Less-than-Significant Impact. California Public Resources Code Section 21071 defines an "urbanized area" as "an incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons, or (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons." The City's population in 2021 was approximately 70,733 people (U.S. Census 2021). However, the City is surrounded by unincorporated Tulare County land in all directions, and it can be assumed the combined population of the City and the County lands is over 100,000 persons. Thus, the Project site is considered to be within an urbanized area and the following analysis considers whether the Project would conflict with applicable zoning or other regulations governing scenic quality.

To ensure that development within the City is designed and constructed to conform to existing visual character and quality, the City Development Standards (Title 10 Zoning, Chapter 10.32 Single-Family Residential, 10.36 Multi-Family Residential District, 10.52 Retail-Commercial District, 10.80 Public Lands District of the City's Municipal Code) include design standards related to building size, height, floor area ratio, and setbacks, as well as landscaping, signage, and other visual considerations (City of Tulare 2000). These design standards help adjacent land uses to be visually consistent with one another and their surroundings and reduces the potential for conflicting visual elements.

The Project site is located within the COS North TOD Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities (City of Tulare 2013). The proposed Project would be generally consistent with the TOD plan in its design. The Project would also incorporate the development guidelines listed in Chapter 5, Section D of the TOD Plan to the greatest extent feasible.

The Project site would be annexed to the City and therefore, the City's development standards detailed in Table 4.1-1 would apply to Project development.

Table 4.1-1. Project Development Standards for R-1-5, R-M-2, R-M-4, PL, C-3 Zones

	City of Tulare Development Standard Requirements
Low Density Residential (R-1-5)	**Minimum Site Area Per Dwelling Unit:** 5,000 square feet minimum lot size. **Frontage, width and depth:** 50 feet interior lot width, 60 feet corner lot width, 100 feet all lot width **Front yard:** 20 feet
Medium Residential (R-M-2)	**Minimum Site Area Per Dwelling Unit:** 3,000 square feet **Maximum Site Area Coverage:** 50% **Minimum Front Yard:** 20 feet **Maximum Building height:** 30 feet
High Density Residential (R-M-4)	**Minimum Site Area Per Dwelling Unit:** 1,500 square feet **Maximum Site Area Coverage:** 50% **Minimum Front Yard:** 15 feet **Maximum Building height:** 50 feet
Retail Commercial (C-3)	**Site Area:** No requirement **Frontage, width and depth:** No requirement **Maximum Lot Coverage:** 80% **Maximum Building height:** 30 feet
Public Lands (PL), including parks and recreation areas, school, and community center	**Site Area:** 3,000 square feet **Frontage, width and depth**: No requirement **Lot Coverage:** No requirement **Building height:** 35 feet maximum

The Project site would be developed with approximately 1,197 units of low, medium, and high-density housing, with the low density single-family detached lots on the northern portion of the Project site and the medium and high-density residential lots on the southern portion of the Project site. As detailed in the City's 2035 General Plan Land Use Element, Low Density Residential has a density of 3.1 to 7 dwelling units per acre with a minimum lot size of 5,000 square feet, Medium Density Residential has 7.1 to 14 dwelling units per acre with a minimum lot size of 3,000 square feet, and High Density Residential 14.1 to 29 dwelling units per acre with a minimum lot size of 1,500 square feet (City of Tulare 2014). As shown in Table 3-1, Chandler Grove Master Plan Proposed Land Use and Zoning Summary, the density of the proposed residential development would adhere to these density requirements.

Upon completion of the annexation of the Project site into City limits, a parcel map detailing site development per the approved land use and zoning designations would be submitted to the City for review and approval prior to the start of Project construction. The design specifications for the Project will be reviewed by the City for compliance with all applicable provisions set forth by the City's Development Standards, including those listed in Table 4.1-1, above. As part of the City's development review process, the Project's architectural plans are reviewed by City staff and the Planning Commission to determine whether Project design conforms to the Development Standards and promotes the visual character and quality of the surrounding area.

Additionally, due to the size and scale of the proposed Project, it is especially important to consider design to ensure compatibility with other parts of the community. Chapters 10.32, 10.36, 10.52 and 10.80 of the Municipal Code provides additional details regarding design standards and guidelines for development (City of Tulare 2000). In accordance with the Development and Design Standards guidelines, all setback areas would be landscaped, and building orientation, siting and entrances would be designed to minimize conflicts with the surrounding visual environment.

The COS Tulare Campus and Kaweah-Delta Water Conservation District areas are being included in the annexation, but no changes in existing development plans are proposed for these areas. Rather, these areas are being included in order to ensure an orderly manner of growth of the City, as these properties will be complimentary and supportive of the Chandler Grove proposed development plan area.

In summary, the Project would be consistent with the visual character of the surrounding area, therefore the Project would not conflict with applicable zoning, land use, Tulare TOD Plan, or other regulations governing scenic quality at the Project site and impacts would be less than significant.

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

Less-Than-Significant Impact. The Project site is currently an agricultural land and does not support any existing sources of light or glare. Existing sources of light and glare in the Project site include vehicular headlights, streetlights and exterior building lights in scattered residences and school campuses. Development of the Project would introduce new sources of light and glare to the Project site.

The majority of construction activities associated with the Project would occur during daytime hours consistent with standard industry practices. In the event that work is required outside the standard construction hours (to reduce traffic or other impacts), lighting would be focused directly on work activity areas and would be temporary. As such, nighttime construction lighting impacts would be less than significant.

Upon Project implementation, the Project could potentially result in significant adverse light and glare impacts on nighttime views due to the residential, commercial, and public lands development proposed by the Project. However, in compliance with the City of Tulare General Plan, Zoning Ordinance, and TOD Plan, the Project would minimize light and glare impacts to sensitive land uses through the incorporation of setbacks, site planning, and other design techniques. The Project would comply with the City's Municipal Code, specifically with Chapters 10.32 (Single Family Residential), 10.36 (Multiple-Family Residential District), 10.52 Retail-Commercial District, and 10.80 Public Lands District, which state development standards for the various development types proposed by the Project. In addition, the Project would also comply with Chapter 7.28 Nuisances Generally (Section 7.28.140 Exterior Lighting) which contains general performance standards related to light and glare for all types of development in City.

Since the Project would be located adjacent to sensitive receptors and also includes the construction of sensitive receptors such as residences and public lands, the Project's lighting would be designed such that lighting is directed on-site and away from neighboring and residential parcels. Lighting associated with streetlights would be designed consistent with City standards for safety and proper roadway illumination, consistent with other streetlights throughout the City. All light fixtures would be required to be consistent with the California Green Building Standards Code for illumination. The California Green Building Standards Code sets forth minimum requirements based on Lighting Zones, as defined in Chapter 10 of the California Administrative Code. The requirements are designed to

minimize light pollution in an effort to maintain dark skies and ensure new development reduces backlight, uplight, and glare (BUG) from exterior light sources (CALGreen 2019).

In summary, while the Project would create new sources of light and glare, compliance with the City's General Plan, Zoning Ordinance, TOD Plan, and other development regulations would reduce any impacts to a less than significant levels and no mitigation would be required.

4.1.6 Mitigation Measures

No mitigation measures are required.

4.1.7 Level of Significance After Mitigation

As detailed above, the potential impacts of the proposed Project were found to be less than significant with no mitigation required.

4.1.8 References

CALGreen (California Green Building Standards Code). 2019. https://codes.iccsafe.org/content/CAGBSC2019/cover

Caltrans (California Department of Transportation). 2023. Scenic Highways. Accessed July 2023. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways

Caltrans. 2019. Scenic Highways. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed on September 2, 2022.

City of Tulare. 2000. City of Tulare, CA Code of Ordinances Chapter 10.24: Zoning. Accessed July 2023. https://codelibrary.amlegal.com/codes/tulare/latest/tulare_ca/0-0-0-10272

City of Tulare. 2002. City of Tulare, CA Code of Ordinances Chapter 7.28: Nuisances Generally. Accessed July 2023. https://codelibrary.amlegal.com/codes/tulare/latest/tulare_ca/0-0-0-24582.

City of Tulare. 2014. 2035 General Plan. Accessed September 2022. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000.

City of Tulare. 2013. Tulare Transit-Oriented Development Plan. Adopted November 1, 2013. https://www.tulare.ca.gov/home/showpublisheddocument/731/635713493595600000. Accessed on September 2, 2022.

United States Census Bureau. 2021. Tulare City, California. https://www.census.gov/quickfacts/tularecitycalifornia. Accessed on September 2, 2022.

INTENTIONALLY LEFT BLANK

4.2 Agriculture and Forestry Resources

This section describes the existing agriculture and forestry conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. Analysis of the Project site is based on the City of Tulare's General Plan EIR and the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP). Other sources consulted are listed in Section 4.2.8, References, of this section.

This section assesses potential effects on agricultural resources that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

One comment letter was received from the California Department of Conservation Division of Land Resource Protection in response to the Notice of Preparation, which included recommendations for consideration of agricultural conservation easements and inclusion of mitigation measures, if necessary. The Notice of Preparation and comments received are provided in Appendix A.

4.2.1 Existing Conditions

4.2.1.1 Overview

Agriculture is an important sector within Tulare County and the City's economy. According to the Tulare County Crop & Livestock 2021 Annual Report, Tulare County had a total gross production value of $8,089,621,300, representing a 13.3% increase over 2020 production value of $7,140,076,500. Forty-two commodities have a gross value in excess of $1,000,000. The top 10 commodities for Tulare County in 2020 and 2021 are shown in Table 4.2-1, below (Tulare County 2021).

Table 4.2-1. Top 10 Commodities for Tulare County 2021

2021 Ranking	Commodity	Total Value (USD)	2020 Ranking
1	Milk	$1,612,070,000	1
2	Oranges – Navels & Valencias	$919,400,000	2
3	Grapes	$802,551,000	4
4	Cattle & Calves	$595,222,000	3
5	Pistachio Nuts	$550,620,000	5
6	Tangerines	$425,600,000	6
7	Almonds – Meats & Hulls	$327,000,000	7
8	Lemons	$269,813,000	8
9	Peaches – Cling & Freestone	$191,360,000	10
10	Corn – Grain & Silage	$166,586,000	9

Source: Tulare County 2021.

The largest proportion of Tulare County's farming activities takes place in the western portion of the County, while the central and eastern portions are used mostly as ranching land or left as open space. This geographic divide in land uses is a result of inherent land characteristic differences within the County. The western portion of Tulare County consists of highly productive fertile soils, whereas the central and eastern portions are mostly comprised of mountainous low-productivity terrain. Major agricultural operations in the County include crop and timber harvesting and dairy production.

Department of Conservation Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) identifies agricultural farmland categories for lands in the County. These lands are categorized and identified using modern soil surveys developed by the United States Department of Agriculture through technical soil ratings and current land use (DOC 2022). These categories are used for reporting changes in land use as required for FMMPs biennial farmland conversion report. FMMP agricultural farmland categories are defined by the California Department of Conservation (DOC) as follows (DOC 2022):

Prime Farmland

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.

Farmland of Statewide Important

Farmland similar to 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.

Farmland of Local Importance

Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Unique Farmland

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.

Grazing

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.

Large swaths of the City do not contain any farmland and are designated as "Urban and Built Up" land. "Semi-agricultural and Rural Commercial Land" is also prevalent in the City. Aerial imagery indicates that the Project site and the surrounding uses have been used for agricultural purposes ever since 1956. Although lands adjacent

to the Project site developed scattered residences and a school from the year 1994, the Project site continued to be used for agricultural purposes (NetrOnline 1956-2018). According to the 2018 FMMP Map, majority of the Project site is designated as "Prime Farmland" and a portion of the site is designated as "Unique Farmland" (Figure 4.2-1, Farmland Mapping and Monitoring Designations).

Due to conversion to other/non-agricultural uses, the amount of prime farmland in Tulare County has been declining since the Department started compiling such information in 1998. Table 4.2-2, Tulare County Summary and Change by Land Use Category, below, details the changes in FMMP Land Use Category between 2014 and 2016.

Table 4.2-2. Tulare County Summary and Change by Land Use Category

Land Use Category	Total Acreage Inventoried		2014-16 Acreage Changes			
	2014	2016	Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	366,414	366,136	2,243	1,965	4,208	-278
Farmland of Statewide Importance	320,886	322,355	3,103	4,572	7,675	1,469
Unique Farmland	11,421	11,691	243	513	756	270
Farmland of Local Importance	160,450	157,937	6,958	4,445	11,403	-2,513
Important Farmland Subtotal	*859,171*	*858,119*	*12,547*	*11,495*	*24,042*	*-1,052*
Grazing Land	439,961	439,934	539	512	1,051	-27
Agricultural Land Subtotal	*1,299,132*	*1,298,053*	*13,086*	*12,007*	*25,093*	*-1,079*
Urban and Built-Up Land	62,949	64,620	61	1,782	1,793	1,671
Other Land	219,185	218,593	1,610	1,018	2,625	-592
Water Area	4,656	4,656	0	0	0	0
Total Area Inventoried	**1,585,922**	**1,585,922**	**14,767**	**14,757**	**29,514**	**0**

Source: Appendix A of DOC 2014-2016.

California Land Conservation Act of 1965 (Williamson Act) Lands

The Williamson Act provides tax incentives to retain prime agricultural land and open space in agricultural use, which subsequently slows its conversion to urban development. The Williamson Act requires a 10-year contract between the County and landowners who enter into contracts with local government for long-term use restrictions on qualifying agricultural and open space land. In accordance with the contract, the land must be taxed based on its agricultural use rather than its full market value. The overall purpose of the Williamson Act is to protect agricultural lands and open space. A detailed description of the Williamson Act is further described in Section 4.2.2, below.

The Project site is currently within the County's Exclusive Agricultural Zone – 40 Acre Minimum (AE-40), under Ag Preserve Number 0002326, and under Ag Preserve Contract Number 06925. The amount of land under Williamson Act Contracts within Tulare County has been declining in recent years (Tulare County 2012).

Forest Land, Timberland, and Timberland Production Zones

As defined in California Public Resources Code Section 12220(g), "Forest Land" refers to land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Several forests and national parks exist within Tulare County. These include Sequoia National Park, Kings Canyon National Park, and Inyo National Forest. However, they are outside of and not adjacent to the Project site.

"Timberland," as defined by Public Resources Code Section 4526, refers to land, other than land owned by the federal government and land designated by the State Board of Forestry and Fire as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. A "Timberland Production Zone," as defined by Government Code Section 51104(g), refers to an area which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses. There are no TPZs on the Project site.

4.2.2 Relevant Plans, Policies, and Ordinances

Federal

Farmland Protection Policy Act (7 USC 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It additionally directs federal programs to be compatible with State and local policies for the protection of farmland. Under the FPPA, the term "farmland" includes Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. Farmland that is subject to FPPA requirements does not have to be currently used as cropland. It can be forestland, pastureland, or other land but not urban and built-up land or water. FPPA assures that, to the extent possible, federal programs are administered to be compatible with State, and local units of government, and private programs and policies to protect farmland. In 1981, Congress passed the Agriculture and Food Act (Public Law 97-98) which contained the FPPA, Subtitle I of Title XV, Sections 1539–1549. Federal agencies are required to develop and review their policies and procedures related to implementing the FPPA every 2 years. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners. 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 rely on assistance from a federal agency (NRCS 2020).

State

Farmland Mapping and Monitoring Program

As mentioned above in Section 4.2.1, the goal of the FMMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural

land resources. FMMP produces Important Farmland Maps, which are a hybrid of resource quality (soils) and land use information. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every 2 years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. Data is also released in statistical formats—principally the biennial California Farmland Conversion Report.

California Land Conservation Act (Williamson Act)

The Williamson Act is applicable to specific parcels within the State of California. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under a Williamson Act Contract. The Williamson Act program is administered by the DOC, in conjunction with local governments that administer the individual contract arrangements with landowners. Under the Williamson Act, a landowner commits the parcel to a 10-year period, during which time no conversion out of agricultural or open space use is permitted. In return, the land is taxed at a rate based on the actual use (i.e., agricultural production), as opposed to its unrestricted market value. Each year the contract automatically renews unless a notice of nonrenewal or cancellation is filed (DOC 2019a).

Easement Exchange

Williamson Act easement exchange legislation became effective January 1, 1998. It provides a voluntary rescission process for local entities and landowners to cancel the Williamson Act contract and simultaneously dedicate a permanent agricultural conservation easement on other land. A board or council must make specified findings in order to cancel the contract. The land to be placed under easement must be of equal size or larger than the Williamson Act contracted land. In addition, the value of the easement parcel must be equal to or greater than the cancellation fee required to cancel the contract (DOC 2019b).

Public Resources Code Section 21060.1

Public Resources Code Section 21060.1 uses the FMMP to define agricultural land for the purposes of assessing environmental impacts. The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and analyze the conversion of such lands. The FMMP provides analysis pertaining to agricultural land use changes throughout California.

Local

City of Tulare General Plan

Agricultural resources are protected through policies in the City of Tulare's General Plan Conservation and Open Space Element. The goals and policies in the City's General Plan for agricultural resources applicable to the Project are provided below. The General Plan contains additional goals and policies that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below, but as stated in Chapter 2, Introduction, all goals and policies in the City's General Plan are incorporated by reference (City of Tulare 2014).

Conservation and Open Space Element

Goal:

COS-3 To promote the productivity of agricultural lands surrounding Tulare and the continued viability of Tulare County agriculture.

Policies:

COS - P3.2 Agricultural Buffers. The City shall require that agricultural land uses designated for long - term protection (in a Williamson Act contract or under a conservation easement located outside the City's Urban Development Boundary (UDB)) shall be buffered from urban land uses through the use of techniques including, but not limited to, spatial separations (e.g. greenbelts, open space setbacks, etc.), transitions in density, soundwalls, fencing, and/or berming.

COS-P3.3 Agricultural Disclosures. The City shall require that developers of residential projects, which are within general proximity of agricultural operations in the City, to provide notification to new homeowners within their deeds of the City's right to farm ordinance

COS-P3.4 Discourage Leapfrog Development**.** The City shall discourage leapfrog development (defined as urban development more than 1/2 mile from existing urban development) and development of peninsulas extending into agricultural lands to avoid adverse effects on agricultural operations and contribute to premature conversion.

COS-P3.5 Support County Programs. The City shall encourage, support, and coordinate with Tulare County in the implementation of its agricultural programs, outside the city's sphere of influence.

COS-P3.9 Williamson Act contracts**.** The City shall encourage the use of Williamson Act contracts on parcels located outside the UDB.

COS-P3.10 Williamson Act Contracts near City Limits. The City shall protest the formation of new Williamson Act or Super Williamson Act contracts within the UDB.

COS-P3.11 Williamson Act Non-Renewal in UDB. The City shall support non-renewal or cancellation processes for Williamson Act designated lands within the City of Tulare UDB.

COS-P3.12 Mitigation for Agricultural Land Conversion. The City shall create and adopt a mitigation program to address the conversion of Prime Farmland & Farmland of Statewide Importance within the UDB and outside the city limits to non-agricultural uses. This mitigation program shall:

- Require a 1:1 ratio of agricultural land preserved for every acre of land converted.
- Require land to be preserved be equivalent to the land converted, e.g. Prime Farmland, and further require that the land to be preserved has adequate existing water supply to support agricultural use, is designated and zoned for agriculture, is located outside of a city UDB, and is within the southern San Joaquin Valley.
- Require mitigation prior to or at time of impact.

- Allow mitigation to be provided either by purchase of agricultural easements or by payment of agricultural mitigation fees, but state that purchase of conservation easements is the preferred form of mitigation. Both purchase of easements and payment of mitigation fees should cover not only the cost of an agricultural easement, but additional costs of transactional fees and administering, monitoring, and enforcing the easement.
- Require easements to be held by and/or mitigation fees to be transferred to a qualifying entity, such as a local land trust with demonstrated experience administering, monitoring, and enforcing agricultural easements.
- Require the qualifying entity to submit annual status and monitoring reports to the City and to Tulare County.
- Allow stacking of conservation and agricultural easements if habitat needs of species on conservation easement are compatible with agricultural activities/use on agricultural easement.
- Allow exemptions for conversion of land to agricultural tourism uses, agricultural processing uses, agricultural buffers, public facilities, and roadways.

Tulare Transit-Oriented Development Plan

The Project site is located within the COS North Transit Oriented Development Plan Area that is outlined in the Tulare TOD Plan for the City. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD Plan are based on the City's General Plan documents (City of Tulare 2014). There are no specific agriculture resources-related policies and measures contained in TOD Plan applicable to the proposed Project. In the absence of applicable goals, policies, or implementation measures within the TOD Plan, refer to the applicable policies, goals, and implementation measures of the City's General Plan above.

4.2.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to agriculture and forestry resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to agriculture and forestry resources would occur if the Project would:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract.
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
d. Result in the loss of forest land or conversion of forest land to non-forest use.
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

4.2.4 Methodology

The existing General Plan, review of aerial photographs, and state farmland maps were used to evaluate known agricultural, timberland, and/or forest resources located within the Project site. The potential impacts of the proposed Project are then determined based on how the Proposed Project could impact the agricultural resources.

4.2.5 Impacts Analysis

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

Significant and Unavoidable Impact. Implementation of the proposed Project would result in the conversion of approximately 231 acres of active agricultural land into a master planned transit-oriented community. As shown on Figure 4.2-1, approximately 169.1 acres of land within the Project site is designated as Prime Farmland, 51.8 acres designated as Farmland of Statewide Importance, and 3.3 acres designated as Urban and Built-Up Land. The Project site has been actively farmed within the past 10 years and has a developed on-site irrigation water supply that is dependable. While the Project site lands designated as "Prime Farmland" and "Unique Farmland" only represent a fraction of a percent of the 377,827 acres of Prime Farmland and Unique Farmland within Tulare County, the direct loss of this farmland is considered significant, even with implementation of Mitigation Measure (MM) AG-1.

MM AG-1 would require the Project proponent to mitigate the loss of agricultural land at a ratio of 1:1 consistent with the City's General Plan Policy COS-P3.12 (City of Tulare 2014). Although MM AG-1 preserves farmland that may otherwise be converted to non-agricultural use in the future, it does not provide additional farmland to replace the 231 acres lost as a result of Project implementation.

Therefore, although implementation of the Project would convert a very small portion of the County's "Prime Farmland" and "Unique Farmland" to non-agricultural uses, the conversion of approximately 231 acres to non-agricultural uses constitutes a significant and unavoidable impact even with the incorporation of Mitigation Measure AG-1.

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

Significant and Unavoidable Impact. The Project site is currently within the County's Exclusive Agricultural Zone – 40 Acre Minimum (AE-40), Ag Preserve Number 0002326, and under Ag Preserve Contract Number 06925 (City of Tulare 2023). The Williamson Act Easement Exchange is a program that provides a voluntary rescission process for local entities and landowners to cancel the Williamson Act contract and simultaneously dedicate a permanent agricultural conservation easement on other land. The land to be placed under easement must be of equal size or larger than the Williamson Act contracted land. In addition, the value of the easement parcel must be equal to or greater than the cancellation fee required to cancel the contract. To initiate this process, the landowner must submit a petition for Williamson Act easement exchange proposal to the local governing city of county. The city or county may approve the proposal upon determining that the eligibility criteria has been met. The proposal is then submitted to the Department of Conservation for review. If approved, the City or County may enter into an agreement with the landowner to rescind the Williamson Act Contract and simultaneously place the other land under an agricultural conservation easement. Implementation of MM-AG-1 would require the Project proponent to mitigate the loss of agricultural land at a ratio of 1:1 through implementation of a conservation easement. In addition, compliance with

MM-AG-2, which requires the Project proponent submit proof cancellation or exchange of Williamson Act lands within the Project site would be required prior to the issuance of building or grading permits.

Although the Project proponent would be required to mitigate the loss of agricultural land at a ratio of 1:1 through implementation of a conservation easements and submit proof of cancellation or exchange of the active Williamson Act lands per MM-AG-1 and MM-AG-2, respectively, the proposed Project would still result in the cancellation of an existing Williamson Act Contract. Therefore, impacts would be significant and unavoidable.

Threshold c: Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?

No Impact. The City does not contain lands zoned for forest land or timberland production. The proposed Project includes the development of approximately 1,176 total units of low, medium, and high-density housing, a neighborhood commercial center, a community center, and a Kindergarten through 8th grade public school, and a central park. All development proposed by the Project would be confined to the Project site boundaries and, therefore, would not affect protected forest lands or timberlands located within the Project vicinity. Therefore, implementation of the proposed Project would not conflict with zoning for, or cause rezoning of, forest land or timberland or timberland zoned for timber production, off-site. No impacts would occur.

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

No Impact. Since the Project site is not located on a site zoned for forest land or timberland production, development of proposed uses would not result in the conversion or loss of land zoned for forest land or timberland, and no impact would occur.

Threshold e: Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Significant and Unavoidable Impact. As described above, *approximately* 169.1 acres of land within the Project site is designated as Prime Farmland, 51.8 acres designated as Farmland of Statewide Importance, and 3.3 acres designated as Urban and Built-Up Land. Although the Project proponent would be required to mitigate the loss of agricultural land at a ratio of 1:1 through implementation of a conservation easements and submit proof of cancellation or exchange of the active Williamson Act lands per MM-AG-1 and MM-AG-2, respectively, the proposed Project would result in the conversion of Farmland to non-agricultural uses. Therefore, impacts would be significant and unavoidable.

4.2.6 Mitigation Measures

MM-AG-1 Prior to issuance of a grading or building permit, whichever occurs first, the Project proponent shall provide written evidence of completion of one or more of the following measures, consistent with Tulare General Plan Policy COS-P3.12 to mitigate the loss of agricultural land at a ratio of 1:1 for net acreage before conversion:

- Funding and/or purchasing agricultural conservation easements which shall be managed and maintained by an appropriate entity;
- Purchasing credits from an established agricultural farmland mitigation bank;

- Contributing agricultural land or equivalent funding to an organization that provides for the preservation of farmland in California; or
- Participating in any agricultural land mitigation program adopted by Tulare County that provides equal or more effective mitigation than the measures listed above.

The net acreage calculation used to determine mitigation lands shall exclude the existing roads and areas already developed with structures on the project site. A site plan shall be submitted to the City of Tulare Community Development Department to substantiate the net acreage calculation, along with written evidence of compliance.

Mitigation land shall meet the definition of Prime Farmland and be of similar agricultural quality or higher, as established by the Department of Conservation. Completion of the selected measure or a combination of selected mitigation measures can occur on qualifying land within the southern San Joaquin Valley (Kings, Tulare, or Kern County) that is located outside of a City's UDB and shall be approved by the City of Tulare Community Development Department Director.

MM-AG-2 Prior to the issuance of a grading or building permit, Project proponent must submit proof of the executed exchange and cancellation of the existing Williamson Act Contract to the City of Tulare Planning Director.

4.2.7 Level of Significance After Mitigation

Threshold a: Although implementation of the Project would convert a very small portion of the County's "Prime Farmland" and "Unique Farmland" to non-agricultural uses, the conversion of approximately 231 acres to non-agricultural uses constitutes a **significant and unavoidable** impact even with the incorporation of Mitigation Measure AG-1.

Threshold b: Although the Project proponent would be required to mitigate the loss of agricultural land at a ratio of 1:1 through implementation of a conservation easements and submit proof of cancellation or exchange of the active Williamson Act lands per MM-AG-1 and MM-AG-2, respectively, the proposed Project would still result in the cancellation of an existing Williamson Act Contract. Therefore, impacts would be **significant and unavoidable**.

Threshold e: Although the Project would comply with MM-AG-1 and MM-AG-2 listed above, implementation of the proposed Project would result in the conversion of Farmland to non-agriculture uses and therefore impacts would be **significant and unavoidable**.

4.2.8 References

City of Tulare. 2014. 2035 Tulare General Plan. Adopted October 7, 2014. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000. Accessed on August 17, 2022.

City of Tulare. 2023. Zoning and Land Use Viewer, City of Tulare. https://maps.tulare.ca.gov/portal/apps/webappviewer/index.html?id=77881c8a35a445259d72b416d25ccd7d.. Accessed on August 17, 2022.

DOC (Department of Conservation). 2014-2016. California Farmland Conversion Report. https://www.conservation.ca.gov/dlrp/fmmp/Pages/2014-2016_Farmland_Conversion_Report.aspx. Accessed on September 7, 2022.

DOC. 2019a. Williamson Act Program Overview. https://www.conservation.ca.gov/dlrp/wa/Pages/wa_overview.aspx. Assessed on September 7, 2022.

DOC. 2019b. Williamson Act Contract Removal. https://www.conservation.ca.gov/dlrp/wa/Pages/wa_overview.aspx. Assessed on September 7, 2022.

DOC. 2022. California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed on August 17, 2022.

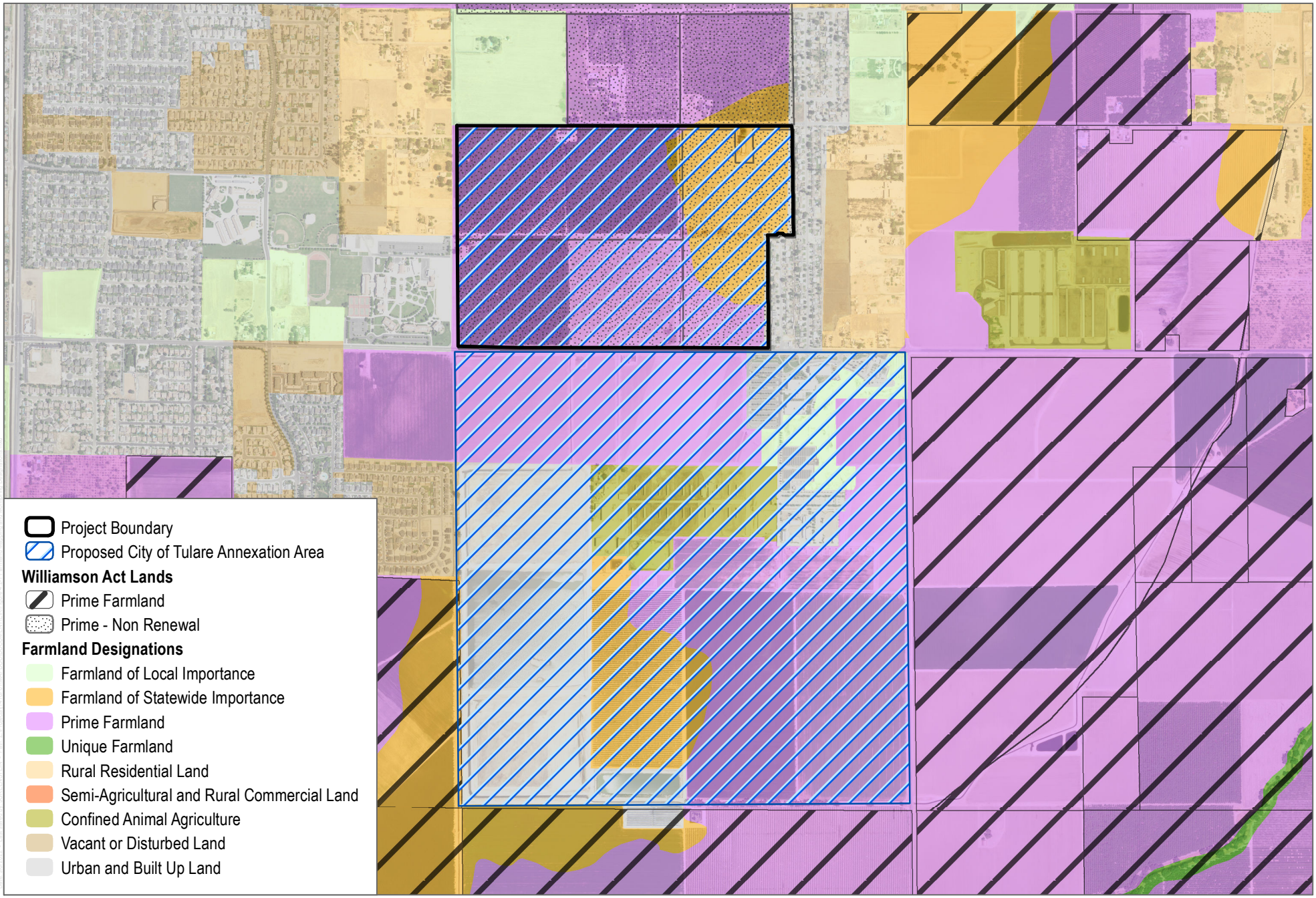
NetrOnline. *Historic Aerials. 1956-2018*. City of Tulare, CA. ttps://www.historicaerials.com/viewer. Accessed on August 17, 2022.

NRCS (Natural Resources Conservation Service). 2020. Farmland Protection Policy Act (FFPA) Overview. Accessed July 2023. https://www.nrcs.usda.gov/sites/default/files/2022-06/FPPA-webinar-10-27-2020-FINAL_v1.1_0.pdf.

Tulare County. 2012. General Plan 2030 Update. August 2012. http://generalplan.co.tulare.ca.us/documents/GP/. Accessed on August 17, 2022.

Tulare County. 2021.Tulare County Crop and Livestock Report. Assessed on March 27, 2023. https://agcomm.co.tulare.ca.us/pest-exclusion-standardization/crop-reports1/crop-reports-2021-2030/crop-and-livestock-report-2021/.

INTENTIONALLY LEFT BLANK



SOURCE: NAIP 2020; FMMP 2016; CA Dept. of Conservation 2018

DUDEK

0 250 500 Feet

FIGURE4.2-1

, Farmland Mapping and Monitoring Designations

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK

4.3 Air Quality

This section describes the existing air quality conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This section assesses potential effects on air quality that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632-acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information contained in this section is based on the air quality-related emissions calculations and modeling files prepared for the Project, provided as follows:

- Appendix B-1, Health Effects of Criteria Air Pollutants, prepared by Dudek (2023)
- Appendix B-2, Heath Risk Assessment, prepared by Dudek (2022)
- Appendix B-3, Ambient Air Quality Assessment, prepared by Dudek (2022)

Other sources consulted are listed in Section 4.3.7, References, of this section.

One comment letter was received from San Joaquin Valley Air Pollution Control District (SJVAPCD) in response to the Notice of Preparation, which included recommendations for a more detailed preliminary review in regard to the Project's construction and operational emissions. The SJVAPCD also stated potential impacts relating to construction, operational, and quantifying air emissions, and inclusion of mitigation measures, if necessary. The Notice of Preparation and comments received are provided in Appendix A.

4.3.1 Existing Conditions

Meteorological and Topographical Conditions

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions, however, also are important. Factors such as wind speed and direction, air temperature gradients and sunlight, and precipitation and humidity interact with physical landscape features to determine the movement and dispersal of criteria air pollutants. This analysis was prepared in accordance with the San Joaquin Valley Air Pollution Control District (SJVAPCD) Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD Guidance) (SJVAPCD 2015a). These factors are described below.

Topography

The Project lies within the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties and is spread across 25,000 square miles of Central California. The SJVAB is bordered on the east by the Sierra Nevada Mountains (8,000 to 14,491 feet in elevation), on the west by the Coast Ranges (averaging 3,000 feet in elevation), and to the south by the Tehachapi Mountains (6,000 to 7,981 feet in elevation). The San Joaquin Valley comprises

the southern half of California's Central Valley and is approximately 250 miles long and averages 35 miles wide, with a slight downward elevation gradient from Bakersfield in the southeast end (elevation 408 feet) to sea level at the northwest end where San Joaquin Valley opens to the San Francisco Bay at the Carquinez Strait. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The region's topographic features restrict air movement through and out of the SJVAB. As a result, the SJVAB is highly susceptible to pollutant accumulation over time (SJVAPCD 2015a).

Climate

The San Joaquin Valley is in a Mediterranean Climate Zone, influenced by a subtropical high-pressure cell most of the year and characterized by warm, dry summers and cooler winters. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summertime maximum temperatures in San Joaquin Valley often exceed 100°F.

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by the presence of persistent temperature inversions. Air temperatures usually decrease with an increase in altitude in the troposphere. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. A temperature inversion can act like a lid, restricting vertical mixing of air above and below an inversion because of differences in air density and thereby trapping air pollutants below the inversion. The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions. Most of the surrounding mountains are above the normal height of summer inversions (1,500–3,000 feet). Wintertime high-pressure events can often last many weeks, with surface temperatures often lowering into the 30s°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 (SJVAPCD 2015a).

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Winds in the San Joaquin Valley most frequently blow from the northwesterly direction, especially in the summer. The region's topographic features restrict air movement and channel the air mass toward the southeastern end of the San Joaquin Valley. Marine air can flow into the SJVAB from the Sacramento–San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow through the San Joaquin Valley, over the Tehachapi Pass, into the Mojave Desert Air Basin. The Coastal Range and the Sierra Nevada are barriers to air movement to the west and east, respectively. A secondary but significant summer wind pattern is from the southeasterly direction and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons. During winter, winds can be very weak, which minimizes the transport of pollutants and results in stagnation events.

Two significant diurnal wind cycles that occur frequently in San Joaquin 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 San Joaquin 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 pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can re-circulate a polluted air mass for an extended period (SJVAPCD 2015a).

Temperature, Sunlight, and Ozone Production

Solar radiation and temperature are particularly important in the chemistry of ozone (O_3) formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily O_3) results from atmospheric reactive organic gases (ROGs) and nitrogen dioxide (NO_2) under the influence of sunlight. O_3 concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. O_3 levels typically peak in the afternoon. After the sun goes down, the chemical reaction between oxides of nitrogen (NO_x) and O_3 begins to dominate. This reaction tends to reduce O_3 concentrations in the metropolitan areas through the early morning hours. At sunrise, NO_x tends to peak, partly due to low levels of O_3 at this time, and also due to the morning commuter vehicle emissions of NO_x.

Reaction rates generally increase with temperature, which results in greater O_3 production at higher temperatures. However, extremely hot temperatures can "lift" or "break" the inversion layer. Typically, if the inversion layer remains intact, O_3 levels peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, O_3 levels peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB. O_3 levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD 2015a).

Precipitation, Humidity, and Fog

Precipitation and fog can result in the reduction or increase in some pollutant concentrations. For instance, O_3 needs sunlight for its formation, and clouds and fog can block the required solar radiation. In addition, wet fog can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Fog with less moisture content, however, can contribute to the formation of secondary ammonium nitrate particulate matter.

The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations. Between winter storms, high pressure and light winds allow cold, moist air to pool on the San Joaquin Valley floor, resulting in 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 particulate matter.

Urban Heat Island Effect

The "urban heat island" refers to the effect of urbanized areas on surface and air temperature compared to their rural surroundings. Buildings, roads, and other "hardscape" create an island of higher temperatures within the regional landscape. As described by the U.S. Environmental Protection Agency (EPA), "[u]rban heat islands are caused by development and the changes in radiative and thermal properties of urban infrastructure as well as the impacts buildings can have on the local microclimate—for example tall buildings can slow the rate at which cities cool off at night. Heat islands are influenced by a city's geographic location and by local weather patterns, and their intensity changes on a daily and seasonal basis" (EPA 2008). The term is generally used to refer to community-wide effects, particularly for large metropolitan cities. The potential adverse effects of the urban heat island effect include increased energy consumption, elevated emissions of air pollutants and greenhouse gases (GHGs), compromised human health and comfort, and impaired water quality. Increased temperatures due to the urban heat island effect may also lead to increased energy consumption, which has implications for air quality and GHG emissions. In addition to energy-related increases in air emissions, elevated air temperatures increase the rate of ground-level O_3 formation. Communities have adopted various strategies to deal with these environmental impacts, such as increasing vegetation and using more energy-efficient building materials. These strategies are often part of more

general energy savings or "sustainability" practices and are not identified as "urban heat island effect" mitigation, but nevertheless they provide the benefits of reducing surface and atmospheric heat islands.

Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, NO_2, carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. ROGs (also referred to as volatile organic compounds [VOCs])[1] and NO_x are also important because they are precursors to O_3. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.[2] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. A more detailed discussion of health effects of criteria air pollutants is provided in Appendix B.

Ozone. O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to levels of O_3 typically observed in the region can result in effects including breathing pattern changes, reduction of breathing capacity, respiratory symptoms, worsening of lung disease leading to premature death, increased susceptibility to infections, inflammation of and damage to the lung tissue, and some immunological changes (CARB 2019a; EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, older adults, and young children.

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the lungs breathe in and cause shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure. Although there are relatively few studies of O_3's effects on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents, and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant (CARB 2019a).

A number of population groups are potentially at increased risk for O_3 exposure effects. In the ongoing review of O_3, the EPA has identified populations as having increased risk from O_3 exposures: individuals with asthma, younger

[1] The SJVAPCD threshold is set for ROG. However, ROG and VOC are generally considered equivalent for CEQA analyses; as such, ROG and VOC are used interchangeably in this analysis.

[2] The descriptions of each of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants (EPA 2016) and the CARB Glossary of Air Pollutant Terms (CARB 2016a).

and older age groups, individuals with reduced intake of certain nutrients such as Vitamins C and E, and outdoor workers. There is suggestive evidence for other potential factors, such as variations in genes related to oxidative metabolism or inflammation, gender, socioeconomic status, and obesity. However further evidence is needed (SCAQMD 2017).

The adverse effects reported with short-term O_3 exposure are greater with increased activity because activity increases the breathing rate and the volume of air reaching the lungs, resulting in an increased amount of O_3 reaching the lungs (SCAQMD 2017).

Nitrogen Dioxide. A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards for NO_2, results from controlled human exposure studies that show that NO_2 can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children compared to lower levels of exposure. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2019b).

Carbon Monoxide. 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 reduced mental alertness, and light-headedness 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 effects. Unborn babies, infants, older adults, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2019c).

Sulfur Dioxide. SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter (PM), SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can worsen asthma resulting in increased symptoms, increased medication usage, and emergency room visits.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure compared with the non-asthmatic population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during physical activity. Also, exposure at elevated levels of SO_2 (above 1 parts per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. Older adults and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2019d).

SO_2 is of concern because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in PM (NRC 2005). People with asthma are of particular concern because they have increased baseline airflow resistance and because their SO_2-induced increase in resistance is greater than in healthy people and it increases with the severity of their asthma (NRC 2005). SO_2 is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter. A number of adverse health effects have been associated with exposure to $PM_{2.5}$ and PM_{10}. For $PM_{2.5}$, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and world-wide based on the World Health Organization's Global Burden of Disease Project (WHO 2018). Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2017).

Long-term (months to years) exposure to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that PM in outdoor air pollution causes lung cancer (CARB 2017).

People with influenza, people with chronic respiratory and cardiovascular diseases, and older adults may suffer worsening illness and premature death as a result of breathing PM. People with bronchitis can expect aggravated symptoms from breathing PM. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

PM encompasses a physically and chemically diverse class of ambient air pollutants of both anthropogenic and biological origin. The PM standard is the only National Ambient Air Quality Standard (NAAQS) that does not target a specific chemical or family of chemical species (NRC 2005). The range of human health effects associated with ambient PM levels or demonstrated in laboratory studies has expanded from earlier concerns for total mortality and respiratory morbidity to include cardiac mortality and morbidity, blood vessel constriction, stroke, premature birth, low birth weight, retarded lung growth, enhancement of allergic responses, reduced resistance to infection, degenerative lesions in the brain, and lung cancer (EPA 2004).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence

quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Reactive Organic Gases. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as ROGs (also referred to as VOCs). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of ROGs result from the formation of O_3 and its related health effects. High levels of ROGs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for ROGs as a group.

Non-criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancerous health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2016b). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016b). The California Air Resources Board (CARB) classified "particulate emissions from diesel-fueled engines" (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars, and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with

DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same noncancerous health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016b). Those most vulnerable to noncancerous health effects are children whose lungs are still developing and older adults who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils. The fungus is very prevalent in the soils of California's San Joaquin Valley. Per the California Department of Public Health, the range over 9 years (2012–2020) for coccidioidomycosis cases in Tulare County was 23.7 to 87.5 cases per 100,000 people per year. Statewide incidences in this time frame ranged from 6.0 to 22.9 per 100,000 people (CDPH 2022).

The Project would be required to comply with Rule 8021, Section 6.3, which would require the Project to develop, prepare, submit, obtain approval of, and implement a dust control plan. This plan would prevent the spores from becoming airborne.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, older adults, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air-pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The SJVAPCD identifies sensitive receptors as facilities that house or attract children, older adults, people with illnesses, hospitals, schools, convalescent facilities, and residential areas (SJVAPCD 2015a). The closest off-site sensitive receptor to the Project site is a residence located 1,360 feet west of the Project site.

4.3.2 Relevant Plans, Policies, and Ordinances

Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting NAAQS for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan (SIP) that demonstrates how those areas will attain the NAAQS within mandated time frames. A more detailed discussion of the NAAQS, as well as the California Ambient Air Quality Standards (CAAQS) (discussed below), is provided in Appendix B.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify national emission standards for HAPs to protect public health and welfare. HAPs include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for HAPs, 187 substances and chemical families were identified as HAPs.

State

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established the CAAQS, which are generally more restrictive than the NAAQS. An ambient air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public's health. For each pollutant, concentrations must be below the relevant CAAQS before a basin can attain the corresponding CAAQS. Air quality is considered "in attainment" if pollutant levels are continuously below

the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded.

The SJVAPCD based its thresholds of significance for California Environmental Quality Act (CEQA) purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the NAAQS or CAAQS. Since an ambient air quality standard is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the ambient air quality standard, this means that the thresholds established by air districts are also protective of human health. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 4.3-1.

Table 4.3-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
O_3	1 hour	0.09 ppm (180 µg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 µg/m³)	0.100 ppm (188 µg/m³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m³)
	24 hours	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 µg/m³	150 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Lead[j,k]	30-day Average	1.5 µg/m³	—	—
	Calendar Quarter	—	1.5 µg/m³ (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 µg/m³)	—	—

Table 4.3-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]
Sulfates	24- hours	25 µg/m³	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016c.

Notes: µg/m³ = micrograms per cubic meter; mg/m³= milligrams per cubic meter; ppm = parts per million by volume; O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

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

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] 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 national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the federal HAPs. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several Airborne Toxic Control Measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person must not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

Safety Training on Valley Fever Assembly Bill 203

AB 203 adds Section 6709 to the Labor Code and requires employers to provide effective Valley Fever awareness and prevention training for all construction employees at risk of prolonged exposure to dust in Fresno, Kern, Kings, Madera, Merced, Monterey, San Joaquin, San Luis Obispo, Santa Barbara, Tulare, and Ventura Counties annually and again before an employee begins work that is reasonably anticipated to cause exposure to substantial dust disturbance.

Local

San Joaquin Valley Air Pollution Control District

The SJVAPCD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SJVAB. The SJVAPCD jurisdiction includes all of Merced, San Joaquin, Stanislaus, Madera, Fresno, Kings, and Tulare Counties, and the San Joaquin Valley portion of Kern County.

Air Quality Plans

The SJVAPCD has prepared several air quality attainment plans to achieve the O_3 and PM standards, the most recent of which include the 2020 Reasonably Available Control Technology Demonstration for the 2015 8-Hour Ozone Standard (SJVAPCD 2020a); 2016 Plan for the 2008 8-Hour Ozone Standard (SJVAPCD 2016a); 2014 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan (SJVAPCD 2014a); 2013 Plan for the Revoked 1-Hour Ozone Standard (SJVAPCD 2013); 2007 PM_{10} Maintenance Plan and Request for Redesignation (SJVAPCD 2007a); 2012 $PM_{2.5}$ Plan (SJVAPCD 2012); 2015 Plan for the 1997 $PM_{2.5}$ Standard (SJVAPCD 2015b); 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard (SJVAPCD 2016b); and the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards (SJVAPCD 2020b). The following sections summarize key elements of these and other recent air quality attainment plans.

Extreme 1-Hour Ozone Attainment Demonstration Plan

The Extreme 1-Hour Ozone Attainment Demonstration Plan, adopted by the SJVAPCD Governing Board October 8, 2004, sets forth measures and emission-reduction strategies designed to attain the federal 1-hour O_3 standard by November 15, 2010, as well as an emissions inventory, outreach, and rate of progress demonstration. This plan was approved by the EPA on March 8, 2010; however, the EPA's approval was subsequently withdrawn effective November 26, 2012, in response to a decision issued by the U.S. Court of Appeals for the Ninth Circuit (*Sierra Club v. EPA*, 671 F.3d 955) remanding EPA's approval of these SIP revisions. Concurrent with the EPA's final rule, CARB withdrew the 2004 plan. The SJVAPCD developed a new plan for the 1-hour O_3 standard, the 2013 Plan for the Revoked 1-Hour Ozone Standard, which it adopted in September 2013.

2007 8-Hour Ozone Plan

The 2007 8-Hour Ozone Plan, adopted by the Governing Board on April 30, 2007, sets forth measures and a "dual path" strategy to attain the federal 1997 8-hour O_3 standard by 2023 for the SJVAB by reducing emissions of O_3 and PM precursors (SJVAPCD 2007b). The plan also includes provisions for improved pollution control technologies for mobile and stationary sources, as well as an increase in state and federal funding for incentive-based measures to reduce emissions. All local measures would have been adopted by the SJVAPCD before 2012. This plan was approved by the EPA on April 30, 2012. On November 26, 2012, however, the EPA withdrew its determination that the plan satisfied the federal Clean Air Act requirements regarding emissions growth caused by growth in vehicle miles traveled. All other determinations in the EPA's March 1, 2012, rule approving the plan remain unchanged and in effect. The SJVAPCD is currently in the process of developing an O_3 plan to address EPA's 2008 8-hour O_3 standard, with attainment required by 2032.

2009 Reasonably Available Control Technology State Implementation Plan

On April 16, 2009, the Governing Board adopted the Reasonably Available Control Technology Demonstration for Ozone State Implementation Plans (2009 RACT SIP) (SJVAPCD 2009). In part, the 2009 RACT SIP satisfied the commitment by the SJVAPCD for a new RACT analysis for the 1-hour O_3 plan (see discussion of the EPA withdrawal of approval in the Extreme 1-Hour Ozone Attainment Demonstration Plan summary above) and was intended to prevent all sanctions that could be imposed by the EPA for failure to submit a required SIP revision for the 1-hour O_3 standard. With respect to the 8-hour standard, the plan also assesses the SJVAPCD's rules based on the adjusted major source definition of 10 tons per year (due to the SJVAB's designation as an extreme O_3 nonattainment area), evaluates SJVAPCD rules against new Control Techniques Guidelines promulgated since August 2006, and reviews

additional rules and rule amendments that had been adopted by the Governing Board since August 17, 2006, for RACT consistency.

2013 Plan for the Revoked 1-Hour Ozone Standard

The SJVAPCD developed a plan for EPA's revoked 1-hour O_3 standard after the EPA withdrew its approval of the 2004 Extreme 1-Hour Ozone Attainment Demonstration Plan as a result of litigation. As a result of the litigation, the EPA reinstated previously revoked requirements for 1-hour O_3 attainment plans. The 2013 plan addresses those requirements, including a demonstration of implementation of reasonably available control measures and a demonstration of a rate of progress averaging 3% annual reductions of ROG or NO_x emissions every 3 years. The 2013 Plan for the Revoked 1-Hour Ozone Standard was approved by the Governing Board on September 19, 2013 (SJVAPCD 2013).

2014 RACT SIP

On June 19, 2014, the Governing Board adopted the 2014 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan (2014 RACT SIP) (SJVAPCD 2014a). The 2014 RACT SIP includes a demonstration that the SJVAPCD rules implement RACT. The plan reviews each of the NO_x reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability, and meet or exceed RACT. The plan's analysis of further ROG reductions through modeling and technical analyses demonstrates that added ROG reductions will not advance SJVAB's O_3 attainment. Each ROG (i.e., VOC) rule evaluated in the 2009 RACT SIP, however, has been subsequently approved by the EPA as meeting RACT within the last 2 years. The O_3 attainment strategy, therefore, focuses on further NO_x reductions.

SJVAPCD 2016 Plan for the 2008 8-Hour Ozone Standard

The SJVAPCD adopted the 2016 Plan for the 2008 8-Hour Ozone Standard in June 2016. This plan demonstrates the practicable and expeditious attainment of the 75 parts per billion 8-hour O_3 standard (SJVAPCD 2016a).

SJVAPCD 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard

The SJVAPCD adopted the 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard on September 15, 2016. This plan addresses the EPA federal annual $PM_{2.5}$ standard of 12 micrograms per cubic meter (µg/m³), established in 2012. This plan includes an attainment impracticability demonstration and request for reclassification of the SJVAB from Moderate nonattainment to Serious nonattainment (SJVAPCD 2016b).

SJVAPCD 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018. This plan addresses the 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 2018).

2020 RACT Demonstration

The SJVAPCD adopted the 2020 RACT Demonstration for the 2015 8-Hour Ozone Standard on June 18, 2020. San Joaquin Valley is classified as an Extreme nonattainment area for the 2015 O_3 standard. The 2020 RACT Demonstration includes a comprehensive evaluation of all NOx and ROG SJVAPCD rules to ensure that each rule

meets or exceeds RACT. The 2020 RACT Demonstration fulfills Clean Air Act requirements and demonstrates that all federal RACT requirements continue to be satisfied in San Joaquin Valley (SJVAPCD 2020a).

Particulate Matter Attainment Plans

2007 PM_{10} Maintenance Plan and Request for Redesignation

On September 20, 2007, the Governing Board approved the 2007 PM_{10} Maintenance Plan and Request for Redesignation (SJVAPCD 2007a). After achieving compliance with the annual and 24-hour NAAQS for PM_{10} during the period from 2003 to 2006,[3] the SJVAPCD prepared the 2007 PM_{10} Maintenance Plan and Request for Redesignation. The plan includes future emission estimates through 2020 and, based on modeling, projects that SJVAB will continue to attain the PM_{10} NAAQS through 2020. The plan does not call for adoption of new control measures. Measures called for in the 2007 8-Hour Ozone Plan and 2008 $PM_{2.5}$ Plan (discussed below) will also produce PM_{10} benefits; however, the plan does include a contingency plan if future PM_{10} levels were to exceed the NAAQS. It also includes a request that the EPA redesignate the SJVAB to attainment status for the PM_{10} NAAQS. On October 25, 2007, CARB approved the SJVAPCD's plan with modifications to the transportation conformity budgets. On September 25, 2008, the EPA redesignated the SJVAB to attainment for the PM_{10} NAAQS and approved the PM_{10} maintenance plan.

2008 $PM_{2.5}$ Plan

The SJVAPCD Governing Board adopted the 2008 $PM_{2.5}$ Plan on April 30, 2008 (SJVAPCD 2008). This plan is designed to assist the SJVAB in attaining all $PM_{2.5}$ standards, including the 1997 federal standards, the 2006 federal standards, and the state standard, as soon as possible. On July 13, 2011, the EPA issued a proposed rule partially approving and disapproving the 2008 $PM_{2.5}$ Plan. Subsequently, on November 9, 2011, the EPA issued a final rule approving most of the plan with an effective date of January 9, 2012. However, the EPA disapproved the plan's contingency measures because they would not provide sufficient emissions reductions.

2012 $PM_{2.5}$ Plan

Approved by the Governing Board on December 20, 2012, the 2012 $PM_{2.5}$ Plan addresses attainment of EPA's 24-hour $PM_{2.5}$ standard of 35 µg/m^3 established in 2006. In addition to reducing direct emissions of $PM_{2.5}$, this plan focuses on reducing emissions of NO_x, which is a predominant pollutant in the formation of $PM_{2.5}$ in the SJVAB. The plan relies on a multilevel approach to reducing emissions through SJVAPCD efforts (industry, the general public, employers, and small businesses) and state/federal efforts (passenger vehicles, heavy-duty trucks, and off-road sources), as well as SJVAPCD and state/federal incentive programs to accelerate replacement of on- and off-road vehicles and equipment (SJVAPCD 2012).

2015 Plan for the 1997 $PM_{2.5}$ Standard

The Governing Board adopted the 2015 Plan for the 1997 $PM_{2.5}$ Standard on April 16, 2015 (SJVAPCD 2015b). This plan addresses the EPA's annual $PM_{2.5}$ standard of 15 µg/m^3 and 24-hour $PM_{2.5}$ standard of 65 µg/m^3 established in 1997. Although nearly achieving the 1997 standards, the SJVAB experienced higher $PM_{2.5}$ levels in winter 2013–2014 due to the extreme drought, stagnation, strong inversions, and historically dry conditions; thus, the SJVAPCD was unable to meet the attainment date of December 31, 2015. Accordingly, this plan also contains

[3] Attainment is achieved if the 3-year annual average PM_{10} concentration is less than or equal to 50 µg/m^3 and the expected 24-hour exceedance days is less than or equal to 1.

a request for a one-time extension of the attainment deadline for the 24-hour standard to 2018 and the annual standard to 2020. The plan builds on past development and implementation of effective control strategies. Consistent with EPA regulations for $PM_{2.5}$ plans to achieve the 1997 standards, the plan contains Most Stringent Measures, Best Available Control Measures, and additional enforceable commitments for further reductions in emissions, and ensures expeditious attainment of the 1997 standard.

2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard

On September 15, 2016, the Governing Board adopted the 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard (SJVAPCD 2016b). This plan addresses the federal mandates for areas classified as "moderate nonattainment" for the 2012 $PM_{2.5}$ NAAQS of 12 µg/m^3. Consistent with EPA's $PM_{2.5}$ Implementation Rule, the plan satisfies the mandate to submit a moderate nonattainment plan to EPA by October 2016, demonstrates impracticability of attaining the 2012 $PM_{2.5}$ standard by the moderate nonattainment deadline of 2021, includes a request to reclassify San Joaquin Valley to a "serious nonattainment" area for the 2012 $PM_{2.5}$ standard, satisfies all federal Clean Air Act requirements for moderate nonattainment areas, and demonstrates that emissions are continuing to be reduced in San Joaquin Valley.

2017 Particulate Matter Plans

The SJVAPCD is in the process of developing an attainment strategy to address the 1997, 2006, and 2012 $PM_{2.5}$ standards and a plan to demonstrate maintenance of the 1987 PM_{10} standard, as required under the federal Clean Air Act.

Senate Bill 656 Particulate Matter Control Measure Implementation Schedule

Senate Bill (SB) 656 was enacted in 2003 and codified as California Health and Safety Code Section 39614. SB 656 seeks to reduce exposure to PM_{10} and $PM_{2.5}$ and to make further progress toward attainment of the NAAQS and CAAQS for PM_{10} and $PM_{2.5}$. SB 656 required CARB, in consultation with local air districts, to develop and adopt lists of "the most readily available, feasible, and cost-effective" PM control measures. Subsequently, the air districts were required to adopt implementation schedules for the relevant control measures in their districts. In June 2005, the SJVAPCD adopted its SB 656 Particulate Matter Control Measure Implementation Schedule. The SJVAPCD analysis of the CARB list concluded that all but one of the measures that apply to SJVAPCD sources had been implemented or were in one of the SJVAPCD's attainment plans for adoption within the next 2 years. The remaining measure pertains to a future amendment of a rule for gasoline transfer into stationary storage containers, delivery vessels, and bulk plants.

Applicable Rules

The SJVAPCD's primary means of implementing air quality plans is by adopting and enforcing rules and regulations. Stationary sources within the jurisdiction are regulated by the SJVAPCD's permit authority over such sources and through its review and planning activities. Unlike stationary source projects, which encompass very specific types of equipment, process parameters, throughputs, and controls, air emissions sources from land use development projects are mainly mobile sources (traffic) and area sources (small dispersed stationary and other non-mobile sources), including exempt (i.e., no permit required) sources such as consumer products, landscaping equipment, furnaces, and water heaters. Mixed-use land development projects may include nonexempt sources, including devices such as small to large boilers, stationary internal combustion engines, gas stations, and asphalt batch

plants. Notwithstanding nonexempt stationary sources, which would be permitted on a case-by-case basis, the following SJVAPCD regulations generally apply to land use development projects and are described below.

Regulation IV – Prohibitions

- **Rule 4102: Nuisance** – Prohibits discharge of air contaminants or other materials from any source which causes 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.
- **Rule 4601: Architectural Coatings** – The purpose of the rule is to limit VOC emissions from architectural coatings. This rule specifies architectural coatings storage, cleanup, and labeling requirements.
- **Rule 4641: Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations** – The purpose of this rule is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations.

Regulation VIII – Fugitive PM_{10} Prohibition

- **Rule 8021: Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities** – The purpose of this rule is to limit fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities. The rule outlines Dust Control Plan requirements for certain applicable construction activities.
- **Rule 8031: Bulk Materials** – The purpose of the rule is to limit fugitive dust emissions from the outdoor handling, storage, and transport of bulk materials.
- **Rule 8041: Carryout and Trackout** – The purpose of this rule is to prevent or limit fugitive dust emissions from carryout and trackout.
- **Rule 8051: Open Areas** – The purpose of this rule is to limit fugitive dust emissions from open areas.
- **Rule 8061: Paved and Unpaved Roads** – The purpose of this rule is to limit fugitive dust emissions from paved and unpaved roads by implementing control measures and design criteria.
- **Rule 8071: Unpaved Vehicle/Equipment Traffic Areas** – The purpose of this rule is to limit fugitive dust emissions from unpaved vehicle and equipment traffic areas.

Pursuant to Rule 8021, Section 6.3, the Project would be required to develop, prepare, submit, obtain approval of, and implement a dust control plan, which would reduce fugitive dust impacts to less than significant during Project construction.

Regulation IX – Mobile and Indirect Sources

- **Rule 9410: Employer Based Trip Reduction** – The purpose of this rule is to reduce vehicle miles traveled (VMT) from private vehicles used by employees to commute to and from their worksites to reduce emissions of oxides of nitrogen, volatile organic compounds, and particulate matter.
- **Rule 9510: Indirect Source Review (ISR)** – The purpose of this rule is to fulfill the District's emission reduction commitments in the PM_{10} and Ozone Attainment Plans, achieve emission reductions from the construction and use of development projects through design features and on-site measures, and provide a mechanism for reducing emissions from the construction of and use of development projects through off-site measures.

Rule 9510: Indirect Source Review

The ISR rule, which was adopted December 15, 2005, and went into effect March 1, 2006, requires developers of new residential, commercial, and some industrial projects to reduce NO_x and PM_{10} emissions generated by their projects. Pursuant to Rule 9510, the purpose of the ISR rule is to reduce emissions of NO_x and PM_{10} from new land development projects. In general, development contributes to air pollution in the SJVAB by increasing the number of vehicles and vehicle miles traveled. ISR applies to development projects that require discretionary approval from the lead agency. The ISR rule also applies to transportation and transit projects with construction exhaust emissions that equal or exceed 2 tons per year of NO_x or PM_{10}. The ISR rule requires submittal of an air impact assessment application no later than the date on which the application is made for a final discretionary approval from the public agency. The air impact assessment contains the information necessary to calculate construction and operational emissions of a development project.

Section 6.0 of the ISR rule outlines general mitigation requirements for developments that include reduction in construction emissions of 20% of the total construction NO_x emissions, and 45% of the total construction PM_{10} exhaust emissions. The rule also requires the Project to reduce operational NO_x emissions by 33.3% and operational PM_{10} emissions by 50% compared to the unmitigated baseline. Section 7.0 of the ISR rule includes fee schedules for construction or operational excess emissions of NO_x or PM_{10}—those emissions above the goals identified in Section 6.0 of the rule. Monies collected from this fee are used by the SJVAPCD to fund emissions reduction projects in the SJVAB on behalf of that project.

Tulare County Association of Governments

The Tulare County Association of Governments adopted the 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) on August 20, 2018. The RTP/SCS is comprehensive in its response to new federal statues embodies in the Moving Ahead for Progress in the 21st Century and state statutes, including SB 375. The RTP/SCS continues to provide a sustainability vision through 2042 that recognizes the significant impact the transportation network has on the region's public health, mobility, and economic vitality. As the region's comprehensive long-range transportation planning document, the RTP/SCS serves as a guide for achieving public policy decisions that will result in balanced investments for a wide range of multimodal transportation improvements. The Tulare County Association of Governments has released a draft of its 2022 RTP/SCS (TCAG 2022).

City of Tulare

The City's General Plan Air Quality Element is intended to protect public health and welfare by implementing measures that allow the SJVAPCD to attain federal and state air quality standards. The Air Quality Element sets forth a number of policies and standards to reduce current pollutant emissions and to require new development to include measures to comply with air quality standards. The City's General Plan Air Quality Element includes the following goal and policies (City of Tulare 2014):

Goal AQ-1: To promote better air quality conditions locally and regionally.

> Policy AQ-P1.1: Cooperation with Other Agencies. The City shall cooperate with other local, regional, federal, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards. The City shall partner with the SJVAPCD, TCAG, and the State Air Pollution Control Board to achieve better air quality conditions locally and regionally.

Policy AQ-P1.2: Cumulative Air Quality Impacts. The City shall require developments to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Developers shall be required to present alternatives that reduce air emissions and enhance, rather than harm, the environment.

Policy AQ-P1.3: Air Quality Land Use Compatibility. The City shall consider industrial or other developments which are likely to cause undesirable air pollution with regard to wind direction and circulation in an effort to alleviate effects upon sensitive receptors.

Policy AQ-P1.4: Health Risk Assessment**.** The City shall require a Health Risk Assessment where toxic air contaminants from industrial or service commercial projects may affect nearby sensitive receptors.

Policy AQ-P1.5: CEQA Compliance. The City shall ensure that air quality impacts identified during the CEQA review process are fairly and consistently mitigated.

Policy AQ-P1.6: Purchase of Low Emission/Alternative Fuel Vehicles. The City shall replace existing vehicles with low emission/alternative fuel vehicles as appropriate.

Goal AQ-2: To improve air quality by reducing single-occupancy vehicle trips and encouraging the use of alternative transportation.

Policy AQ-P2.1: Transportation Demand Management Programs. The City shall coordinate and provide its reasonable fair share of support for City Transportation Demand Management programs with other public and private agencies; including programs developed by the TCAG and the SJVAPCD.

Policy AQ-P2.2: Indirect Source Review. The City shall require major development projects, as defined by the SJVAPCD, to mitigate air quality impacts associated with the project. As feasible the City shall work with SJVAPCD to determine mitigations that may include, but are not limited to the following:

- Providing bicycle access and parking facilities,
- Increasing density,
- Encouraging mixed use developments,
- Providing walkable and pedestrian-oriented neighborhoods,
- Providing increased access to public transportation,
- Providing preferential parking for high-occupancy vehicles, car pools, or alternative fuels vehicles, and
- Establishing telecommuting programs or satellite work centers.

Policy AQ-P2.3: Transportation and Air Quality. When developing the regional transportation system, the City shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in the City of Tulare. Some possible alternatives that should be studied are:

- Public transportation such as buses and light rail, to serve between communities of the valley, publicly subsidized if feasible.

- Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, and park and ride facilities.
- Community bus or other public transportation systems, such as cycling or walking trails, with particular attention to high-density areas.

Policy AQ-P2.4: Transportation Management Associations. The City shall encourage commercial, retail, and residential developments to participate in or create transportation management associations that can assist in the reduction of pollutants through provisions to support carpooling, alternative transportation, etc.

Policy AQ-P2.5: Ridesharing. The City shall continue to encourage ridesharing programs such as employer-based rideshare programs.

Policy AQ-P2.6: Landscape. The City shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing carbon dioxide, producing oxygen, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development.

Policy AQ-P2.7: Mixed Land Uses. The City shall encourage the mixing of land uses that generate high trip volumes, especially when such uses can be mixed with support services and where they can be served by public transportation.

Goal AQ-3: To improve air quality by reducing single-occupancy vehicle trips and encouraging the use of alternative transportation.

Policy AQ-P3.1: Air Pollution Control Technology. The City shall utilize the Best Available Control Measures (BACM) and Reasonably Available Control Measures (RACM) as adopted by the City to maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate.

Policy AQ-P3.2: Dust Suppression Measures. The City shall require developers to implement Best Management Practices including dust suppression measures during excavation, grading, and site preparation activities: Techniques may include, but are not limited to, the following:

- Site watering or application of dust suppressants,
- Phasing or extension of grading operations,
- Covering of stockpiles,
- Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
- Revegetation of graded areas.

Policy AQ-P3.3: Paving or Treatment of Roadways for Reduced Air Emissions. The City shall require that all new roads be paved or treated to reduce dust generation where feasible. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured.

Policy AQ-P3.4: Wood Burning Devices. The City shall require the use of natural gas or the installation of low-emission, EPA-certified fireplace inserts in all open-hearth fireplaces in new homes as required under the SJVAPCD Rule 4901. The City shall promote the use of natural gas over wood products in space heating devices and fireplaces in all existing and new homes.

Policy AQ-P3.5: Construction Emissions. The City shall require construction firms to reduce construction exhaust emissions to further aid in the reduction of PM10, ROG, and NOx emissions.

Goal AQ-4: Reduce GHG emissions from all activities within the City boundaries to support the State's efforts under AB-32 and to mitigate the impact of climate change on the City, State, and world.

Policy AQ-P4.1: Support Statewide Global Warming Solutions. The City shall monitor and support the efforts of CARB, under AB 32, to formulate mitigation strategies, if any, that may be implemented by local government, and further require the City to ultimately consider any such strategies once they become available. If the City Council, after seeking public input on the subject, chooses to implement any such measures it considers to be feasible and desirable, the City's commitment may take the form of a new ordinance, resolution, or other type of policy document.

Regional and Local Air Quality Conditions

San Joaquin Valley Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, the EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, calls for the designation of areas as "attainment" or "nonattainment," but based on the CAAQS rather than the NAAQS. Table 4.3-2 depicts the current attainment status of the Project site with respect to the NAAQS and CAAQS, as well as the attainment classifications for the criteria pollutants.

Table 4.3-2. San Joaquin Valley Air Basin Attainment Status

Pollutant	Designation/Classification	
	National Designation	California Designation
Ozone (O_3) – 1-hour	No national standard[1]	Nonattainment/severe
Ozone (O_3) – 8-hour	Nonattainment/extreme[2]	Nonattainment
Nitrogen dioxide (NO_2)	Unclassifiable/attainment	Attainment
Carbon monoxide (CO)	Unclassifiable/attainment	Attainment
Sulfur dioxide (SO_2)	Unclassifiable/attainment	Attainment
Coarse particulate matter (PM_{10})	Attainment (Maintenance)[3]	Nonattainment
Fine particulate matter ($PM_{2.5}$)	Nonattainment[4]	Nonattainment
Lead[5]	Unclassifiable/attainment	Attainment

Table 4.3-2. San Joaquin Valley Air Basin Attainment Status

Pollutant	Designation/Classification	
	National Designation	California Designation
Sulfates (SO_4)	No national standard	Attainment
Hydrogen sulfide (H_2S)	No national standard	Unclassified
Vinyl chloride[5]	No national standard	No designation
Visibility-reducing particles	No national standard	Unclassified

Sources: SJVAPCD 2020c; EPA 2022a (national); CARB 2021 (California).
Notes: Attainment = meets the standards; Attainment (maintenance) = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or unclassifiable = insufficient data to classify; Unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

1 Effective June 15, 2005, the EPA revoked the national 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. The EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan (SJVAPCD 2004) on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

2 Although San Joaquin Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved San Joaquin Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

3 On September 25, 2008, the EPA re-designated San Joaquin Valley to attainment for the PM_{10} NAAQS and approved the PM_{10} Maintenance Plan.

4 San Joaquin Valley is designated nonattainment for the 1997 $PM_{2.5}$ NAAQS. The EPA designated San Joaquin Valley as nonattainment for the 2006 $PM_{2.5}$ NAAQS on November 13, 2009 (effective December 14, 2009).

5 CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined.

In summary, the EPA has designated the SJVAB as a nonattainment area for the national 8-hour O_3 standard, and CARB has designated the SJVAB as a nonattainment area for the California 1-hour and 8-hour O_3 standards. The SJVAB has been designated as a nonattainment area for the California 24-hour and annual PM_{10} standards, a nonattainment area for the national 24-hour and annual $PM_{2.5}$ standards, and as a nonattainment area for the California annual $PM_{2.5}$ standard. The SJVAB is designated as unclassified or attainment for all other criteria air pollutants.

Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. The SJVAPCD and CARB monitor local ambient air quality at the Project site. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2019 to 2021 are presented in Table 4.3-3. The Visalia-N Church Street monitoring station, located at 310 N. Church St, Visalia CA 93291, is the nearest air quality monitoring station to the Project site, located approximately 8.9 miles north of the Project site. The data collected at this station are considered representative of the air quality experienced in the Project vicinity. Air quality data for O_3 and 1-hour NO_2, $PM_{2.5,}$ and PM_{10} from the Visalia monitoring station are provided in Table 4.3-3. Because CO and annual NO_2 are not monitored at the Visalia monitoring station, these measurements were taken from a Fresno monitoring station (2482 Foundry Park Ave, Fresno CA 93706, approximately 42 miles northwest of the Project site). SO_2 is not currently monitored in the County and data is not available. The number of days exceeding the ambient air quality standards are also shown in Table 4.3-3.

Table 4.3-3. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2019	2020	2021	2019	2020	2021
Ozone (O_3)										
Visalia-N Church St	ppm	Maximum 1-hour concentration	California	0.09	0.093	0.127	0.119	0	7	14
	ppm	Maximum 8-hour concentration	California	0.070	0.082	0.102	0.097	26	37	52
			National	0.070	0.082	0.102	0.097	22	36	51
Nitrogen Dioxide (NO_2)										
Visalia-N Church St/Fresno-Foundry Park Ave	ppm	Maximum 1-hour concentration	California	0.18	0.070	0.053	0.050	0	0	0
			National	0.100	0.071	0.0534	0.0500	0	0	0
	ppm	Annual concentration	California	0.030	0.042	0.070	0.065	—	—	—
			National	0.053	10	9	8	—	—	—
Carbon Monoxide (CO)										
Fresno-Foundry Park Ave	ppm	Maximum 1-hour concentration	California	20	—	2.3	2.6	0	0	0
			National	35	1.7	2.2	3	0	0	0
	ppm	Maximum 8-hour concentration	California	9.0	—	2	1.7	0	0	0
			National	9	1.3	1.9	2.7	0	0	0
Coarse Particulate Matter (PM_{10})[a]										
Visalia-N Church St	µg/m³	Maximum 24-hour concentration	California	50	418.5	305.7	302.1	115.8 (115)	157.0 (151)	(141)
			National	150	411.1	317.4	299.9	5.0 (5)	20.2 (19)	4.7 (4)
	µg/m³	Annual concentration	California	20	—	—	—	—	—	—

Table 4.3-3. Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2019	2020	2021	2019	2020	2021
Fine Particulate Matter ($PM_{2.5}$)[a]										
Visalia-N Church St	µg/m³	Maximum 24-hour concentration	California	—	47.2	136.1	129.2	—	—	—
			National	35	47.2	127.1	129.2	19.9 (6)	51.2 (20)	46.6 (43)
	µg/m³	Annual concentration	California	12	—	—	—	—	—	—
			National	12.0	11.7	12.2	17.6	—	—	—

Sources: CARB 2021; EPA 2022a.

Notes: — = not available; µg/m³ = micrograms per cubic meter; ppm = parts per million

Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (https://www.epa.gov/outdoor-air-quality-data) represent the highest concentrations experienced over a given year.

Exceedances of national and California standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed national or California standards during the years shown. There is no national standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a California 24-hour standard for $PM_{2.5}$.

SO_2 is not currently monitored in the County and data is not available; therefore, it is not included in the table.

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

4.3.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to air quality are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if the Project would:

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

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether a project would have a significant impact on air quality.

SJVAPCD

Criteria Air Pollutants

The SJVAPCD Guidance has established emissions-based thresholds of significance for criteria pollutants (SJVAPCD 2015a), which are depicted in Table 4.3-4. As shown in Table 4.3-4, the SJVAPCD has established significance thresholds for construction emissions and operational permitted and non-permitted equipment and activities, and it recommends evaluating impact significance for these categories separately. These thresholds of significance are based on a calendar-year basis, although construction emissions are assessed on a rolling 12-month period.

Table 4.3-4. SJVAPCD CEQA Significance Thresholds for Criteria Pollutants

Pollutant	Construction Emissions (tons per year)	Operational Emissions (tons per year)	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
Reactive organic gas (ROG)	10	10	10
Oxides of nitrogen (NO_x)	10	10	10
Carbon monoxide (CO)	100	100	100
Sulfur oxides (SO_x)	27	27	27
Coarse particulate matter (PM_{10})	15	15	15
Fine particulate matter ($PM_{2.5}$)	15	15	15

Source: SJVAPCD 2015a.

In addition to the annual emissions mass thresholds described in Table 4.3-4, the SJVAPCD also established screening criteria to determine whether a project would result in a CO hotspot at affected roadway intersections (SJVAPCD 2015a). If neither of the following criteria is met at any of the intersections affected by a project, that project would result in no potential to create a violation of the CO standard:

- A traffic study for the project indicates that the level of service (LOS) on one or more streets or at one or more intersections in the project site will be reduced to LOS E or F.

- A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project site.

Ambient Air Quality Impacts

The thresholds of significance for ambient air quality are based on the CAAQS and NAAQS, whereby a project would be considered to have a significant impact if its emissions are predicted to cause or contribute to a violation of an ambient air quality standard by exceeding any CAAQS or NAAQS (SJVAPCD 2015a). The SJVAPCD recommends that an Ambient Air Quality Assessment be performed when on-site emissions of any criteria pollutant would equal or exceed any applicable threshold of significance for criteria pollutants or 100 pounds per day of any criteria pollutant (SJVAPCD 2015a). In the Ambient Air Quality Assessment, air pollutant concentrations are determined through air quality dispersion modeling, added to the corresponding background level, and compared to the relevant CAAQS and/or NAAQS. If the air pollutant concentrations plus background levels, however, would exceed a CAAQS or NAAQS, the SJVAPCD recommends that specified significant impact levels be applied to the modeled concentrations to assess whether a project's emissions would contribute substantially to an existing violation of the CAAQS or NAAQS (SJVAPCD 2014b).

Toxic Air Contaminants

The SJVAPCD has established thresholds of significance for combined TAC emissions from operations of permitted and non-permitted sources (SJVAPCD 2015a). Projects that have the potential to expose the public to TACs in excess of the following thresholds would be considered to have a significant air quality impact:

- Probability of contracting cancer for the maximally exposed individual equals or exceeds 20 in 1 million people.[4]
- Hazard Index[5] for acute and chronic non-carcinogenic TACs equals or exceeds 1 for the maximally exposed individual.

Odors

As described in the SJVAPCD Guidance, due to the subjective nature of odor impacts, there are no quantitative thresholds to determine if potential odors would have a significant impact (SJVAPCD 2015a). Projects must be assessed for odor impacts on a case-by-case basis for the following two situations:

- Generators: Projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate.
- Receivers: Residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.

The SJVAPCD has identified some common types of facilities that have been known to produce substantial odors, as well as screening distances between these odor sources and receptors. These are depicted in Table 4.3-5.

[4] The cancer risk threshold was increased from 10 to 20 in 1 million with approval of APR 1906 (Framework for Performing Health Risk Assessments) on June 30, 2015.

[5] Non-cancer adverse health impact, both for acute (short-term) and chronic (long-term) health effects, is measured against a hazard index, which is defined as the ratio of the predicted incremental exposure concentration from a project to a published reference exposure level that could cause adverse health effects as established by the Office of Environmental Health Hazard Assessment. The ratio (referred to as the hazard quotient) of each noncarcinogenic substance that affects a certain organ system is added together to produce an overall hazard index for that organ system.

Table 4.3-5. Screening Levels for Potential Odor Sources

Type of Facility	Screening Distance (Miles)
Wastewater Treatment Facility	2
Sanitary Landfill	1
Transfer Station	1
Composting Facility	1
Petroleum Facility	2
Asphalt Batch Plant	1
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating (i.e., auto body shop)	1
Food Processing Facility	1
Feed Lot/Dairy	1
Rendering Plant	1

Source: SJVAPCD 2015c.

If a project would result in an odor source with sensitive receptors located within these screening distances, additional analysis would be required. For projects involving new receptors locating near an existing odor source where there is currently no nearby development, and for new odor sources locating near existing receptors, the SJVAPCD recommends the analysis be based on a review of odor complaints for similar facilities, with consideration also given to local meteorological conditions, particularly the intensity and direction of prevailing winds. Regarding the complaint record of the odor source facility (or similar facility), the facility would be considered to result in significant odors if there has been (SJVAPCD 2015a):

- More than one confirmed complaint per year averaged over a 3-year period.
- Three unconfirmed complaints[6] per year averaged over a 3-year period.

Cumulative

A project's emissions may be individually limited but cumulatively considerable when taken in combination with past, present, and future development within the SJVAB. If a project would result in a significant impact based on the SJVAPCD annual thresholds of significance for criteria pollutants, then the project would also be considered cumulatively significant. However, if a project's emissions are below the annual significance thresholds for criteria pollutants, the impact may still be cumulatively significant. For instance, if a project results in criteria pollutant concentrations that exceed any of the federal health-based ambient air concentration standards or causes a worsening of areas already exceeding those standards, the project's impacts would be considered individually significant and cumulatively significant. In addition, the combined emissions of a project and cumulative development located within the same area could potentially cause or worsen an exceedance of the concentration standards, whereby the project would have a cumulatively significant impact (SJVAPCD 2015a).

[6] An unconfirmed complaint means that either the odor/air contaminant release could not be detected or the source/facility cannot be determined (SJVAPCD 2015a).

In regard to TACs, because impacts are localized and the SJVAPCD thresholds of significance for TACs have been established at an extremely conservative level, risks that equal or exceed the individual thresholds of significance are also considered cumulatively significant (SJVAPCD 2015a). No other cumulative risk thresholds would apply.

The SJVAPCD has not established cumulative significance thresholds regarding odor impacts.

Approach and Methodology

Project Design Features

The following project design features (PDFs) would be included as part of the Project:

PDF-AQ-1 Prior to the City of Tulare's (City) approval of any grading permits and during Project construction, a Fugitive Dust Control Plan shall be prepared demonstrating compliance with San Joaquin Valley Air Pollution Control District's (SJVAPCD) Rules 8021, 8031, 8041, 8051, 8061, and 8071, to the satisfaction of the City. The Project applicant or its designee shall require implementation of the following fugitive dust measures to minimize course particulate matter emissions as part of the Fugitive Dust Control Plan. All measures shall be designated on Grading Plans.

a. Grading areas shall be watered, or another SJVAPCD-approved dust control non-toxic agent shall be used, at least three times daily to minimize fugitive dust only where chemical stabilizers are not used.
b. All permanent roads and the paved access roadway improvements shall be constructed and paved as early as possible in the construction process to reduce construction vehicle travel on unpaved roads. Foundations shall be finalized as soon as possible following site preparation and grading activities to reduce fugitive dust from earth-moving operations.
c. Grading areas shall be stabilized as quickly as possible to minimize fugitive dust.
d. Chemical stabilizer shall be applied, a gravel pad shall be installed, or the last 100 feet of internal travel path within the construction site shall be paved prior to public road entry.
e. Wheel washers, grates, rock, or road washers shall be installed adjacent to the site access points for tire inspection and washing prior to vehicle entry on public roads.
f. Visible track-out into traveled public streets shall be removed with the use of sweepers, water trucks, or similar method within 30 minutes of occurrence.
g. Perimeter erosion control shall be provided to prevent washout of silty material onto public roads. Unpaved construction site egress points shall be graveled to prevent track-out.
h. The construction access point shall be wet-washed at the end of the workday if any vehicle travel on unpaved surfaces has occurred.
i. Haul trucks shall be covered or at least 2 feet of freeboard shall be maintained to reduce blow-off during hauling.
j. On-site stockpiles of excavated material shall be covered.
k. A 15 mile per hour speed limit on unpaved surfaces shall be enforced.
l. Construction traffic control plans shall route delivery and haul trucks required during construction away from sensitive receptor locations and congested intersections to the extent feasible. Construction traffic control plans shall be finalized and approved prior to issuance of grading permits.

PDF-AQ-2 The Project applicant or its designee shall provide to all Project construction employees the fact sheet entitled "Preventing Work-Related Coccidioidomycosis (Valley Fever)" by the California Department of Public Health and ensure all employees are aware of the potential risks the site poses. The Project applicant or its designee shall inform all Project construction employees of all occupational responsibilities and requirements contained in these measures to reduce potential exposure to *Coccidioides* spores.

The training shall include all the following topics:

a. What Valley Fever is and how it is contracted.
b. High-risk areas and types of work and environmental conditions during which the risk of contracting Valley Fever is highest.
c. Personal risk factors that may create a higher risk for some individuals.
d. Personal and environmental exposure prevention methods.
e. Importance of early detection, diagnosis, and treatment.
f. Recognizing common signs and symptoms of Valley Fever.
g. Importance of reporting symptoms to the employer and seeking medical attention.
h. Common treatment and prognosis for Valley Fever.

Construction

Emissions from the construction phase of the Project were estimated using California Emissions Estimator Model (CalEEMod) Version 2020.4.0. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the Project applicant and CalEEMod default values when Project specifics were not known. For purposes of estimating Project emissions, and based on information provided by the Project applicant, it is assumed that construction of the Project would commence in January 2023 and would last approximately 9.5 years, ending in September 2032. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Demolition: 20 days (January 2023)
- Site Prep: 180 days (January 2023 to October 2023)
- Grading: 465 days (October 2023 to July 2025)
- Vertical Building Construction
  - High Density Residential: 440 days (July 2025 to March 2027)
  - Low Density and Medium Density Single Family Residential: 1550 days (doubled equipment) (July 2025 to June 2031)
  - Medium Density Multi-Family Residential: 300 days (July 2025 to September 2026)
  - School, park, community/commercial centers: 500 days (July 2025 to June 2027)
- Architectural Coating: Overlapping, occurring after the conclusion of each construction phase
- Paving: 330 days (June 2031 to October 2032)

The construction equipment mix and vehicle trips used for estimating the Project-generated construction emissions are shown in Table 4.3-6.

Table 4.3-6. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
Demolition	16	4	52	Concrete/Industrial Saws	1	8
				Excavators	3	8
				Rubber Tired Dozers	2	8
Site Preparation	18	4	0	Tractors/Loaders/ Backhoes	4	8
				Rubber Tired Loaders	3	8
Grading	20	4	0	Excavators	2	8
				Graders	1	8
				Rubber Tired Loaders	1	8
				Scrapers	2	8
				Tractors/Loaders/ Backhoes	2	8
Building Construction (High Density Apartments)	398	60	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/ Backhoes	3	7
				Welders	1	8
Building Construction (Medium Density Townhomes)	88	14	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/ Backhoes	3	7
				Welders	1	8
Building Construction (Low and Medium Density SFH)	190	56	0	Cranes	2	7
				Forklifts	6	8
				Generator Sets	2	8
				Tractors/Loaders/ Backhoes	6	7
				Welders	2	8
Building Construction (School, Commercial, Community, Park)	512	218	0	Cranes	1	7
				Forklifts	3	8
				Generator Sets	1	8
				Tractors/Loaders/ Backhoes	3	7
				Welders	1	8
Paving	16	4	0	Pavers	2	8
				Paving Equipment	2	8

Table 4.3-6. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Equipment Type	Quantity	Usage Hours
				Rollers	2	8
Architectural Coating	38 (Low- and Medium-Density SFH) 18 (Medium - Density Multi-Family) 80 (High-Density) 102 (School, Commercial/ Community Centers, Park) 6 (Paving)	4 (All)	0	Air Compressors	1	6

Notes: See Appendix B for details.

The Project would implement dust control strategies as required by the SJVAPCD. To reflect implementation of proposed dust control strategies, the following was assumed in CalEEMod:

- Water exposed area two times per day (55% reduction in PM_{10} and $PM_{2.5}$).

Ambient Air Quality Assessment – Construction

As recommended by the Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015b), an ambient air quality impacts assessment should be performed if any pollutants exceed 100 pounds per day during construction or operation. As discussed in Section 4.3.4, Impacts Analysis, the Project would exceed 100 pounds per day for ROG.

For the initial assessment (Level 1) of the ambient air quality impact analysis, the maximum background concentration for the Project site for each pollutant and averaging period combination was added to the corresponding maximum ground level concentration (GLC) from Project -related construction (Step 1). The sum of these values was then compared to the corresponding ambient air quality standard. If the incremental increase in concentration from Project -related sources did not cause an exceedance of an ambient air quality standard, then the analysis was complete for that source/receptor/pollutant combination. If the incremental increase in concentration from Project -related sources caused an exceedance of an ambient air quality standard, then the analysis proceeded to Step 2. Step 2 was similar to Step 1 with one major difference. For this second step, the maximum GLC of each pollutant and averaging period combination were compared to its corresponding Significant Impact Level (SIL). The SIL is used to evaluate whether the Project's construction emissions would *contribute* to a violation of an ambient air quality standard, where the background level is close to or exceeds an ambient air quality standard. If the maximum GLC did not exceed the corresponding SIL, then the analysis was complete for that source/receptor/pollutant combination, and no further analysis was required.

For the Level 1 approach, in accordance with SJVAPCD APR-1925, all required criteria pollutants are modeled together, with a normalized emission rate (1 gram per second) for each source. The line of volume sources was partitioned evenly based on the 1 gram per second emission rate. For example, if there is one line volume source with 60 individual volume sources and one line volume sources with 40 individual volume sources, the emission rate in AERMOD would be 0.6 for the line volume source with 60 volume sources and 0.4 for the line volume source with 40 volume sources. This would provide that all individual volume sources would emit 1/100 gram per second and when added together make 1 gram per second. The dispersion modeling was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model SJVAPCD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2022b). Principal parameters of this Level 1 modeling are presented in Table 4.3-7.

Table 4.3-7. AERMOD Principal Parameters – Ambient Air Quality Assessment - Construction

Parameter	Details
Meteorological Data	The latest 5-year meteorological data (2007–2011) for the Tipton Station (Station ID 99007) from SJVAPCD were downloaded and then input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the SJVAPCD guidelines, the rural dispersion option was selected due to the predominant land use surrounding the Project.
Terrain Characteristics	The terrain in the vicinity of the modeled Project site is generally flat. The elevation of the modeled site is about 295 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the United States Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of pollutants from construction equipment was conducted using emissions estimated using the CalEEMod, assuming emissions would occur 8 hours per day, 5 days per week. The Project site was modeled as a series of line-volume sources. Onsite emissions of vehicles were also included, assuming a 0.25-mile travel distance.
Source Release Characterizations	Based on EPA methodology, the modeled line volume sources would result in a release height of 1.84 meters, a plume height of 3.67 meters, and a plume width of 8.6 meters for off-road equipment and diesel trucks (EPA 2022b).
Receptors	A telescoping grid of receptors was placed around the Project site boundary in the following spacing: 25-meter spacing on the facility boundary; 25-meter spacing from the facility boundary to 100 meters; 50 meter spacing from 100 meters to 250 meters; 100 meter spacing from 250 meters to 500 meters; 250 meter spacing from 500 meters to 1,000 meters; and 500 meter spacing from 1,000 meters to 2,000 meters.

Note: See Appendix B.

Health Risk Assessment

A construction health risk assessment (HRA) was performed to evaluate potential health risk associated with construction of the Project. The following discussion summarizes the dispersion modeling and HRA methodology; supporting construction HRA documentation, including detailed assumptions, is presented in Appendix B-2.

For risk assessment purposes, PM_{10} in diesel exhaust is considered DPM, originating mainly from off-road equipment operating at a defined location for a given length of time at a given distance from sensitive receptors. Less-intensive, more-dispersed emissions result from on road vehicle exhaust (e.g., heavy-duty diesel trucks). For the construction HRA, the CalEEMod scenario for the Project was adjusted to reduce diesel truck one-way trip distances to 0.25 miles to estimate emissions from truck pass-by at proximate receptors (SJVAPCD 2018).

The air dispersion modeling methodology was based on generally accepted modeling practices of SJVAPCD (SJVAPCD 2022). Air dispersion modeling was performed using the EPA's American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) Version 21112 modeling system (computer software) with the Lakes Environmental Software implementation/user interface, AERMOD View Version 11.0.1. The HRA followed the Office of Environmental Health Hazard Assessment (OEHHA) 2015 guidelines (OEHHA 2015) and SJVAPCD guidance to calculate the health risk impacts at all proximate receptors as further discussed below. The dispersion modeling included the use of standard regulatory default options. AERMOD parameters were selected consistent with the SJVAPCD and EPA guidance and identified as representative of the Project site activities. Principal parameters of this modeling are presented in Table 4.3-8, American Meteorological Society/Environmental Protection Agency Regulatory Model Principal Parameters – Construction HRA.

Table 4.3-8. American Meteorological Society/Environmental Protection Agency Regulatory Model Principal Parameters – Construction HRA

Parameter	Details
Meteorological Data	The latest 5-year meteorological data (2007–2011) for the Tipton Station (Station ID 99007) from SJVAPCD were downloaded and then input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the SJVAPCD guidelines, the rural dispersion option was selected due to the predominant land use surrounding the Project.
Terrain Characteristics	The terrain in the vicinity of the modeled Project site is generally flat. The elevation of the modeled site is about 295 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the United States Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of pollutants from construction equipment was conducted using emissions estimated using the CalEEMod, assuming emissions would occur 8 hours per day, 5 days per week. The Project site was modeled as a series of line-volume sources. Onsite emissions of vehicles were also included, assuming a 0.25-mile travel distance.
Source Release Characterizations	Based on EPA methodology, the modeled line volume sources would result in a release height of 1.84 meters, a plume height of 3.67 meters, and a plume width of 8.6 meters for off-road equipment and diesel trucks (EPA 2022b).
Receptors	Discrete receptors were placed over residences proximate to the west of the Project site. A fine uniform cartesian grid of 20-meter spacing was placed over residences to the east of the site and course uniform cartesian grids of 100-meter spacing were placed over residences further from the site.

Note: See Appendix B-2.

AERMOD was run with all sources emitting unit emissions (1 gram per second) to obtain the necessary input values for HARP2. The line of volume sources was partitioned evenly based on the 1 gram per second emission rate. The ground-level concentration plot files were then used to estimate the long-term cancer health risk to an individual, and the noncancerous chronic health indices. There is no reference exposure level (REL) for acute health impacts from DPM, and, thus, acute risk was not evaluated.

Cancer risk is defined as the increase in probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, typically expressed as the increased chances in one million. Maximum Individual Cancer Risk is the estimated probability of a maximally exposed individual potentially contracting cancer as a result of exposure to TACs over a period of 30 years for residential receptor locations. For the construction HRA, the TAC exposure period was assumed to be from third trimester of pregnancy for 10 years for all receptor locations (i.e., the assumed duration of Project construction. The exposure pathway for DPM is inhalation only.

The SJVAPCD has also established noncarcinogenic risk parameters for use in HRAs since some TACs increase noncancerous health risk due to long-term (chronic) exposures and some TACs increase noncancerous health risk due to short-term (acute) exposures. Chronic exposure is evaluated in the construction HRA. Noncarcinogenic risks are quantified by calculating a hazard index, expressed as the ratio between the ambient pollutant concentration and its toxicity or REL, which is a concentration at or below which health effects are not likely to occur. The chronic hazard index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. A hazard index less of than one (1.0) means that adverse health effects are not expected.

Operation

Emissions from the operational phase of the Project were estimated using CalEEMod Version 2020.4.0. Operational year 2033 was assumed consistent with completion of Project construction. Although emissions reductions were not quantified, the Project would incorporate the PDFs summarized above.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating and water heating were calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2021). Consumer product ROG emissions were estimated in CalEEMod based on the floor area of nonresidential buildings and on the default factor of pounds of ROG per building square foot per day. For parking lot land uses, CalEEMod estimates ROG emissions associated with use of parking surface degreasers based on a square footage of parking surface area and pounds of ROG per square foot per day.

ROG off-gassing emissions result from evaporation of solvents contained in surface coatings, such as in paints and primers using during building maintenance. CalEEMod calculates the ROG evaporative emissions from application of nonresidential surface coatings based on the ROG emissions factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The ROG emissions factor is based on the ROG content of the

surface coatings, and SJVAPCD's Rule 4601 (Architectural Coatings) governs the ROG (or VOC) content for interior and exterior coatings. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the nonresidential surface area for painting equals 2 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating (CAPCOA 2021).

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions from landscape equipment use are estimated based on CalEEMod default values for emissions factors (grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For San Joaquin County, the average annual "summer" days are estimated to 365 days; however, it was assumed that landscaping equipment would likely only operate during the week (not weekends), so operational days were assumed to be 250 days per year in CalEEMod (CAPCOA 2021).

According to SJVAPCD Rule 4901, Section 5.4.3.1, wood burning fireplaces are outlawed in residential developments with densities greater than 2 dwelling units per acre. The lowest density housing within the Project is 3.6 DU/acre, so it was assumed that the units included no wood burning fireplaces.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site.

CalEEMod default values for energy consumption for each land use were applied for the Project analysis. The energy use from nonresidential land uses was calculated in CalEEMod based on the Commercial and Residential Appliance Saturation Study (CAPCOA 2021).

Mobile Sources

Mobile sources for the Project would primarily be motor vehicles (automobiles, light-duty trucks, and heavy-duty trucks[7]) traveling to and from the Project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Emissions from the mobile sources during operation of the Project were estimated based on Average Daily Trip (ADT) rates from the Dudek traffic report.

Based on the Traffic Impact Analysis prepared for the Project by Dudek and Section 4.17, Transportation, of this Draft EIR, the Project would generate 25,102 daily trips. The Project's mobile trips were conservatively estimated to operate 365 days per year.

Carbon Monoxide Hotspots

Mobile source impacts occur on two scales of motion: regionally and locally. Regionally, travel related to the Project would add to regional trip generation and increase vehicle miles traveled within the local airshed and the SJVAB. Locally, traffic generated by the Project would be added to the County's roadway system near the Project site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles cold-starting and operating at pollution-inefficient speeds, and is operating on roadways already congested with non-

[7] "Heavy-duty trucks" include medium-heavy-duty trucks (three-axle) and heavy-heavy-duty trucks (four-plus-axle).

Project traffic, there would be the potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic.

In addition to the numerous factors that would need to be present for a CO hotspot to occur, the potential for CO hotspots in the SJVAB is steadily decreasing because of the continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, and the already very low ambient CO concentrations. Furthermore, CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, children, hospital patients, and older adults. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable LOS. Projects contributing to adverse traffic impacts may result in the formation of CO hotspots.

The 2015 SJVAPCD Guidance states that a quantitative CO hotspots analysis be performed if either of the following two conditions exist: a traffic study for a project indicates that the LOS on one or more streets or at one or more intersections in the project vicinity would worsen to LOS E or F, or a traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity (SJVAPCD 2015a).

Ambient Air Quality Assessment – Operation

As recommended by the Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015b), an ambient air quality impacts assessment should be performed if any pollutants exceed 100 pounds per day during construction or operation. As discussed in Section 4.3.4, the Project would exceed 100 pounds per day for ROG and CO during operation.

For the initial assessment (Level 1) of the ambient air quality impact analysis, the maximum background concentration for the Project site for each pollutant and averaging period combination was added to the corresponding maximum ground level concentration (GLC) from Project -related construction (Step 1). The sum of these values was then compared to the corresponding ambient air quality standard. If the incremental increase in concentration from Project -related sources did not cause an exceedance of an ambient air quality standard, then the analysis was complete for that source/receptor/pollutant combination. If the incremental increase in concentration from Project -related sources caused an exceedance of an ambient air quality standard, then the analysis proceeded to Step 2. Step 2 was similar to Step 1 with one major difference. For this second step, the maximum GLC of each pollutant and averaging period combination were compared to its corresponding Significant Impact Level (SIL). The SIL is used to evaluate whether the Project's construction emissions would *contribute* to a violation of an ambient air quality standard, where the background level is close to or exceeds an ambient air quality standard. If the maximum GLC did not exceed the corresponding SIL, then the analysis was complete for that source/receptor/pollutant combination, and no further analysis was required.

For the Level 1 approach, in accordance with SJVAPCD APR-1925, all required criteria pollutants are modeled together, with a normalized emission rate (1 gram per second) for each source. The line of volume sources was partitioned evenly based on the 1 gram per second emission rate. The dispersion modeling was performed using the AERMOD, which is the model SJVAPCD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2022b). Principal parameters of this Level 1 modeling are presented in Table 4.3-9.

Table 4.3-9. AERMOD Principal Parameters – Ambient Air Quality Assessment - Operation

Parameter	Details
Meteorological Data	The latest 5-year meteorological data (2007–2011) for the Tipton Station (Station ID 99007) from SJVAPCD were downloaded and then input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the SJVAPCD guidelines, the rural dispersion option was selected due to the predominant land use surrounding the Project.
Terrain Characteristics	The terrain in the vicinity of the modeled Project site is generally flat. The elevation of the modeled site is about 295 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the United States Geological Survey's National Elevation Dataset format with a 30-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of pollutants from area, energy, and mobile sources onsite was conducted using emissions estimated using the CalEEMod. The Project site was modeled as a series of line-volume sources. Onsite emissions of vehicles were also included, assuming a 0.25-mile travel distance.
Source Release Characterizations	Based on EPA methodology, the modeled line volume sources would result in a release height of 1.3 meters, a plume height of 2.6 meters, and a plume width of 8.6 meters for off-road equipment and diesel trucks (EPA 2022b).
Receptors	A telescoping grid of receptors was placed around the Project site boundary in the following spacing: 25-meter spacing on the facility boundary; 25 meter spacing from the facility boundary to 100 meters; 50 meter spacing from 100 meters to 250 meters; 100 meter spacing from 250 meters to 500 meters; 250 meter spacing from 500 meters to 1,000 meters; and 500 meter spacing from 1,000 meters to 2,000 meters.

Note: See Appendix B-3.

4.3.4 Impacts Analysis

Threshold a: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Significant and Unavoidable Impact. A project is non-conforming with an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. The SJVAPCD has prepared plans to attain federal and state O_3 and PM ambient air quality standards as required under the federal and California Clean Air Act, as detailed in Section 4.3.2, Relevant Plans, Policies, and Ordinances. The SJVAPCD has established thresholds of significance for criteria pollutant emissions, which are based on SJVAPCD New Source Review offset requirements for stationary sources. Stationary sources in the SJVAPCD jurisdiction are subject to some of the toughest regulatory requirements in the nation. Emissions reductions achieved through implementation of the SJVAPCD offset requirements are a major component of SJVAPCD's air quality plans. Thus, projects with emissions below the thresholds of significance for criteria pollutants would not conflict or obstruct implementation of the SJVAPCD's air quality plan (SJVAPCD 2015a). As discussed for Threshold b, below, the Project would not exceed any SJVAPCD thresholds during construction and would exceed the SJVAPCD's operational thresholds for VOC, NO_x, CO, and PM_{10}. Implementation of Mitigation Measure (MM) AQ-1 (development of a low VOC/green cleaning product and Low VOC architectural coating educational program), and MM-AQ-2 (use of Tier 4 Final engines), MM-AQ-3 (Multi-Family Residential Parking), MM-AQ-4 (Multi-Family Residential and Park/Trail Parking), and MM-AQ-5

(Preferential Parking and Electric Vehicle Charging for Non-Residential Buildings) would reduce the Project's impacts to the greatest extent feasible; however, the Project emissions would exceed the SJVAPCD's operational threshold for VOC, NO_x, and PM_{10}. Therefore, the Project would conflict with or delay implementation of the SJVAPCD attainment plans and impacts would be significant and unavoidable.

Threshold b: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Significant and Unavoidable Impact. Past, present, and future development projects may contribute to adverse air quality impacts in the SJVAB on a cumulative basis. By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SJVAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the applied significance thresholds, it would have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Construction and operation of the Project would result in emissions of criteria air pollutants that may result in a cumulatively considerable net increase in emissions of criteria air pollutants for which the SJVAB is designated as nonattainment under the NAAQS or CAAQS. As discussed in Section 4.3.2, the SJVAB has been designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under national and/or California standards. The following discussion quantitatively evaluates potential short-term construction and long-term operational impacts that would result from implementation of the Project.

Construction Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and ROG off-gassing) and off-site sources (i.e., vendor trucks and worker vehicle trips). Construction emissions can vary substantially from day to day depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emissions levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Criteria air pollutant emissions associated with temporary construction activity were quantified using CalEEMod. Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during each year of construction (2023 through 2032). Construction schedule assumptions, including phase type, duration, and sequencing, were based on assumptions approved by the Project applicant and are intended to represent a reasonable scenario based on the best information available. Default values provided in CalEEMod were used where detailed Project information was not available.

Implementation of the Project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coatings, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The Project would implement various dust control strategies (PDF-AQ-1) and would be required to comply with SJVAPCD Regulation VIII to control dust emissions generated during the grading activities. Proposed

construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites and unpaved roads two times per day depending on weather conditions. Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of ROGs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and of asphalt pavement would also produce ROG emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SJVAPCD's Rule 4601 (Architectural Coatings) and limit the amount of ROG emissions from cutback asphalt in compliance with the requirements of SJVAPCD's Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). Pursuant to Regulation VIII, Rule 8021, Section 6.3, the Project would be required to develop, prepare, submit, obtain approval of, and implement a dust control plan, which would reduce fugitive dust impacts to less than significant for Project construction.

Table 4.3-10 presents the estimated annual construction emissions generated during construction of the Project. Details of the emissions calculations are provided in Appendix B.

Table 4.3-10. Estimated Annual Construction Criteria Air Pollutant Emissions - Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per Year					
2023	0.37	3.77	2.78	0.01	2.90	1.25
2024	0.43	4.27	3.73	0.01	1.74	0.68
2025	0.91	6.74	9.25	0.02	3.56	1.10
2026	2.57	9.88	15.09	0.040	5.00	1.52
2027	6.30	5.51	8.03	0.02	2.39	0.75
2028	0.44	3.59	4.93	0.01	0.49	0.23
2029	0.44	3.60	4.91	0.01	0.49	0.23
2030	0.42	2.41	4.90	0.01	0.39	0.14
2031	4.69	1.79	3.77	0.01	0.31	0.11
2032	3.23	0.85	1.88	<0.01	0.12	0.06
Rolling 12-Month Total	**6.30**	**9.88**	**15.09**	**0.04**	**5.00**	**1.52**
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix B.
Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SJVAPCD = San Joaquin Valley Air Pollution Control District; <0.01 = reported value less than 0.01.
See Appendix B for complete results.
These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with SJVAPCD's Rule 4601 (Architectural Coatings) and implementation of the Project's fugitive dust control strategies, including watering of the Project site and unpaved roads three times per day, and restricting vehicle speed on unpaved roads to 15 miles per hour.

As shown in Table 4.3-10, annual construction emissions would not exceed the SJVAPCD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. Thus, impacts would be less than significant.

Operational Emissions

The Project would involve construction of low-, medium-, and high-density residences, a community center, a commercial center, park space, and a school. Operation of the Project would generate ROG, NOx, CO, SOx, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips from passenger vehicles; area sources, including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment; and energy sources, including combustion of fuels used for space and water heating. As discussed in Section 4.3.3, Thresholds of Significance, pollutant emissions associated with long-term operations were quantified using CalEEMod for area, energy, and mobile sources, and were primarily based on CalEEMod default values. Project-generated mobile source emissions were based on the trip rates provided in the Transportation Impact Analysis (Appendix I).

Table 4.3-11 presents the annual area, energy, mobile, off-road, and stationary source emissions associated with operation (year 2033) of the Project. Details of the emissions calculations are provided in Appendix B.

Table 4.3-11. Estimated Annual Operational Criteria Air Pollutant Emissions - Unmitigated

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per Year					
Area	19.77	0.75	9.14	0.00	0.10	0.10
Energy	0.14	1.23	0.61	0.01	0.10	0.10
Mobile	7.45	10.97	70.49	0.17	21.91	5.94
Total	**27.36**	**12.94**	**80.23**	**0.18**	**22.11**	**6.14**
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	**Yes**	**Yes**	**No**	**No**	**Yes**	**No**

Source: Appendix B.
Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SJVAPCD = San Joaquin Valley Air Pollution Control District; <0.01 = reported value less than 0.01.
See Appendix B for complete results.
Totals may not sum due to rounding.

As shown in Table 4.3-11, the combined annual area, energy, and mobile source emissions would not exceed the SJVAPCD's operational thresholds for CO, SO_x, or $PM_{2.5}$. However, the Project would exceed the SJVAPCD's operational threshold for VOC, NO_x, and PM_{10}. MM-AQ-3 through MM-AQ-5 would be implemented to reduce Project -generated operational criterial air pollutant emissions; however, impacts would remain significant and unavoidable for VOC, NOx, and PM10 pollutants.

Ambient Air Quality Assessment

The SJVAPCD recommends that an Ambient Air Quality Assessment be performed when on-site emissions of any criteria pollutant would equal or exceed any applicable threshold of significance for criteria pollutants or 100 pounds per day of any criteria pollutant (SJVAPCD 2015a). Operational emissions generated on site would include area sources, energy sources, and off-road equipment. The majority of the mobile emissions would occur a distance from the Project site; therefore, localized impacts from mobile sources were assumed to include traveling 0.25 miles on and off site. The results of the screening analysis are presented in Table 4.3-12.

Table 4.3-12. Estimated Maximum Daily Construction and Operational Criteria Air Pollutant Emissions - Mitigated

Year	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Construction 2023	0.81	3.37	33.18	0.06	8.91	4.61
Construction 2024	0.80	3.37	33.17	0.06	4.25	1.75
Construction 2025	4.92	18.37	99.16	0.15	4.25	1.75
Construction 2026	117.72	18.29	98.80	0.15	1.09	0.59
Construction 2027	170.54	15.42	80.20	0.12	0.99	0.50
Construction 2028	1.32	6.00	36.85	0.06	0.21	0.17
Construction 2029	1.30	5.99	36.81	0.06	0.21	0.17
Construction 2030	1.17	5.69	36.67	0.06	0.16	0.12
Construction 2031	66.08	5.69	36.64	0.06	0.16	0.12
Construction 2032	66.07	1.60	21.31	0.03	0.07	0.05
Maximum Daily Construction Emissions	**170.54**	**18.37**	**99.16**	**0.15**	**8.91**	**4.61**
Maximum Daily Operational Emissions	**145.93**	**41.34**	**236.22**	**0.21**	**5.82**	**3.33**
SJVAPCD Threshold	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	**Yes**	**No**	**Yes**	**No**	**No**	**No**

Source: Appendix B.
Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SJVAPCD = San Joaquin Valley Air Pollution Control District
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with SJVAPCD's Rule 4601 (Architectural Coatings) and implementation of the Project's fugitive dust control strategies, including watering of the Project site and unpaved roads twice per day. Construction mobile source emissions assumed to travel 0.25 miles on and off site. Operational mobile source emissions assumed to travel 0.25 miles on and off site.

As indicated in Table 4.3-12, the Project would exceed 100 pounds per day on site for ROG during construction and ROG and CO during operations; therefore, a construction and operational ambient air quality assessment was performed and is discussed below.

Construction Assessment

Table 4.3-13 presents the Level 1 Air Quality Impact Assessment for unmitigated construction emissions. As shown in Table 4.3-13, the Project would exceed the Level 1 thresholds for the 1-hour NO_2, 24-hour PM_{10}, annual PM_{10}, and 24-hour $PM_{2.5}$ during construction.

Table 4.3-13. Construction AAQA – Unmitigated

Impact Parameter	Applicable Standard	Project Area Maximum Background Concentration (Years 2019-2021)		Project Contribution (ug/m^3)	Cumulative Concentration (ug/m^3)	AAQS Threshold (ug/m^3)	Step 1 Significance	SIL (ug/m^3)	Step 2 Significance
		ppmv	ug/m^3						
1-hour CO	State	3.0	3,437	704.80	4,142	22,900	PASS	2000	Step 1
	Federal	3.0	3,437	704.80	4,142	40,100	PASS	2000	Step 1
8-hour CO	State	2.7	3,093	243.45	3,337	10,300	PASS	500	Step 1
	Federal	2.7	3,093	243.45	3,337	10,300	PASS	500	Step 1
1-hour NO_2	State	0.071	134	418.06	552	339	**Step 2**	7.5	**FAIL**
	Federal	0.071	133	418.06	552	188	**Step 2**	7.5	**FAIL**
Annual NO_2	State	0.010	19	20.45	39	57	PASS	1	Step 1
	Federal	0.010	19	20.45	39	100	PASS	1	Step 1
1-hour SO_2	State	0.016	42	1.16	44	655	PASS	7.5	Step 1
	Federal	0.016	42	1.16	43	196	PASS	7.8	Step 1
24-Hour SO_2	State	0.002	5	0.19	5	105	PASS	5	Step 1
	Federal	0.002	5	0.19	5	367	PASS	5	Step 1
Annual SO_2	Federal	0.000	1	0.05	1	79	PASS	1	Step 1
24-hour PM_{10}	State	—	419	14.42	433	50	**Step 2**	10.4	**FAIL**
	Federal	—	419	14.42	433	150	**Step 2**	10.4	**FAIL**
Annual PM_{10}	State	—	61	3.47	64	20	**Step 2**	2.08	**FAIL**
24-hour $PM_{2.5}$	Federal	—	136	8.83	145	35	**Step 2**	0.63	**FAIL**
Annual $PM_{2.5}$	State	—	18	2.12	20	12	**Step 2**	2.5	PASS
	Federal	—	18	2.12	20	12	**Step 2**	2.5	PASS

Source: See Appendix B.
Notes: ug/m^3 = microgram per cubic meter.

During construction activities, MM-AQ-1 and MM-AQ-2 would be implemented, which would require a low VOC architectural coating educational program and the use of Tier 4 Final engines for heavy-duty diesel equipment with engines 75 horsepower or greater, respectively. Table 4.3-14 presents the Level 1 and Level 2 Air Quality Impact Assessment for construction activities with implementation of MM-AQ-2.

Table 4.3-14. Construction AAQA - Mitigated

Impact Parameter	Applicable Standard	Project Area Maximum Background Concentration (Years 2019-2021)		Project Contribution (ug/m^3)	Cumulative Concentration (ug/m^3)	AAQS Threshold (ug/m^3)	Step 1 Significance	SIL (ug/m^3)	Step 2 Significance
		ppmv	ug/m^3						
Level 1									
1-hour CO	State	3.0	3,437	763.72	4,201	22,900	PASS	2000	Step 1
	Federal	3.0	3,437	763.72	4,201	40,100	PASS	2000	Step 1
8-hour CO	State	2.7	3,093	263.80	3,357	10,300	PASS	500	Step 1
	Federal	2.7	3,093	263.80	3,357	10,300	PASS	500	Step 1
1-hour NO_2	State	0.071	134	90.57	224	339	PASS	7.5	Step 1
	Federal	0.071	133	90.57	224	188	**Step 2**	7.5	**FAIL**
Annual NO_2	State	0.010	19	4.43	23	57	PASS	1	Step 1
	Federal	0.010	19	4.43	23	100	PASS	1	Step 1
1-hour SO_2	State	0.016	42	1.16	44	655	PASS	7.5	Step 1
	Federal	0.016	42	1.16	43	196	PASS	7.8	Step 1
24-Hour SO_2	State	0.002	5	0.19	5	105	PASS	5	Step 1
	Federal	0.002	5	0.19	5	367	PASS	5	Step 1
Annual SO_2	Federal	0.000	1	0.05	1	79	PASS	1	Step 1
24-hour PM_{10}	State	—	419	11.17	430	50	**Step 2**	10.4	**FAIL**
	Federal	—	419	11.17	430	150	**Step 2**	10.4	**FAIL**
Annual PM_{10}	State	—	61	2.69	64	20	**Step 2**	2.08	**FAIL**
24-hour $PM_{2.5}$	Federal	—	136	5.78	142	35	**Step 2**	0.63	**FAIL**
Annual $PM_{2.5}$	State	—	18	1.39	19	12	**Step 2**	2.5	PASS
	Federal	—	18	1.39	19	12	**Step 2**	2.5	PASS

Table 4.3-14. Construction AAQA - Mitigated

Impact Parameter	Applicable Standard	Project Area Maximum Background Concentration (Years 2019-2021)		Project Contribution (ug/m^3)	Cumulative Concentration (ug/m^3)	AAQS Threshold (ug/m^3)	Step 1 Significance	SIL (ug/m^3)	Step 2 Significance
		ppmv	ug/m^3						
Level 2									
1-hour NO_2	Federal	0.071	134	54.47	188	188	PASS	7.5	Step 1
24-hour PM_{10}	State	--	419	5.58	425	50	**Step 2**	10.4	PASS
	Federal	--	419	5.58	425	150	**Step 2**	10.4	PASS
Annual PM_{10}	State	--	61	1.34	62	20	**Step 2**	2.08	PASS
24-hour $PM_{2.5}$	Federal	--	136	4.75	141	35	**Step 2**	0.63	**FAIL**

As shown in Table 4.3-14, the Project would exceed the Level 1 thresholds for 1-hour NO_2, 24-hour PM_{10}, annual PM_{10}, and 24-hour $PM_{2.5}$ during construction with the incorporation of MM-AQ-2. The Level 2 AAQA shows that the Project would exceed the 24hour $PM_{2.5}$ standard during construction with the incorporation of MM-AQ-2. As such, the Project would have significant and unavoidable impacts related to criteria air pollutant emissions during construction activities.

Operational Assessment

Table 4.3-15 presents the AAQA prepared for operation of the Project. As shown in Table 4.3-15, the Project would exceed the 1-hour NO_2, 24-hour PM_{10}, annual PM_{10} 24-hour $PM_{2.5}$, and annual $PM_{2.5}$ Level 1 AAQA during operation; however, 24-hour PM_{10}, annual PM_{10}, and annual $PM_{2.5}$ passed the Level 2 significance test. In the Level 2 analysis, the Project would still exceed the 1-hour NO_2 and 24-hour $PM_{2.5}$ significance thresholds during operation. The Project would implement MM-AQ-3 through MM-AQ-5 during Project operations; however, these measures were quantified for this analysis. Therefore, the Project would have significant and unavoidable impacts related to criteria air pollutant emissions during operational activities even with the incorporation of mitigation.

Table 4.3-15. Operational AAQA

Impact Parameter	Applicable Standard	Project Area Maximum Background Concentration (Years 2019-2021)		Project Contribution (ug/m3)	Cumulative Concentration (ug/m³)	AAQS Threshold (ug/m³)	Step 1 Significance	SIL (ug/m³)	Step 2 Significance
		ppmv	ug/m³						
Level 1									
1-hour CO	State	3.0	3,437	837.60	4,274	22,900	PASS	2000	Step 1
	Federal	3.0	3,437	837.60	4,274	40,100	PASS	2000	Step 1
8-hour CO	State	2.7	3,093	413.46	3,507	10,300	PASS	500	Step 1
	Federal	2.7	3,093	413.46	3,507	10,300	PASS	500	Step 1
1-hour NO_2	State	0.071	134	117.26	251	339	PASS	7.5	Step 1
	Federal	0.071	133	117.26	251	188	**Step 2**	7.5	**FAIL**
Annual NO_2	State	0.010	19	14.28	33	57	PASS	1	Step 1
	Federal	0.010	19	14.28	33	100	PASS	1	Step 1
1-hour SO_2	State	0.016	42	0.72	43	655	PASS	7.5	Step 1
	Federal	0.016	42	0.72	43	196	PASS	7.8	Step 1
24-Hour SO_2	State	0.002	5	0.20	5	105	PASS	5	Step 1
	Federal	0.002	5	0.20	5	367	PASS	5	Step 1
Annual SO_2	Federal	0.000	1	0.07	1	79	PASS	1	Step 1
24-hour PM_{10}	State	--	419	5.81	425	50	**Step 2**	10.4	PASS
	Federal	--	419	5.81	425	150	**Step 2**	10.4	PASS
Annual PM_{10}	State	--	61	2.01	63	20	**Step 2**	2.08	PASS
24-hour $PM_{2.5}$	Federal	--	136	3.32	139	35	**Step 2**	0.63	**FAIL**
Annual $PM_{2.5}$	State	--	18	1.15	19	12	**Step 2**	2.5	PASS
	Federal	--	18	1.15	19	12	**Step 2**	2.5	PASS

Table 4.3-15. Operational AAQA

Impact Parameter	Applicable Standard	Project Area Maximum Background Concentration (Years 2019-2021)		Project Contribution (ug/m3)	Cumulative Concentration (ug/m³)	AAQS Threshold (ug/m³)	Step 1 Significance	SIL (ug/m³)	Step 2 Significance
		ppmv	ug/m³						
Level 2									
1-hour NO_2	State	0.071	134	72.20	206	339	PASS	7.5	Step 1
	Federal	0.071	133	72.20	206	188	**Step 2**	7.5	**FAIL**
24-hour $PM_{2.5}$	Federal	--	136	3.17	139	35	**Step 2**	0.63	**FAIL**

Source: See Appendix B.
Notes: ug/m³ = microgram per cubic meter.

Health Effects

As demonstrated in Table 4.3-11, operation of the Project would result in emissions that would exceed the SJVAPCD threshold for VOC, NO_x, and PM_{10}.

ROGs and NO_x are precursors to O_3, for which the SJVAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of ROGs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SJVAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the ROG emissions would occur because exceedances of the O_3 CAAQS/NAAQS tend to occur April through October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Because operation of the Project would exceed the SJVAPCD threshold for NO_x, implementation of the Project could contribute to regional O_3 concentrations and the associated health effects.

Operation of the Project would contribute to exceedances of the NAAQS and CAAQS for NO_2. Health effects that result from NO_2 and NO_x include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, Project construction would be relatively short term, and off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. In addition, existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Due to exceedances in operation-generated emissions of NO_x, the Project could result in potential health effects associated with NO_2 and NO_x.

Operation of the Project would also exceed thresholds for PM_{10} as a result of the sheer number of vehicles associated with Project operation. Pursuant to Regulation VIII, Rule 8021, Section 6.3, the Project would be required to develop, prepare, submit, obtain approval of, and implement a dust control plan, which would reduce fugitive dust impacts. The Project's PM_{10} emissions would be potentially significant.

In summary, because operation of the Project would result in exceedances of the SJVAPCD significance thresholds, the potential health impacts are significant and unavoidable. Notably, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and there are currently no modeling tools that could provide reliable and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects.

Threshold c: Would the Project expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact.

Health Impacts of Carbon Monoxide

As described previously, exposure to high concentrations of CO can result in dizziness, fatigue, chest pain, headaches, and impairment of central nervous system functions. Mobile-source impacts, including those related to CO, occur essentially on two scales of motion. Regionally, Project-related operational travel would add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SJVAB. Locally, Project operational traffic would be added to the roadway system in the vicinity of the Project site. Although the SJVAB is

currently an attainment area for CO, there is a potential for the formation of microscale CO hotspots to occur immediately around points of congested traffic. Hotspots can form if such traffic occurs during periods of poor atmospheric ventilation, is composed of many vehicles cold-started and operating at pollution-inefficient speeds, and/or is operating on roadways crowded with non-Project traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SJVAB is steadily decreasing.

The 2015 SJVAPCD Guidance states that a quantitative CO hotspots analysis should be performed if either of the following two conditions exist: a traffic study for the project indicates that the LOS on one or more streets or at one or more intersections in the project vicinity would worsen to LOS E or F, or a traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at more or more intersections in the project vicinity (SJVAPCD 2015a).

The Traffic Impact Analysis prepared for the Project (Section 4.17) evaluated whether there would be a worsening in the LOS (e.g., congestion) at the intersections affected by the Project. The Project's traffic analysis evaluated 23 intersections based on existing traffic volumes and current street geometry. The results of the LOS assessment show that under Cumulative Plus Project conditions, 11 of the 23 study intersections are forecast to operate at unacceptable LOS (LOS E or worse) during the peak hours in 2032, the first operational year. In the horizon year of 2040, the same 11 intersections are forecast to operate at an unacceptable LOS.

Ambient CO levels for the Project are monitored at the Fresno-Foundry Park Ave air quality monitoring station (Table 4.3-3), which is approximately 42 miles northwest of the Project site and represents ambient CO in the Project area. Ambient CO levels monitored at this representative monitoring station indicate that the highest recorded 1-hour concentration of CO is 2.6 ppm (the State standard is 20 ppm) and highest 8-hour concentration is 2.7 ppm (the State standard is 9 ppm) during the past 3 years of available data (EPA 2022a). As discussed above, the highest CO concentrations typically occur during peak traffic hours, so CO impacts calculated under peak traffic conditions represent a worst-case analysis.

Consider the CO "hot spot" analysis conducted by the South Coast Air Quality Management District (SCAQMD) for their request to the USEPA for resignation as a CO attainment area (SCAQMD 2003). In SCAQMD's analysis, they modeled the four most congested intersections identified in their basin (South Coast Air Basin [SCAB]), which included the following:

- Long Beach Boulevard and Imperial Highway – proximity to the Lynwood monitoring station, which consistently records the highest 8-hour CO concentrations in the SCAB each year.
- Wilshire Boulevard and Veteran Avenue – the most congested intersection in Los Angeles County, with an average daily traffic volume of 100,000 vehicles/day.
- Highland Avenue and Sunset Boulevard – one of the most congested intersections in the City of Los Angeles.
- Century Boulevard and La Cienega Boulevard – one of the most congested intersections in the City of Los Angeles.

The SCAQMD's analysis found that these intersections had an average 7.7 ppm 1-hour CO concentrations predicted by the models, which is only 38.5% of the 1-hour CO CAAQS of 20 ppm. Therefore, even the most congested intersections in SCAQMD's air basin would not experience a CO "hot spot."

The air quality monitoring station closest to the most congested intersection in Los Angeles County (Wilshire Boulevard/Veteran Avenue) is the VA Hospital, West Los Angeles Station (Site ID 060370113) located at Wilshire Boulevard and Sawtelle Boulevard, approximately 0.5 miles to the southwest. Ambient CO levels monitored at this representative monitoring station are outlined in Table 4.3-16 for the original analysis year (2002), and for the most recent year of available data (2021). As shown, there is noticeable improvement in background levels of CO since the SCAQMD's regional hotspot analysis.

Table 4.3-16. Ambient Carbon Monoxide Concentrations for SCAQMD's Most Congested Intersection

Year	CO Concentration (ppm)	
	Maximum 1-hour	Maximum 8-hour
2002	4.3	2.7
2021	1.5	1.0

Source: EPA 2022a

For the Project, there are no roadways/segments identified as deficient facilities under the worst-case traffic scenario that have an ADT greater than the 100,000 that was anticipated for the most congested intersection analyzed by SCAQMD. According to the Project Volumes Summary conducted for this Project (Section 4.17), the intersection between Mooney Boulevard and Tulare Avenue (SR-137) would have the highest existing ADT before construction, at 32,990. With the addition of Project trips, the ADT of this intersection is expected to increase to 50,050 ADT, which is approximately half the ADT of the most congested intersection in Los Angeles County, shown above to not create a "hot spot" according to SCAQMD's 2003 analysis.

In addition, the CO "hot spot" analysis performed by the SCAQMD included emissions for 1997 and 2002. Both running exhaust emission factors and idling emission factors predicted by the EMFAC model decreased from 1997 through 2002 as outlined in Table 4.3-17 below. This decrease in CO emission factors is indicative of a phase-out of older vehicles and increasingly strict emissions standards implemented by CARB. Emission factors for San Diego County from the EMFAC2007 Model, which were used in the General Plan Update analysis, indicated that running exhaust emissions of CO would be less than 6.708 g CO per mile in 2010. Continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion means that the potential for CO hotspots in the SDAB is likely to decrease.

Table 4.3-17. Carbon Monoxide Emission Factors Predicted by the EMFAC Model

Year	CO Emission Factors (grams CO/mile)	
	Running Exhaust	Idling Exhaust
1997	13.13	2.43
2002	7.98	1.30

Source: South Coast Air Quality Management District 2003

Given that proposed development will not result in traffic that exceeds traffic volumes considered in the SCAQMD analysis, coupled with the considerably low level of CO concentrations in the Project area, and continued improvements in vehicle emissions, the proposed Project is not anticipated to result in CO "hot spots". Consequently, implementation of the proposed Project would not result in CO concentrations in excess of the health protective CAAQS or NAAQS, and as such, would not expose sensitive receptors to significant pollutant

concentrations or health effects. Therefore, impacts related to sensitive receptor exposure to substantial CO concentrations would be less than significant, and no mitigation measures are required.

Health Impacts of Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute (immediate) and/or chronic (cumulative) non-cancer health effects. Potential construction-related health risk is qualitatively evaluated, and operational health risk is quantitatively evaluated for the Project, below.

Construction Health Risk

Project construction would result in emissions of DPM from heavy construction equipment and trucks accessing the site. DPM is characterized as a TAC by California. The Office of Environmental Health Hazard Assessment has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure but has not identified health effects due to short-term exposure to diesel exhaust. According to the Office of Environmental Health Hazard Assessment, HRAs, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with a project (OEHHA 2015). As discussed in Section 4.3.4, a construction HRA was prepared to evaluate the cancer and non-cancer health impacts of the construction on proximate sensitive receptors. The results of the HRA are shown in Table 4.3-18.

Table 4.3-18. Construction Health Risk Assessment Results – Unmitigated

Impact Parameter	Units	Impact Level	CEQA Threshold
Maximum Individual Cancer Risk	Per Million	44.9	20
Chronic Hazard Index	Index Value	0.01	1.0

Source: SJVAPCD 2015a.

As shown in Table 4.3-18 the maximum individual cancer risk for the Project during construction would exceed the SJVAPCD threshold of 20 in 1 million. The chronic hazard index would not exceed the threshold of 1.0. As such, MM-AQ-2, requiring Tier 4 Final engines for equipment over 75 horsepower, would be implemented during construction activities.

An HRA was performed to estimate the Maximum Individual Cancer Risk and Chronic Hazard Index for residential receptors as a result of emissions from the Project during construction on sensitive receptors proximate of the Project. Results of the construction HRA, including MM-AQ-2, are presented in Table 4.3-19.

Table 4.3-19. Construction Health Risk Assessment Results – Mitigated

Impact Parameter	Units	Impact Level	CEQA Threshold
Maximum Individual Cancer Risk	Per Million	6.1	20
Chronic Hazard Index	Index Value	0.002	1.0

Source: SJVAPCD 2015a.
Notes: CEQA = California Environmental Quality Act.
These emissions reflect CalEEMod "mitigated" output, which accounts for implementation of MM-AQ-2, implementation of Tier 4 Final engines.

As shown in Table 4.3-19, the TAC emissions from operation of the Project would result in Maximum Individual Cancer Risk and Chronic Hazard Index less than the applicable SJVAPCD significance thresholds, resulting in a less-than-significant impact with mitigation.

Operational Health Risk

No residual TAC emissions and corresponding cancer risk are anticipated after construction. The Proposed Project is not anticipated to generate long-term, operational sources of TAC emissions because the Proposed Project would only include residential units, commercial/retail land uses, and public space. The Project would not include heavy industrial uses or other land uses typically associated with stationary sources of TACs. As such, the Project would not result in substantial TAC emissions that may affect nearby receptors, nor would the Project be exposed to nearby sources of TACs. Impacts would be less than significant.

Valley Fever

As discussed in Section 4.3.1, Existing Conditions, the average incidence rate of Valley Fever within the County is below the statewide average. Furthermore, construction of the Project would comply with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibition), which requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible PM from crossing any property line. SJVAPCD Regulation VIII is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. In addition, the Project would implement various dust control strategies and provide Valley Fever awareness and training to all Project construction employees as required by PDF-AQ-1 and PDF-AQ-2. The nearest sensitive receptor land use to the Project is existing residences bordering the Project site on its eastern edge. Because the Project would implement dust control strategies and Valley Fever awareness and training, it is not anticipated that earth-moving activities during Project construction would result in exposure of nearby sensitive receptors to Valley Fever. Pursuant to Regulation VIII, Rule 8021, Section 6.3, the Project would be required to develop, prepare, submit, obtain approval of, and implement a dust control plan that would control the release of the *Coccidioides immitis* fungus during construction activities. Therefore, the Project would have a less-than-significant impact with respect to Valley Fever exposure for sensitive receptors.

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

Less-than-Significant Impact. The analysis of the Project's potential to result in other emissions is focused on potential odor impacts. The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicle and equipment exhaust emissions during construction of the Project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the Project site and generally occur at magnitudes that would not affect substantial numbers of people. Furthermore, SJVAPCD Rule 4641 limits the amount of VOC emissions from cutback asphalt. Thus, any potential odors generated during asphalt paving would be regulated through mandatory compliance with SJVAPCD rules. Therefore, impacts associated with odors during construction would be less than significant.

Land uses that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would not include land uses that generate odors during operation. Therefore, Project operations would result in odor impacts that are less than significant.

Threshold e: Would the Project result in cumulatively considerable air quality impacts?

Significant and Unavoidable Impact. A project's emissions may be individually limited but cumulatively considerable when taken in combination with past, present, and future development within the SJVAB. If a project would result in a significant impact based on the SJVAPCD annual thresholds of significance for criteria pollutants, then the project would also be considered cumulatively significant. However, even if project emissions are below the annual significance thresholds for criteria pollutants, the impact may still be cumulatively significant. For instance, if a project results in criteria pollutant concentrations that exceed any of the federal health-based ambient air concentration standards or causes a worsening of areas already exceeding those standards, the project's impacts would be considered individually significant and cumulatively significant. In addition, the combined emissions of a project and cumulative development located within the same area could potentially cause or worsen an exceedance of the concentration standards, whereby the project would have a cumulatively significant impact (SJVAPCD 2015a). In regard to TACs, because impacts are localized and the SJVAPCD thresholds of significance for TACs have been established at an extremely conservative level, risks that equal or exceed the individual thresholds of significance are also considered cumulatively significant (SJVAPCD 2015a). No other cumulative risk thresholds would apply. The SJVAPCD has not established cumulative significance thresholds regarding odor impacts.

Because the Project would exceed thresholds for VOC, NO_x, and PM_{10} during operation, the Project's cumulative impacts with respect to such emissions would be considerable and significant even with implementation of MM-AQ-1 through MM-AQ-5.

4.3.5 Mitigation Measures

To reduce potentially significant impacts under Thresholds b and c, MM-AQ-1 through MM-AQ-2 are identified to reduce Project-generated construction air pollutant emissions. and MM-AQ-3 through MM-AQ-5 operational criteria air pollutant emissions from various Project emission sources

Implementation of MM-AQ-2 is quantified in Threshold c for the construction health risk assessment, while implementation of MM-AQ-1 and MM-AQ-3 through MM-AQ-5 were not quantified.

Construction

MM-AQ-1 Low-VOC/Green Cleaning Product and Low VOC Architectural Coating Educational Program. Prior to the occupancy of any on-site development, the Project Applicant or its designee shall provide evidence to the City of Tulare that the applicant/phase developer has developed a Green Cleaning Product and Architectural Coating (Paint) education program to be made available at rental offices, leasing spaces, and/or on websites.

MM-AQ-2 Tier 4 Final Equipment. For heavy-duty diesel equipment with engines 75 horsepower or greater, use equipment equipped with Tier 4 Final engines. Prior to the commencement of construction activities for the Project, the Project Applicant shall require its construction contractor to

demonstrate that all 75-horsepower or greater diesel-powered equipment is powered with California Air Resources Board (CARB)-certified Tier 4 Final engines.

An exemption from this requirement may be granted if (a) the Project Applicant documents equipment with Tier 4 Final engines are not reasonably available, and (b) the required corresponding reductions in criteria air pollutant emissions can be achieved from other combinations of construction equipment. Before an exemption may be granted, the Project Applicant's construction contractor shall: (1) demonstrate that at least two construction fleet owners/operators in Tulare County were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within Tulare County during the desired construction schedule; and (2) the proposed replacement equipment has been evaluated using California Emissions Estimator Model (CalEEMod) or other industry standard emission estimation method and documentation provided to the City to confirm that Project-generated emissions do not exceed applicable San Joaquin Valley Air Pollution Control District (SJVAPCD) carcinogenic (cancer) risk threshold.

Operations

MM-AQ-3 Multi-Family Residential Parking. Applications for building permits submitted to City by the project proponent/developer shall include plans and specifications demonstrating that the following features have been incorporated into the building designs or specifications for multifamily residential buildings:

- Visitor parking shall include preferentially located parking spaces for electric vehicles.
- Bicycle parking shall be provided as specified in Section A4.106.9, Residential Voluntary Measures, of the California Green Building Standards (CALGreen) Code.

MM-AQ-4 Multi-Family Residential and Park/Trail Parking. Applications for a tentative tract map, parcel map (excluding financing map), or commercial site plan review, that include parking structures, parking lots with 20 or more parking spaces that serve uses other than residential or nonresidential buildings (e.g., trailhead, park), and parking structures and parking lots that serve multifamily residential buildings with 15 or more multifamily units, shall include a minimum of 5% of preferentially located parking spaces shall be reserved for electric and ride-share vehicles.

MM-AQ-5 Preferential Parking and Electric Vehicle Charging for Nonresidential Buildings. Applications for commercial site plan review and building permits for nonresidential buildings shall include preferential parking for electric cars, low emission vehicles, and carpools/vanpools to encourage use of such vehicles. Proof of compliance shall be provided to the City prior to the issuance of occupancy permits. Preferential parking for such vehicles shall include two spaces for non-residential lots containing 10 to 25 spaces; four spaces for 26 to 50 space lots; six spaces for 51 to 75 space lots; nine spaces for 76 to 100 space lots; eleven spaces for 101 to 150 space lots; 18 spaces for 151 to 200 space lots; and at least 10% of total spaces for lots with more than 200 spaces.

4.3.6 Level of Significance After Mitigation

Threshold a: The Project would result in potentially significant impacts with regard to conflicting with or obstructing implementation of an applicable air quality plan. Implementation of MM-AQ-1 through MM-AQ-2 for construciton and MM-AQ-3 through MM-AQ-5 for operations would reduce the Project's impacts to the greatest extent feasible; however, impacts would remain **significant and unavoidable**.

Threshold b: Short-Term Construction Impacts

The Project's annual construction emissions would not exceed the SJVAPCD significance thresholds for VOC, NO_x, CO, SOx, PM_{10}, or $PM_{2.5}$ in all construction years. However, the project would exceed the Level 1 AAQA thresholds for 1-hour NO_2, 24-hour PM_{10}, annual PM_{10}, and 24-hour $PM_{2.5}$ during construction with the incorporation of MM-AQ-1 through MM-AQ-2. The Level 2 AAQA shows that the project would exceed the 24-hour $PM_{2.5}$ standard during construction with the incorporation of MM-AQ-2. As such, the Project would have **significant and unavoidable impacts** related to criteria air pollutant emissions during construction activities.

Long-Term Operational Impacts

The Project's combined annual area, energy, and mobile source emissions would not exceed the SJVAPCD's operational thresholds for CO, SO_x, or $PM_{2.5}$. However, the Project would exceed the SJVAPCD's operational threshold for VOC, NO_x, and PM_{10}. In addition, the Project would exceed the 1-hour NO_2, 24-hour PM_{10}, annual PM_{10} 24-hour $PM_{2.5}$, and annual $PM_{2.5}$ Level 1 AAQA during operation; however, 24-hour PM_{10}, annual PM_{10}, and annual $PM_{2.5}$ passed the Level 2 significance test. In the Level 2 analysis, the Project would still exceed the 1-hour NO_2 and 24-hour $PM_{2.5}$ significance thresholds during operation. The Project would implement MM-AQ-3 through MM-AQ-5 during Project operations; however, none of the measures were quantified for this analysis. The Project would have **significant and unavoidable impacts** related to criteria air pollutant emissions during operational activities.

Threshold c: Construction and operation of the Project would not expose sensitive receptors to substantial pollutant concentrations, including concentrations of CO emissions, toxic air contaminants, and spores of the *Coccidioides immitis* fungus (which can result in Valley Fever).

An HRA was performed to estimate the Maximum Individual Cancer Risk and Chronic Hazard Index for residential receptors as a result of emissions from the Project during construction on sensitive receptors proximate of the Project. With incorporation of MM-AQ-2, the TAC emissions from operation of the Project would result in Maximum Individual Cancer Risk and Chronic Hazard Index less than the applicable SJVAPCD significance thresholds, resulting in **a less-than-significant impact** with mitigation.

Threshold d: The Project would result in **less-than-significant impacts** associated other emissions (such as those leading to odors) which could adversely affect a substantial number of people. No mitigation is required.

Threshold e: Would the Project result in cumulatively considerable air quality impacts?

Construction-related impacts would be less than significant. However, the Project is in excess of the operational VOC, NO_x, CO, and PM_{10} thresholds. The Project would exceed the 24-hour $PM_{2.5}$ Level 2 AAQA standard during construction even with the incorporation of MM-AQ-1 and MM-AQ-2. The Project would exceed the 1-hour NO_2 and 24-hour $PM_{2.5}$ Level 2 AAQA significance thresholds during operation even with the incorporation of MM-AQ-3 through MM-AQ-5. Therefore, the Project's cumulative impacts with respect to such emissions would remain **significant and unavoidable**.

4.3.7 References

CAPCOA (California Air Pollution Control Officers Association). 2021. *California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0.* Accessed October 2022.

CARB (California Air Resources Board). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000. http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf.

CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. http://www.arb.ca.gov/ch/landuse.htm.

CARB. 2016a. "Glossary of Air Pollution Terms." CARB website. http://www.arb.ca.gov/html/gloss.htm.

CARB. 2016b. "Overview: Diesel Exhaust and Health." April 12, 2016. https://www.arb.ca.gov/research/diesel/diesel-health.htm.

CARB. 2016c. "Ambient Air Quality Standards." May 4, 2016. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

CARB. 2017. "Inhalable Particulate Matter and Health (PM2.5 and PM10)." https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm.

CARB. 2019a. "Ozone & Health." https://ww2.arb.ca.gov/resources/ozone-and-health.

CARB. 2019b. "Nitrogen Dioxide & Health." https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health.

CARB. 2019c. "Carbon Monoxide & Health." https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health.

CARB. 2019d. "Sulfur Dioxide & Health." https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health.

CARB. 2021. "iADAM: Air Quality Data Statistics." http://www.arb.ca.gov/adam/topfour/topfour1.php.

CDPH (California Department of Public Health). 2022. *CDPH Infectious Diseases Branch (IDB) Yearly Summaries of Selected Communicable Diseases in California, 2012-2020*. https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/YearlySummariesofSelectedCommDiseasesinCA2012-2020.pdf#page=42

City of Tulare. 2014. *City of Tulare General Plan*. October 2014. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000.

EPA (U.S. Environmental Protection Agency). 2004. Air Quality Criteria for Particulate Matter, Vol. 1 and 2. EPA/600/P-99/002aF. National Center for Environmental Assessment, Office of Research and Development, U.S. Environmental Protection Agency, Research Triangle Park, NC. October 2004.

EPA. 2008. *Reducing Urban Heat Islands: Compendium of Strategies – Urban Heat Island Basics. https://nepis.epa.gov/Exe/ZyNET.exe/P100RPJ6.txt?ZyActionD=ZyDocument&Client=EPA&Index=2006%20Thru%202010&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C06THRU10%5CTXT%5C00000037%5CP100RPJ6.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=9*

EPA. 2009. *Integrated Science Assessment for Particulate Matter*. U.S. EPA, EPA/600/R-08/139F, 2009.

EPA. 2013. *Integrated Science Assessment of Ozone and Related Photochemical Oxidants*. U.S. EPA, EPA/600R-10/076F, 2013.

EPA. 2016. "Criteria Air Pollutants." July 21, 2016. https://www.epa.gov/criteria-air-pollutants.

EPA. 2022a. "AirData: Access to Air Pollution Data." Accessed December 2022. http://www.epa.gov/airdata/ad_rep_mon.html.

EPA. 2022b. Air Quality Dispersion Modeling – Preferred and Recommended Models. Accessed July 2023. https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models#aermod

NRC (National Research Council). 2005. *Interim Report of the Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants*. Washington, DC: The National Academies Press. https://doi.org/10.17226/11208.

OEHHA (Office of Environmental Health Hazard Assessment). 2015. *Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments*. February 2015. http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf.

SCAQMD (South Coast Air Quality Management District). 2003. *Final 2003 AQMP Appendix V*. August 2003. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2003-air-quality-management-plan/2003-aqmp- appendix-v.pdf?sfvrsn=2.

SCAQMD. 2017. *2016 Air Quality Management Plan Appendix I, Health Effects*. March 2017. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-i.pdf?sfvrsn=14.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2004. *Extreme Ozone Attainment Demonstration Plan.* October 2004. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_Ozone2004.htm.

SJVAPCD. 2007a. *2007 Ozone Plan*. April 2007. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/2007_8HourOzone_CompletePlan.pdf.

SJVAPCD. 2007b. *2007 PM_{10} Maintenance Plan and Request for Redesignation.* September 2007. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/docs/Maintenance%20Plan10-25-07.pdf.

SJVAPCD. 2008. *2008 $PM_{2.5}$ Plan*. April 2008. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_PM25_2008.htm.

SJVAPCD. 2009. *Reasonably Available Control Technology (RACT) Demonstration for Ozone State Implementation Plans (SIP)*. April 2009. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/docs/RACTSIP-2009.pdf.

SJVAPCD. 2012. *2012 $PM_{2.5}$ Plan.* December 2012. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/PM25Plan2012/CompletedPlanbookmarked.pdf.

SJVAPCD. 2013. *2013 Plan for the Revoked 1-Hour Ozone Standard*. September 2013. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/AdoptedPlan.pdf.

SJVAPCD. 2014a. 2014 Reasonably Available Control Technology (RACT) Demonstration for the 8-Hour Ozone State Implementation Plan (SIP). June 2014. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/docs/2014-RACT-SIP.PDF.

SJVAPCD. 2014b. APR 1925 (Policy for District Rule 2201 AAQA Modeling). April 2014.

SJVAPCD. 2015a. *Guidance for Assessing and Mitigating Air Quality Impacts*. Accessed August 2017. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

SJVAPCD. 2015b. *2015 Plan for the 1997 $PM_{2.5}$ Standard*. April 2015. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/docs/PM25-2015/2015-PM2.5-Plan_Bookmarked.pdf.

SJVAPCD. 2015c. APR 1906 (Framework for Performing Health Risk Assessment). June 2015.

SJVAPCD. 2016a. *2016 Plan for the 2008 8-Hour Ozone Standard*. Adopted June 16, 2016. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016/Adopted-Plan.pdf.

SJVAPCD. 2016b. *2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard.* September 2016. Accessed August 2017. http://www.valleyair.org/Air_Quality_Plans/docs/PM25-2016/2016-Plan.pdf.

SJVAPCD. 2018. *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards*. November 15, 2018.

SJVAPCD. 2020a. *2020 Reasonably Available Control Technology Demonstration for the 2015 8-Hour Ozone Standard.* June 18, 2020. Accessed August 2020. http://valleyair.org/Air_Quality_Plans/docs/2020-RACT-Demonstration.pdf.

SJVAPCD. 2020b. *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standard.* June 30, 2020. Accessed August 2020. https://www.regulations.gov/document?D=EPA-R09-OAR-2019-0318-0201.

SJVAPCD. 2020c. Ambient Air Quality Standards & Valley Attainment Status. Accessed December 2020. http://www.valleyair.org/aqinfo/attainment.htm.

SJVAPCD. 2022. *Guidance for Air Dispersion Modeling. http://valleyair.org/busind/pto/tox_resources/modeling%20guidance%20w_o%20pic.pdf*

TCAG (Tulare County Association of Governments). 2022. *Draft Regional Transportation Plan/Sustainable Communities Strategy. https://tularecog.org/tcag/planning/rtp/rtp-2022/.*

WHO (World Health Organization). 2018. *Burden of Disease from Ambient Air Pollution for 2016 Description of Method*. May 2018. Accessed February 2021. https://www.who.int/airpollution/data/AAP_BoD_methods_Apr2018_final.pdf.

4.4 Biological Resources

This section describes the existing biological resource conditions of the Chandler Grove Master Plan and Annexation Project (Project) site; identifies local, state, and federal laws, regulations, and policies applicable to these resources; evaluates the potential impacts of the Project on biological resources; and identifies measures to avoid, minimize, and/or that otherwise mitigate impacts determined to be significant under CEQA. This section assesses potential effects on biological resources that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information contained in this section is based on publicly available data as well as a reconnaissance survey and evaluation of biological resources within the Project Site and surrounding area, including the following:

- Appendix C, Biological Resources Assessment, prepared by Dudek (2022)

Other sources consulted are listed in Section 4.4.8, References, of this section.

No comments were received related to Biological Resources during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.4.1 Existing Conditions

The Project site is dominated by active agricultural land (primarily orchards). An irrigation canal crosses the site from north to south in the eastern third of the site, then flows west along the southern boundary before exiting the site. Three residences and one abandoned equipment paddock is located in the eastern portion of the site and several dirt roads are present throughout the site. Surrounding land uses include agriculture and rural residences to the north and residential to the east, residences and a high school to the west, and agricultural fields to the south. The region in which the Project site occurs is generally dominated by agricultural land use.

The following describes the site topography, soils, and vegetation communities/land covers associated with the Project site. Common plant and animal species observed during onsite biological surveys, special-status plant and/or wildlife species known to occur or potentially occur on the site, and existing aquatic features on the site are also described. Most of this site information was collected during a field survey and assessment of the Project site conducted by a qualified biologist on July 26, 2022. The potential for special-status species to occur on the site was initially determined through review of existing resource agency databases and published documentation, followed by the field survey to confirm presence of suitable habitat for such species.

4.4.1.1 Topography and Soils

The Project site and immediate surrounding area is relatively flat with a slight slope decreasing from the northeastern to southwestern corner. The Project site ranges between approximately 270 and 300 feet above mean sea level (amsl).

According to the U.S. Department of Agriculture Natural Resources Conservation Service's Web Soil Survey (USDA 2022), the Project site occurs within the Tulare County, Western Part (CA659). The Project site consists of four soil types: Tujunga loamy sand (0% to 2% slopes), Nord fine sandy loam (0% to 2% slopes), Calgro-Calgro saline-sodic, complex (0% to 2% slopes), and Biggriz-Biggriz, saline-Sodic, complex (0% to 2% slopes).

4.4.1.2 Vegetation and Land Covers

Three land cover types were mapped within the Project site. The spatial distribution of the land covers is presented on Figure 4.4-1, Biological Resources, and listed in Table 4.4.1.

Table 4.4.1. Existing Land Cover Types on the Project Site

Land Cover Type[1]	Acreage
Orchard	220.9
Disturbed Land	1.3
Urban/Developed Land	2.1
Total[2]	**224.3**

Notes:
[1] The spatial distribution of the land covers is presented on Figure 4.4-1.
[2] Total acreages may not sum exactly due to rounding.

Orchard

Agriculture areas (including orchards) are anthropogenic (created by humans) and are not described in the Manual of California Vegetation, 2nd ed. (Sawyer et al. 2009). Within the Project site, agriculture consists of black walnut and almond orchards occupying more than 90% of the Project site. On-site farming practices include soil discing and herbicide application, including regular maintenance and disturbance of the orchards.

Disturbed Land

Although not recognized by the Natural Communities List (CDFW 2022a), disturbed lands are areas that have been physically disturbed and no longer recognizable as a native or naturalized vegetation association. These areas may continue to retain soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Disturbed land on the Project site includes dirt roads occurring along the site perimeter and throughout the site.

Urban/Developed

Although not recognized by the Natural Communities List (CDFW 2022b), developed land refers to areas that have been constructed upon or disturbed so severely that native vegetation is no longer supported. Developed land includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas,

and areas with a large number of debris or other materials. On the Project site, developed land occurs as three residences in the north and one abandoned equipment paddock in the east portion of the site.

4.4.1.3 Plants and Wildlife Observed

A qualified biologist conducted an initial biological resources habitat assessment on July 26, 2022, to identify and characterize existing natural resources on the site and to determine the potential for special-status plant and wildlife species, sensitive vegetation communities, and regulated aquatic resources such as wetlands, to occur on the site.

Plants

A total of 18 species of native or naturalized plants, including 7 native species (35%) and 11 non-native species (65%), were recorded within the Project site. Notably, two valley oak (*Quercus lobata*) trees were observed in the walnut orchard in northwest portion of the Project site (see Figure 4.4-1). Valley oak is considered a sensitive tree species in Tulare County (County) and the City of Tulare (City), both of which have local ordinances for the protection of valley oaks. A full list of plant species observed is provided in Appendix A, Plant Compendium, of Appendix C (Biological Resource Assessment).

Wildlife

A total of 9 wildlife species, consisting of 8 native species (89%) and one non-native species (11%), were recorded within the Project site (Appendix C). Bird species observed on the site included common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), turkey vulture (*Cathartes aura*), Eurasian collared dove (*Streptopelia decaocto*), American kestrel (*Falco sparverius*), killdeer (*Charadrius vociferus*) and red-tailed hawk (*Buteo jamaicensis*). No active nests of any of these or other avian species were observed.

Mammals detected included California ground squirrels (*Otospermophilus beecheyi*) and one dead skunk (*Mephitis mephitis*) (Appendix C). However, the skunk was observed dead in the irrigation canal likely as a result from a vehicle strike. No reptiles or amphibians were detected.

4.4.1.4 Special-Status Plants

Special-status plants include those that are state- or federally-listed, or that are candidates for listing, as threatened or endangered by U.S. Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Wildlife (CDFW); and species identified as rare by the California Native Plant Society (CNPS), particularly those with a California Rare Plant Rank (CRPR) of 1A (presumed extinct in California), CRPR 1B (rare, threatened, or endangered throughout its range), and CRPR 2 (rare or endangered in California, more common elsewhere) (CNPS 2022).

Prior to the Project site visit, Dudek biologists performed a desktop review of USFWS (USFWS 2022a) and CDFW (CDFW 2022a) databases to initially identify those species known to occur in the Project region. Based on the results of the database searches, 14 special-status plant species were identified as occurring within the Project site region. After the July field survey and habitat assessment conducted on the site, a further evaluation was conducted on the potential for each of these 14 special-status plant species to occur on the Project site based on habitat suitability. Each of these special-status plant species was assigned a rating of “not expected,” “low,” “moderate,” or “high” potential to occur based on relative location to known occurrences, onsite vegetation and soils, and on-site elevation (some species have elevational limitations).

Based on this evaluation, it was determined that none of the 14 special-status species known to occur in the Project region have the potential to occur on the site. This determination was primarily made based on the lack of suitable habitat (vegetation and soils), but also on the lack of previously documented occurrences of any of these species on or adjacent to the site. In particular, ongoing orchard maintenance and intensive agricultural practices such as disking, and herbicide use preclude these species from occurring on the site. Special-status plant species documented within the nine USGS quadrangles associated with the Project, and their potential to occur on the Project site, are detailed in Appendix C.

4.4.1.5 Special-Status Wildlife

Special-status wildlife include those that are state- or federally listed, or that are candidates for listing, as threatened or endangered by USFWS and CDFW, are considered fully protected under the state Fish & Game Code, Section 3511, those designated as species of special concern by CDFW, and those that meet the CEQA definition for endangered, rare, or threatened (14 CCR 15380[b],[d]).

Similar to special-status plants, Dudek biologists performed a review of USFWS (USFWS 2022a) and CDFW (CDFW 2022a) databases, existing documentation, and GIS data to initially identify those special-status wildlife species known to occur or potentially occur within the Project region. Based on the results of the database searches, 21 special-status wildlife species were identified as occurring within the Project site region. After the July field survey and habitat assessment conducted on the site, a further evaluation was conducted to determine the potential for each of these 21 species to occur on the Project site based on habitat suitability. Each of these special-status wildlife species was assigned a rating of “not expected,” “low,” “moderate,” or “high” potential to occur based on relative location to known occurrences and onsite vegetation. Of these, three wildlife species were determined to have a potential to occur within the Project site based on habitat present and previous known locations in the Project region: burrowing owl (*Athene cunicularia*), Swainson’s hawk (*Buteo swainsoni*), and San Joaquin kit fox (*Vulpes macrotis mutica*). These species, and their potential to occur on the Project site, are discussed in more detail in the following discussion.

Burrowing Owl

Burrowing owl is a USFWS Bird of Conservation Concern and a California Species of Special Concern. With a relatively wide-ranging distribution throughout the west, burrowing owls are considered to be habitat generalists (Lantz et al. 2004). In California, burrowing owls are yearlong residents of open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (Zeiner et al. 1990). Preferred habitat is generally typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils (Haug et al. 1993).

The presence of burrows is the most essential component of burrowing owl habitat because they are required for nesting, roosting, and cover (Coulombe 1971; Martin 1973; Green and Anthony 1989; Haug et al. 1993). In California, burrowing owls most commonly live in burrows created by California ground squirrels (*Spermophilus beecheyi*). Burrowing owls may occur in human-altered landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures if the vegetation structure is suitable (i.e., open and sparse); useable burrows are available, and foraging habitat occurs in close proximity (Gervais et al. 2008). Debris piles, riprap, culverts, and pipes can be used for nesting and roosting.

Twelve ground squirrel burrows or burrow complexes potentially suitable for burrowing owl use (i.e., burrows approximately 4 inches in size or greater) were observed during the survey effort. However, no detection of

burrowing owls or burrowing owl sign (whitewash, pellets, feathers, or prey remains) was observed during the site survey associated with these burrows or elsewhere on the site. Burrowing owl was determined to have low potential to occur within the Project site considering the continued maintenance associated with the orchards, lack of sign of presence during the survey, and the higher quality habitat for foraging and nesting in the region. Nevertheless, burrowing owls are known to occur in the region and could potentially utilize these or other burrows along the edges of the orchard or within the disturbed land areas prior to and/or during construction.

Swainson's Hawk

Swainson's hawk is state listed as a threatened species under the CESA. It nests in California in the Central Valley and smaller adjacent valleys, the Klamath Basin, the Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in riparian areas, stands of trees in agricultural environments, oak savannah, Joshua trees (*Yucca brevifolia*) in the Mojave Desert, and juniper-sage flats. In the San Joaquin Valley, it typically nests in riparian areas and in isolated tree clusters, often near rural residences or other areas with some human disturbance. Alfalfa fields are the favored foraging areas of Swainson's hawk in the Central Valley, but the species also forages in undisturbed grasslands, fallow agricultural fields, and some row crops.

Dudek conducted a reconnaissance-level survey for Swainson's hawk nests on the Project site and within 1 mile of the site, where accessible, on July 26, 2022. During the survey, marginally suitable foraging habitat occurs in the orchard and along the irrigation canal. Suitable nesting habitat on the Project site was initially identified as occurring within the three residential properties and disturbed area that supported valley oaks (Figure 4.4-1). No Swainson's hawk nests were observed on the Project site during the survey. The CNDDB includes seven occurrences of nesting Swainson's hawks within 5 miles of the Project site (but no occurrences within 1 mile of the site. No Swainson's hawk nests or individuals were observed during the survey. However, given that Swainson's hawks are known to nest within (typically at the edge) of orchards, and that the other trees on the site are considered suitable nest trees, Swainson's hawks could construct nests on or immediately adjacent to the site between the time of the site survey and proposed ground disturbance activities.

Based on the information discussed above, Swainson's hawk was considered to have a moderate potential to occur within the Project site.

San Joaquin Kit Fox

The San Joaquin kit fox is in the family Canidae and is a year-round resident of arid and semi-arid regions of the San Joaquin Valley and surrounding valleys, Sierra Nevada foothills, and Coast Ranges from northern Santa Barbara and Ventura Counties north to Contra Costa and San Joaquin Counties (USFWS 1998). This species lives in annual grasslands or grassy open habitats with scattered shrubby vegetation. It requires loose-textured sandy soils for burrowing and a suitable prey base of rodents. Kit foxes in the northern portion of the range are mostly associated with annual grassland and valley oak woodland (USFWS 1998). Where kit foxes are found in annual grassland, such as in surrounding valleys, they are generally associated with brome grasses, fescue (*Festuca* spp.), wild oats (*Avena fatua*), barley (*Hordeum* spp.), and filaree (*Erodium* spp.).

During the survey, 12 ground squirrel burrows meeting the minimum size criteria (4 inches in diameter) were identified and examined for evidence of use by San Joaquin kit fox. None were confirmed to be San Joaquin kit fox natal dens or active dens. Furthermore, none of these burrows were determined to be occupied or otherwise being used by kit fox based on the lack of sign (i.e., scat, prey remains, digging, claw marks, etc.) of kit fox, and no individual kit fox animals were observed during the survey effort.

The ground squirrel burrows observed on site could potentially be modified by San Joaquin kit fox, However, such an occurrence is unlikely given the intensively managed nature of this agricultural property and the low probability that kit foxes would even enter the site, given the regular presence of humans and human activities, and the presence of much higher quality habitats available elsewhere in the region, the Project site was determined to have low potential for this species to occur on a regular basis.

However, because the number of kit foxes can vary greatly from year to year, and successful dispersal may allow individuals to occupy areas between established populations, it is possible that transient individual San Joaquin kit foxes could occur intermittently on the Project site during foraging or dispersal events, including prior to or even during construction activities.

4.4.1.6 Aquatic Resources

The literature review identified one feature within the survey area as "riverine" as shown in the National Wetland Inventory (NWI) (USFWS 2022b) (Figure 4.4-1). The irrigation canal is ephemeral and subject to periodic rapid flows during rain and immediately after rain events. No water was observed within this feature during the site survey. The irrigation canal was heavily silted, with deposits obscuring the ordinary high water mark "OHWM" in places. The width of the irrigational canal was measured at top of bank, approximately 12-feet over its course. It enters the Project site from the north at Avenue 228, flows south to E. Bardsley Avenue, then turns west stretching approximately 0.5 miles where it extends southward across E. Bardsley Avenue. While no jurisdictional delineation of this canal has been conducted, it is possible that this aquatic feature could be under the jurisdiction of the USACE, CDFW, and/or RWQCB.

The Biological Study Area (BSA) also included a swale south of Poplar Street in the southern portion of the BSA. The swale appears to have been developed to collect seasonal precipitation, but lacked a defined bed and bank, OHWM, established hydrophytic vegetation, or indicators of hydric soil. This topographical feature would not constitute a jurisdictional resource regulated by the U.S. Army Corp of Engineers (USACE), CDFW, and/or Regional Water Quality Control Board (RWQCB).

4.4.1.7 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

The Project site is located in an area of encroaching development along the eastern boundary which is currently residential community. Terrestrial species' movement is also hindered by East Bardsley Avenue along the southern boundary, and, to a lesser degree, surface streets and paved roads, including Avenue 228 running east/west along the northern boundary and Road 124 continuing north/south along the western boundary of the Project site. Furthermore, the site is dominated by active agriculture (orchards) and supports no naturally occurring vegetation communities that could serve as habitat linkages between larger open space areas in the region. As a result, the

Project site does not provide for regional wildlife movement or serve as a regional wildlife corridor. However, on a local level, wildlife may move across the site when migrating or foraging/hunting.

4.4.2 Relevant Regulations, Plans, Policies, and Ordinances

Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. FESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under FESA, it is unlawful to "take" any listed species; "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource (16 USC 703–712). The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The MBTA protects over 800 species of birds, which are listed in the Code of Federal Regulations (50 CFR 10.13). The MBTA prohibits the intentional and unintentional "take" of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, take is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so.

Clean Water Act

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a project operator for a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found at 33 Code of Federal Regulations (CFR) Parts 320 through 332. Guidelines for implementation are referred to as the

Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency in conjunction with USACE (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

Based on a recent court case ordering vacation of the Navigable Waters Protection Rule, USACE and the U.S. Environmental Protection Agency halted implementation of the rule and are interpreting waters of the United States consistent with the pre-2015 regulatory regime until further notice. Per 33 CFR 328.3(a), "waters of the United States" are defined as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
    a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (a)(1) through (4) of this section;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section.
8. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

The USACE/U.S. Environmental Protection Agency Rapanos Guidance states that USACE regulates traditional navigable waters, adjacent wetlands, relatively permanent waters tributary to traditional navigable waters, and adjacent wetlands. Non-relatively permanent waters (those exhibiting less than 3 months of continuous surface flows) and their adjacent wetlands are regulated if there is a significant nexus from the site to traditional navigable waters.

The State Water Resources Control Board has authority over wetlands through Section 401 of the CWA, as well as the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the United States) first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine RWQCBs. A request for certification is submitted to the RWQCB at the same time that an application is filed with USACE.

State

California Endangered Species Act (CESA) and State Designated Species

Comparable to the federal ESA, the California Endangered Species Act (California Fish and Game Code Section 2050 et seq.) provides a process for listing endangered and threatened species under state law. CESA requires a permit from the California Department of Fish and Wildlife (CDFW) for any activity that would result in the "take" of a state-listed plant or animal species or of any such species that has been proposed for listing as a candidate species. Under state law, "take" means to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code Section 86). The state law definition of "take" does not include the terms "harm" or "harass," and thus is narrower than the definition in the federal ESA. Also, unlike the federal ESA, CESA does not include provisions pertaining to the designation or modification of a species' critical habitat. CESA also does not include the type of consultation process that is provided for under Section 7 of the federal ESA.

For species that are listed under both the federal ESA and CESA, CESA provides a process by which CDFW may rely on a federal incidental take authorization (i.e., Incidental Take Permit or Incidental Take Statement in a Biological Opinion) for issuing a state law incidental take permit.

Lastly, CDFW maintains a list of "species of special concern" (https://www.wildlife.ca.gov/Conservation/SSC). This designation carries no legal status or protections under CESA, but rather is intended as an administrative tool to focus attention on the species that are designated, to stimulate scientific research on these species, and to promote conservation and recovery so that the species do not become endangered or threatened.

California Fish and Game Code

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of CDFW to maintain viable populations of all native species.

Pursuant to Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds of prey; or to take, possess, or destroy any nest or eggs of such birds. "Birds of prey" refer to species in the orders Falconiformes and Strigiformes [now also including the order Accipitriformes]. Active nests of all other native birds are similarly protected under Sections 3503 and 3513 of the Fish and Game Code. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. This statute does not provide for the issuance of an incidental take permit.

Streambed Alteration Agreement: Sections 1600–1616

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream, or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need

not exhibit evidence of an ordinary high-water mark to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code, Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will 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. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects. Applications to CDFW must include a complete certified CEQA document.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (Section 1900 et seq. of the California Fish and Game Code) directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the California Fish and Game Code. To align with federal regulations, the categories of "threatened" and "endangered" species were added to CESA. All "rare" animals in CESA were converted to "threatened," but this did not change for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the project proponent.

Nesting Birds

Nesting birds and birds of prey are protected under the California Fish and Game Code (Sections 3503 and 3503.5, respectively). Section 3503 states that it is "unlawful to take, possess, or needlessly destroy the nests or eggs of any bird". Section 3503.5 stipulates that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (diurnal birds of prey) or Strigiformes (owls) or to take, possess, or destroy any nest or egg of any bird." Disturbance during the nesting season that results in the incidental loss of fertile eggs or nestlings or otherwise leads to abandonment of an active nest is considered "take" by the CDFW. CDFW currently defines "active nest" as any structure that is under construction or under modification or in use for the purposes of breeding.

Nests of all other birds (except English sparrow [*Passer domesticus*], European starling [*Sturnus vulgaris*], and select other species) are also protected under Sections 3503 and 3513 of the Fish and Game Code.

California Environmental Quality Act (CEQA)

CEQA requires identification of a project's potentially significant impacts on biological resources, and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

The State of California CEQA Guidelines (CEQA Guidelines) Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors." A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that

it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

Section IV, Appendix G (Environmental Checklist Form), of the CEQA Guidelines requires an evaluation of impacts to "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 the U.S. Fish and Wildlife Service."

Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Act, the RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]). All waters of the United States are waters of the state. Waters of the state include wetlands, and the State Water Resources Control Board definition of wetlands includes the following:

1. Natural wetlands.
2. Wetlands created by modification of a surface water of the state.
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration.
    b. Specifically identified in a water quality control plan as a wetland or other water of the state.
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape.
    d. Greater than or equal to 1 acre in size unless the artificial wetland was constructed and is currently used and maintained, primarily for one or more of the following purposes: industrial or municipal wastewater treatment or disposal; settling of sediment; detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial permitting program; treatment of surface waters; agricultural crop irrigation or stock watering; fire suppression; industrial processing or cooling water; active surface mining – even if the site is managed for interim wetlands functions and values; log storage; treatment, storage, or distribution of recycled water; maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or fields flooded for rice growing.

Wetlands that may not meet all of USACE's wetland delineation criteria are considered wetland waters of the state if, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2019). Additionally, aquatic resources that USACE determines to not be waters of the United States because they lack a significant nexus to a traditional navigable water or are above the OHWM limit of federal jurisdiction, may also be considered waters of the state. If a CWA Section 404 permit is not required for a

project, the RWQCB may still require a permit (waste discharge requirements) for impacts to waters of the state under the Porter–Cologne Act.

Local

Tulare County General Plan

The Environmental Resources Management (ERM) elements within the Tulare County General Plan provides protection and preservation of endangered species and their habitat, wildlife preserves natural resources, open spaces, providing recreational opportunities (County of Tulare 2012). These goals and policies provide guidance for decision makers regarding the future affects to these resources within the Tulare County planning area. Goals and policies that are applicable to the proposed Project, and the Projects consistency according to these goals, were reviewed as part of the Project literature review. More specifically, those goals and policies within the Environmental Resources Management, Section 8.1 – Biological Resources.

Goal ERM-1 Preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the County (County of Tulare 2012).

ERM-1.1 Protection of Rare and Endangered Species. The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or Federal government, through compatible land use development.

ERM-1.2 Development in Environmentally Sensitive Areas. The County shall limit or modify proposed development within areas that contain sensitive habitat for special status species and direct development into less significant habitat areas. Development in natural habitats shall be controlled so as to minimize erosion and maximize beneficial vegetative growth.

ERM-1.3 Encourage Cluster Development. When reviewing development proposals, the County shall encourage cluster development in areas with moderate to high potential for sensitive habitat.

ERM-1.6 Management of Wetlands. The County shall support the preservation and management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats.

ERM-1.16 Cooperate with Wildlife Agencies. The County shall cooperate with State and federal wildlife agencies to address linkages between habitat areas.

ERM-1.17 Conservation Plan Coordination. The County shall coordinate with local, State, and federal habitat conservation planning efforts (including Section 10 Habitat Conservation Plan) to protect critical habitat areas that support endangered species and other special-status species.

City of Tulare General Plan

The City General Plan Conservation and Open Space Elements (City of Tulare 2014) include goals and policies that address biological resources. The following goals and policies pertain to biological resources and are relevant to the Project:

Goal COS-2 Preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the Urban Development Boundary (UDB).

Policy COS-P2.1 Protection of Rare and Endangered Species. The City shall support preservation, restoration, and enhancement of designated habitats of State or federally-listed rare, threatened, endangered and/or other sensitive and special status species.

Policy COS-P2.2 Protection of Natural Areas. The City shall support preservation, maintenance, restoration, and enhancement of natural systems, waterways, and open space.

Policy COS-P2.4 Site Planning. The City shall encourage site planning that incorporates and protects creek and wetland edges.

Policy COS-P2.5 Open Space Buffers. The City shall require buffer areas between development projects and significant watercourses, riparian vegetation, wetlands, and other sensitive habitats and natural communities.

Policy COS-P2.6 Planting of Native Vegetation. The City shall encourage the planting of native trees, shrubs, and grasslands to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation and wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.

Policy COS-P2.7 Valley Oaks. The City shall preserve mature Valley Oaks and their habitats located within the UDB to the extent possible.

City of Tulare California Code of Ordinances, Title 8, Public Ways and Property, Chapter 8.52, Preservation of Heritage Trees

Chapter 8.52 of the Tulare California Code of Ordinances identifies the City's Protected Tree Policies. This chapter establishes policies governing the removal and trimming of protected trees. The chapter states as follows:

> Section 8.52.020 Permit required to remove or destroy trees. No person shall destroy or remove any heritage tree growing on private or public property within the city limits without a permit.

A heritage tree is defined as:

> Any Valley Oak Tree (*Quercus lobata*), with a trunk diameter of two inches or greater at a point four and one-half feet above the root crown (also referred to as two inches D.B.H.), or any living tree designated by resolution of the Council as a historic tree because of an association of some event or person of historical significance to the community or because of special recognition due to the size, condition, or aesthetic qualities. Qualification as a heritage tree, except a Valley Oak Tree (*Quercus lobata*), will require the consent of the persons owning the property as of the date of the designation, and shall be based upon standards, including, but not limited to the following:
>
> A. Any tree which is indigenous to the area or which has adapted exceptionally well to the climatic conditions of the Tulare area, or is one of a kind;
> B. Any stand of trees the native of which makes each of its species dependent upon others for survival;

C. Any tree which has an exceptional size for its species or is a representative of a species, or outstanding specimen;
D. Any tree which has an exceptional age or size for its species; and
E. Any tree which has distinctive structural interest or is generally different.

Transit-Oriented Development Plan (TOD)

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City's General Plan documents. There are no specific biological resources related policies and measures contained in TOD. In the absence of applicable goals, policies, or implementation measures within the TOD, refer to the applicable policies, goals, and implementation measures of the City General Plan above.

4.4.3 Thresholds of Significance

The significance criteria used to evaluate Project impacts to biological resources are based on CEQA Guidelines Appendix G. Potential Project-related impacts analyzed in this section account for biological resources that occur or have the potential to occur on the Project site. According to CEQA Guidelines Appendix G, a significant impact related to biological resources would occur if the Project would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal wetlands and drainages, etc.) through direct removal, filling, hydrological interruption, or other means.
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The significance of impacts to biological resources was assessed by comparing the potential changes resulting from the proposed Project to these significance thresholds. An evaluation of whether or not an effect on biological resources would be "substantial" with respect to the significance thresholds generally considers the following:

- amount and/or extent of the resource (numbers, acres, etc.) to be affected versus preserved;
- the relative biological value (rarity, functions and values) and/or sensitivity status of the resource and its relevance within a specified geographical area;

- the type and severity of impact, (i.e., would the project adversely affect wildlife through mortality, injury, displacement, or habitat loss or adversely impact vegetation through destruction of a sensitive plant population?).
- timing of the impact, (i.e., would the impact occur at a critical time in the life cycle of a special-status plant or animal, such as breeding, nesting, or flowering periods?);
- duration of the impact, (i.e., whether the impact is temporary or permanent).

The analysis of direct and indirect impacts covers construction, operation, and maintenance of the proposed Project and associated infrastructure. Direct impacts include those that occur immediately as a result of the proposed Project on a particular biological resource. Indirect impacts include those that are caused by the proposed project later in time, but that are still reasonably certain to occur.

4.4.4 Methodology

Dudek completed a field survey and assessment of the Project site conducted by a qualified biologist on July 26, 2022. The potential for special-status species to occur on the site was initially determined through review of existing resource agency databases and published documentation, followed by the field survey to confirm presence of suitable habitat for such species. Potential impacts to biological resources related to project implementation were evaluated, including special-status species, plant communities, waters, wetlands, or riparian habitats, and migratory birds

4.4.5 Impacts Analysis

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

Less-than-Significant Impact with Mitigation Incorporated. The following evaluates the Project's potential direct and indirect effects on special-status plant and wildlife species as defined above.

Special-Status Plant Species

Direct Impacts

Fourteen special-status plant species are known to occur in the Project region per the results of a CNDDB search. Because of frequent disturbance to the Project site for ongoing agricultural production and the lack of suitable habitat for any of these species on the site, none of these species are expected to occur on the site. Therefore, construction of the proposed Project would have no direct or indirect impacts on special-status plants.

Special-Status Wildlife

Direct Impacts

Less-than-Significant Impact with Mitigation Incorporated. The following evaluates the Project's potential direct and indirect effects on three special-status wildlife species that could potentially occur onsite during construction activities: San Joaquin kit fox, burrowing owl, and Swainson's hawk.

San Joaquin Kit Fox

The Project site has been heavily disturbed due to past agricultural activities and provides marginal denning or foraging habitat for San Joaquin kit fox. In addition, no sign (e.g., tracks, scat, dens, prey remains) of kit fox presence was observed during the field survey. The loss of the site as low marginal foraging and habitat for kit fox is not expected to substantially affect populations of this species in the region. Per the results of the CNDDB search, one historic (1975) occurrence of San Joaquin kit fox was documented within 5 miles of the Project site (CDFW 2022a). While the species is not expected to den and/or breed on the Project site, individual foxes could temporarily move through the site in search of prey or during movements between larger open space areas in the region with more suitable foraging habitat. In the unlikely event that an individual kit fox could temporarily move onto or through the site prior to or during construction, proposed Project activities could result in injury or mortality to individual kit foxes. Because of the rarity of this species, which is federally listed as endangered and state-listed as threatened, the loss of a San Joaquin kit fox would be a potentially significant impact under CEQA absent mitigation. Implementation of mitigation measure MM-BIO-1 includes a requirement for pre-construction surveys, as well as standard measures recommended by the U.S. Fish and Wildlife Service to avoid impacts to San Joaquin kit fox prior to and during construction activities.

With implementation of MM-BIO-1 (Pre-Construction Survey for San Joaquin Kit Fox and Avoidance), potential impacts to San Joaquin kit fox would be reduced to less than significant with mitigation.

Burrowing Owl

The Project site provides marginally suitable foraging and nesting habitat for burrowing owls due to the disturbed nature of the site from ongoing and extensive agricultural production. For this reason, and the extensive amount of higher quality foraging and nesting habitat in the Project site vicinity, the loss of the site as low marginal foraging and nesting habitat for burrowing owls is not expected to substantially affect populations of this species in the region; therefore, the loss of burrowing owl habitat as a result of Project implementation would not represent a significant impact.

As previously noted, no burrowing owls or their sign (i.e., whitewash, pellets, prey remains, feathers) were observed during the biological survey conducted on the Project site. However, the potential of burrowing owls to utilize the ground squirrel burrows on site as temporary shelter, nesting, or over-wintering prior to Project implementation cannot be entirely ruled out. In the unlikely event that a single owl or pair of burrowing owls move onto the site prior to construction, ground-disturbance activities could result in injury or mortality to burrowing owls. Because this species is considered a Species of Special Concern by CDFW and is protected by provisions in the California Fish and Game Code addressing active bird nests and raptors, such injury or mortality would constitute a potentially significant impact under CEQA. MM-BIO-2 includes a requirement for a pre-construction survey for burrowing owls on the site, prescribes buffers for avoidance of occupied burrows, and describes when passive relocation may be used, if necessary, to exclude owls from the Project site.

With implementation of MM-BIO-2 (Pre-Construction Surveys for Burrowing Owl and Avoidance), potential direct impacts to burrowing owl would be reduced to less than significant.

Swainson's Hawk

A nest survey conducted during the site visit resulted in no observations of Swainson's hawk nests on the Project site or within 0.5 miles of the site. In addition, the CNDDB includes no recorded occurrences of nesting Swainson's

hawks within 1.0 mile of the site. While a few trees on the site could serve as suitable nesting habitat for this species, the Project site was determined to be marginally suitable as Swainson's hawk foraging habitat due to the highly disturbed nature of the site, ongoing agricultural operations, and the general lack of extensive areas of preferred foraging habitat (rangeland, grassland, low-growing grain or agricultural crop fields, etc.). As such, and because of the presence of extensive and undisturbed foraging habitat in the Project vicinity, the loss of the site as potential foraging habitat for Swainson's hawks, should they occur in the area, would not be expected to substantially affect regional populations of the species. Therefore, the loss of the site as potential foraging habitat for this raptor species would be a less-than-significant impact.

While no Swainson's hawk nests were observed during the Project site survey, the potential for a pair of Swainson's hawks to establish a nest on the Project site cannot be entirely ruled out. If construction activities occur during the Swainson's hawk nesting season (March 1 to September 15), and in the event that Swainson's hawks' nest within an existing tree on the Project site, indirect impacts through excessive noise or human activity associated with construction could potentially cause changes in nesting behavior of adult birds that could result in eventual abandonment of an active nest. Removal of an active nest during construction could also result in injury or mortality to eggs or young. Because Swainson's hawk is a state-listed threatened species, this would represent a significant impact under CEQA.

With implementation of MM-BIO-3, potential impacts to nesting Swainson's hawks would be reduced to less than significant with mitigation.

Nesting Migratory Birds and Raptors

Similar to most other sites containing trees, shrubs, and other vegetation, the Project site contains opportunities for birds of prey (raptors) and other avian species to nest on site. Native nesting bird species with potential to occur within the Project site are protected by California Fish and Game Code Sections 3503 and 3503.5, and by the federal MBTA (16 USC 703–711). In particular, California Fish and Game Code Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Currently, California considers any nest that is under construction or modification, or is supporting eggs, nestlings, or juveniles as "active." Therefore, impacts to nesting migratory birds and raptors would be significant under CEQA absent mitigation.

To ensure compliance with the California Fish and Game Code and MBTA and to avoid potential impacts to nesting birds, it is recommended that vegetation removal activities be conducted outside the general bird nesting season (February 1 through August 31, depending on the species). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey by a qualified biologist is required prior to vegetation removal; if active nests are found, appropriate non-disturbance buffers would be established around any active nests until young have successfully fledged. This represents a significant impact under CEQA.

With implementation of MM-BIO-4 (Pre-Construction Nesting Bird Surveys and Avoidance), direct impacts to nesting migratory birds and raptors would be less than significant.

Indirect Impacts

San Joaquin Kit Fox

Construction activities have the potential to result in short-term indirect impacts to San Joaquin kit fox, should any be passing through or foraging on the Project site during construction. Those impacts could include construction-associated dust, noise and vibration, trash and debris, increased human presence, vehicle collisions, and chemical spills. Should individual kit foxes occupy the Project site prior to construction, these short-term or temporary indirect impacts to kit foxes would be potentially significant under CEQA.

MM-BIO-1 would require a pre-construction survey for San Joaquin kit fox and, if determined present, would result in establishment of a San Joaquin kit fox monitoring and mitigation plan which would include avoidance and minimization measures to reduce potential indirect impacts. MM-BIO-6, MM-BIO-7, MM-BIO-8, and MM-BIO-9 would require that all workers complete a Worker Environmental Awareness Program (WEAP) training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. MM-BIO-11 would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. To reduce fugitive dust resulting from construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures which would limit the amount of fugitive dust generated during construction.

Implementation of MM-BIO-1 (Pre-Construction Survey for San Joaquin Kit Fox and Avoidance), MM-BIO-5 (Compliance Monitoring), MM-BIO-6 (Education Program), MM-BIO-7 (Construction Monitoring), and MM-BIO-8 (Hazardous Waste) and MM-BIO-10 (Trash and Debris) would reduce potential indirect impacts to San Joaquin kit fox to less than significant.

Burrowing Owl

Construction activities have the potential to result in indirect impacts to burrowing owls both on and immediately adjacent to the Project site, if this species occurs prior to and/or during Project construction. These impacts include dust, noise and vibration, trash and debris, increased human presence, vehicle collisions, and chemical spills. These potential short-term or temporary indirect impacts to burrowing owls would be potentially significant under CEQA.

MM-BIO-3 would require burrowing owl surveys be conducted prior to ground-disturbance activities and appropriate construction buffers established around any burrowing owl burrows found on or immediately adjacent to the Project site, thus minimizing most short-term indirect impacts. Additionally, MM-BIO-5, MM-BIO-6, and MM-BIO-7, would require that all workers complete WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements. MM-BI0-10 would require trash and debris to be removed regularly from the site during construction activities and would require animal-resistant trash receptacles to avoid attracting urban-related, predator species. MM-BIO-8 would ensure that a prompt and effective response to any accidental chemical spills would be implemented, and that repair and clean-up of any hazardous waste occurs. To reduce fugitive dust resulting from Project construction and to minimize adverse air quality impacts, the Project would employ dust mitigation measures which would limit the amount of fugitive dust generated during construction.

Implementation of MM-BIO-2 (Pre-Construction Surveys for Burrowing Owl and Avoidance), MM-BIO-4 (Pre-Construction Nesting Bird Surveys and Avoidance), MM-BIO-5 (Compliance Monitoring), MM-BIO-6 (Education Program), MM-BIO-7 (Construction Monitoring), MM-BIO-8 (Hazardous Waste), and MM-BIO-10 (Trash and Debris) would reduce potential indirect impacts to burrowing owl to less than significant.

Swainson's Hawk

Construction activities have the potential to result in indirect impacts to Swainson's hawk. Those impacts could include dust, noise and vibration, increased human presence, vehicle collisions, and night-time lighting that could adversely affect nesting Swainson's hawks on or adjacent to the Project site. These potential short-term or temporary indirect impacts to Swainson's hawk would be potentially significant under CEQA.

Post-construction (long-term) activities have the potential to result in indirect impacts to Swainson's hawk and their nesting habitat. Long-term impacts that could result from development adjacent to actively nesting Swainson's hawks include night-time lighting that could adversely affect nesting pairs. These potential long-term indirect impacts would be potentially significant under CEQA.

MM-BIO-3 would require conducting protocol surveys prior to construction that would occur during the Swainson's hawk nesting season and the establishment of an appropriate non-disturbance buffer around any Swainson's hawk nests found on or adjacent to the site until young have successfully fledged. MM-BIO-13 would require night-time lighting during construction within 50 feet of habitat for special-status species (including nesting Swainson's hawks) to be shielded downward. MM-BIO-6, MM-BIO-7, MM-BIO-8, and MM-BIO-9 would require that all workers complete a WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements.

Implementation of MM-BIO-4 (Pre-Construction Nesting Bird Surveys and Avoidance), MM-BIO-5 (Compliance Monitoring), MM-BIO-6 (Education Program), MM-BIO-7 (Construction Monitoring), and MM-BIO-9 (Nighttime Lighting) would reduce potential indirect impacts to Swainson's hawks to less than significant.

Nesting Migratory Birds and Raptors

Construction activities have the potential to result in indirect impacts to nesting migratory birds and raptors. Those impacts could include the loss of an active nest through increased dust, noise and vibration, increased human presence, and night-time lighting. Potential short-term or temporary indirect impacts to active bird nests would be significant under CEQA.

Potential post-construction (long-term) activities that have the potential to result in significant indirect impacts to migratory birds and raptors include nighttime lighting that may adversely affect active nests. This long-term indirect impact to migratory birds and raptors would be potentially significant under CEQA.

To ensure compliance with the California Fish and Game Code and MBTA and to avoid potential indirect impacts to nesting birds, vegetation removal activities should be conducted outside the general bird nesting season (February 1 through August 31, depending on the species). If vegetation cannot be removed outside the bird nesting season, a pre-construction nesting bird survey (MM-BIO-4) by a qualified biologist would be required prior to vegetation removal. Indirect impacts including increased dust, noise, and vibration, increased human presence, night-time lighting, and vehicle collision. MM-BIO-5, MM-BIO-6, and MM-BIO-7 would require that all construction workers complete a WEAP training, ongoing biological monitoring, and compliance with all biological resource mitigation requirements.

Implementation of MM-BIO-4 (Pre-Construction Nesting Bird Surveys and Avoidance), MM-BIO-5 (Compliance Monitoring), MM-BIO-6 (Education Program), MM-BIO-7 (Construction Monitoring), and MM-BIO-9 (Lighting) would reduce potential indirect impacts to nesting birds and raptors to less than significant.

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

Less-than-Significant Impact. As stated above in Section 4.4.1.2, Vegetation and Land Covers, and in the Biological Resources Assessment Section 4.1 (see Appendix C), the Project would result in permanent impacts to 231 acres of land cover types, including orchards, disturbed, and urban/developed lands, that are not considered sensitive by CDFW (see Figure 4.4-1). Therefore, no significant impacts to habitat or vegetation communities identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service would occur, and the impact is less than significant.

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

Less-than-Significant Impact with Mitigation Incorporated. The Project site currently supports one irrigation canal and several culverts along the canal which convey water in a southernly and westerly direction away from the site. The irrigation canal on the Project site consists of approximately 4,750 linear feet (0.9 miles) of a soft bottom ephemeral drainage. The canal feature is likely subject to CDFW and/or RWQCB jurisdiction based on evidence of a bed and bank. This feature could be subject to USACE jurisdiction if it meets the relatively permanent or significant nexus standard as a water of the United States.

Direct Impacts

As currently proposed, the irrigation canal would be replaced with an underground pipe that would be installed within the existing drainage bottom and continue to convey water through the Project site. A formal wetland delineation is recommended to be conducted to determine the extent of USACE, RWQCB, and/or CDFW jurisdiction.

Direct Impacts (dredge or fill) to aquatic features that are regulated under the federal Clean Water Act, the California Porter–Cologne Water Quality Control Act, and/or the California Fish and Game Code typically require permits from each of these regulatory agencies. These permits, in turn, typically entail providing mitigation to offset the impacts and the loss of identified beneficial uses, functions and values associated with the impacted water features.

MM-BIO-16 (Aquatic Resources Mitigation) would require obtaining permits from each of the regulatory agencies identified above. MM-BIO-6 (Designated Biologist Authority), MM-BIO-7 (Compliance Monitoring), MM-BIO-8 (Education Program), and MM-BIO-9 (Construction Monitoring) would require that all workers complete a WEAP training and would require ongoing biological monitoring and compliance with all biological resource mitigation requirements.

Including those measures outlined above, implementation of MM-BIO-5 (Compliance Monitoring), MM-BIO-6 (Education Program), MM-BIO-7 (Construction Monitoring), MM-BIO-8 (Hazardous Waste), and MM-BIO-11 (Aquatic Resources Mitigation) would reduce potential indirect impacts to jurisdictional aquatic resources to less than significant.

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

Less-than-Significant Impact. As discussed above in Section 4.4.1.7, Wildlife Corridors and Habitat Linkages, because the Project site does not provide for regional wildlife movement or serve as a regional wildlife corridor nor include any streams or water courses, Project development would not impede local or seasonal wildlife movement between large open space areas in the Project region. Therefore, no adverse or significant impacts would occur to wildlife movement corridors. In addition, because no native wildlife nursery sites, such as bat colony roosting sites or colonial bird nesting areas, occur on the Project site, development of the site would not impede the use of wildlife nursery sites by native species and impacts to native resident or migratory wildlife corridors would be less than significant.

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

Less-than-Significant Impact with Mitigation Incorporated. Chapter 8.52 of the City Code of Ordinances regulates and protects the preservation of heritage trees. As discussed above, two valley oak trees are located in the walnut orchard in the northwest portion of the Project site. The following analysis evaluates the Project's potential conflicts with the City's local policies and ordinances.

Valley Oak Trees

The City defines a heritage tree as any Valley oak tree (*Quercus lobata*) with a trunk diameter of two inches or greater at a point four and one-half feet above the root crown (also referred to as diameter at breast height or DBH); or any living tree designated by resolution of the City Council as a historic tree because of an association of the tree with a specific event or person of historical significance to the community; or if special recognition is given to a tree due to its size, condition, or aesthetic qualities. The two Valley oak trees on the Project site meet the definition of a City heritage tree based on trunk diameter being greater than two inches of DBH. Therefore, the loss of these trees as a result of Project development would be considered a significant impact under CEQA.

Implementation of MM-BIO-12 (Heritage Trees), consistent with the City Code of Ordinances, would reduce the impact to less than significant.

Threshold f: Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less-than-Significant Impact. The Project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the Project would not be in conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan and the impact is less than significant.

4.4.6 Mitigation Measures

MM-BIO-1 San Joaquin Kit Fox. The Project applicant shall have a qualified biologist conduct a pre-construction survey for San Joaquin kit fox no less than 14 days and no more than 30 days prior to any construction related activities. Surveys shall be conducted on the Project site

including within a 200-foot buffer zone within areas where legal access is available in order to evaluate and ascertain if kit fox is using the Project site. If an active kit fox den is observed within the work area or 200-foot buffer zone, the CDFW and USFWS shall be contacted prior to disturbance within 200 feet of the den to determine the best course of action. If no kit fox activity is detected, work shall continue as planned and a brief memorandum shall be prepared and submitted to the CDFW and USFWS after the completion of the pre-construction survey.

While San Joaquin kit foxes are not anticipated to access the site during construction, the Project applicant shall implement precautionary measures following the Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance developed by the USFWS (2011) as follows:

1. Project-related construction vehicles shall observe a 20-mph speed limit in all Project areas, except on county roads and state and federal highways; this is particularly important at night when kit foxes are most active. Nighttime construction shall be minimized. Off-road traffic outside of designated Project areas shall be prohibited.
2. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes, becoming trapped or injured. If a San Joaquin kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
3. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed regularly from the Project site during all construction activities.
4. Use of rodenticides and herbicides in the Project site shall be restricted as follows: All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide shall be used because of proven lower risk to kit fox.
5. Escape ramps shall be provided for all open trenches or ditches deeper than 2 feet to allow animals to escape.
6. Any contractor or construction employee who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to the overall Project contractor and biologist. The Project contractor or biologist shall contact the USFWS and CDFW immediately in the case of a dead, injured, or entrapped kit fox is encountered.
7. The USFWS and CDFW shall be notified in writing within 3 working days of the accidental death or injury to a San Joaquin kit fox during Project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information.

MM-BIO-2 Pre-Construction Surveys for Burrowing Owl and Avoidance. The Project applicant shall have a pre-construction burrowing owl survey completed by a qualified biologist no more than 14 days before initiation of site preparation or grading activities, and a second survey shall be completed

within 24 hours of the start of site preparation or grading activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction surveys, the Project site shall be resurveyed. Surveys for burrowing owl shall be conducted in accordance with protocols established in the 2012 Staff Report on Burrowing Owl Mitigation prepared by the California Department of Fish and Game (now California Department of Fish and Wildlife [CDFW]).

If burrowing owls are detected, a Burrowing Owl Relocation Plan shall be implemented in consultation with CDFW. As required by the Burrowing Owl Relocation Plan, disturbance to burrows shall be avoided during the nesting season (February 1 through August 31). Buffers shall be established around occupied burrows in accordance with guidance provided in the Staff Report on Burrowing Owl Mitigation or current version. No Project activities shall be allowed to encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that occupied burrows have been vacated or the nesting season has completed.

Outside of the nesting season, passive owl relocation techniques approved by CDFW shall be implemented. Owls shall be excluded from burrows in the immediate Project area and within a buffer zone by installing one-way doors in burrow entrances. These doors shall be placed at least 48 hours prior to ground-disturbing activities. The Project area shall be monitored daily for 1 week to confirm owl departure from burrows prior to any ground-disturbing activities. Compensatory mitigation for permanent loss of owl habitat shall be provided following the guidance in the Staff Report on Burrowing Owl Mitigation (current version).

Where possible, burrows shall be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe shall be inserted into the tunnels during excavation to maintain an escape route for any wildlife inside the burrow.

MM-BIO-3 Swainson's Hawk. Should initiation of construction be scheduled during the Swainson's hawk nesting season (February 1 through September 15), the Project applicant shall have pre-construction Swainson's hawk surveys conducted by a qualified biologist in accordance with the California Department of Fish and Wildlife (CDFW)-endorsed protocol for the Central Valley as detailed in the Swainson's Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Given the disturbed nature of the Project site, these surveys shall be conducted in areas of suitable nesting habitat within 0.25 miles of the site, including staging areas, where accessible. Pursuant to the protocols, surveys shall be conducted for at least two survey periods immediately prior to construction activities, if possible. If 21 days have lapsed from the end of the last survey to the beginning of construction activities, a pre-construction survey shall be conducted no more than 1 week prior to the start of scheduled construction activities during the Swainson's hawk nesting season.

For any active Swainson's hawk nest found within 0.25 miles of proposed construction activities, a no-disturbance buffer shall be established and maintained until, as determined by periodic monitoring by a qualified biologist, the nest is empty, and the young are no longer dependent on the nest. The actual no-disturbance buffer distance shall be determined by a qualified biologist and shall take into consideration the level and extent of construction disturbance; nesting phase of the active nest; existing vegetative, topographic, noise, or visual barriers between the nest and the Project site; and existing levels of human activity and land uses in the immediate area. The biologist shall prepare and issue periodic reports to the Client on the status of the nesting hawks, noting

whether hawks are still present and describing the stage of breeding activities and nesting behavior. Once the hawks have left the area, restrictions on construction shall be lifted. In addition, during the monitoring period, if any behaviors are observed indicating potential distress by the adult birds, the biologist will confer with the construction supervisors and CDFW to determine a course of action that will reduce distress levels for the nesting pair.

If a no disturbance buffer is not feasible, the Project applicant shall consult with CDFW to determine whether the Project can avoid take. If take cannot be avoided, the Project applicant may need to apply for an Incidental Take Permit pursuant to Fish and Game Code Section 2081(b), prior to initiating ground-disturbing activities.

MM-BIO-4 Pre-Construction Nesting Bird Surveys and Avoidance. Construction activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impact to birds that may be nesting in the survey area. If construction activities must occur during the migratory bird nesting season, the Project applicant shall have an avian nesting survey of the Project site conducted by a qualified wildlife biologist including within 500 feet of all impact areas to determine the presence/absence of protected migratory birds and active nests. The avian nesting survey shall be conducted within 72 hours prior to the start of construction. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate "no disturbance" buffer established around the nest, which shall be determined by a the biologist based on various criteria including existing visual, noise, or topographic barriers between the disturbance area and the nest; the type, timing, and extent of the disturbance activity; and the nesting phase (nest building, incubation, age of young, etc.) of active nests being avoided and construction personnel shall be instructed on the sensitivity of nest areas. The nest area shall be avoided until the nest is vacated and the juveniles have fledged, as determined by the biologist. The biologist shall serve as a construction monitor during those periods when construction activities shall occur near active nest areas to ensure that no inadvertent impacts on these nests shall occur. No Project activities shall encroach into established buffers without the consent of the monitoring biologist.

MM-BIO-5 Compliance Monitoring. A qualified biologist shall be on site daily, or as otherwise determined to be necessary, if active bird nests were detected during the pre-construction nest surveys (MM-BIO-4) to ensure established no-disturbance buffers are recognized and to determine when such nest are no longer active. The qualified biologist shall also conduct compliance inspections to minimize incidental impacts to other sensitive biological resources; prevent unlawful take of those resources; to ensure that signs, stakes, and fencing are intact; and to ensure that impacts are only occurring within the permitted development footprint. Weekly written observation and inspection records shall be prepared by the biologist that summarize oversight activities and compliance inspections and monitoring activities and be submitted to Client.

MM-BIO-6 Education Program. A Worker Environmental Awareness Program (WEAP) for all construction workers working in the Project area shall be administered before the initiation of any Project-associated ground disturbances occur. The WEAP shall consist of a presentation from a qualified biologist that includes a discussion of the biology and status of special-status animal species potentially occurring on the Project site and various biological resources mitigation measures described herein. Interpretation for non-English-speaking workers shall be provided if necessary, and the same instruction shall be provided to any new workers before they are authorized to

perform work in the Project area. Upon completion of the WEAP, employees shall sign a form indicating attendance at the program and that all protection measures are understood.

MM-BIO-7 Construction Monitoring. The Project applicant shall retain a qualified biological monitor to maintain a construction-monitoring notebook on site throughout the construction period, which shall include a copy of the biological resources mitigation measures with attachments and a list of signatures of all construction personnel who have successfully completed the Worker Environmental Awareness Program. The biologist and/or Project contractor shall ensure that a copy of the construction monitoring notebook is available for review at the Project site upon request by the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, and/or the City of Tulare.

MM-BIO-8 Hazardous Waste. If any fuel or hazardous waste leaks or spills occurs during construction activities, the Project applicant shall immediately stop work and, pursuant to state and federal statutes and regulations, arrange for repair and clean up by qualified individuals at the time of occurrence, or as soon as it is safe to do so.

MM-BIO-9 Nighttime Lighting. If nighttime lighting for construction activities and operations is required and is within 50 feet of the outside edge of areas containing habitat for special-status wildlife, as determined by the qualified biologist, lighting shall be directed away from those areas that contain habitat for special-status wildlife.

MM-BIO-10 Trash and Debris. The following avoidance and minimization measures shall be implemented during Project construction:

1. Fully covered trash receptacles that are animal-proof shall be installed on-site during construction and used by all construction workers to contain food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles shall be removed at least once a week from the Project site.
2. Construction work areas shall be kept clean of debris, such as cables, trash, and construction materials. All construction/contractor workers shall collect all litter, vehicle fluids, and food waste from the Project site on a daily basis and stored in a covered refuse container.

MM-BIO-11 Aquatic Resources Mitigation. The Project site supports aquatic resources that are potentially jurisdictional under the Army Corp of Engineers (ACOE), Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW). Prior to the initiation of any construction activity potentially affecting the onsite irrigation canal, the Project applicant shall conduct a formal jurisdictional delineation to determine whether or not the canal is considered waters of the U.S. and, if so, to determine the extent of the jurisdiction on the Project site. The delineation shall also serve to determine the extent of RWQCB and CDFW jurisdiction within the Project site. If the canal is considered under the jurisdiction of any or all of these resource agencies, impacts to jurisdictional areas shall require appropriate permits from each agency and implementation of any compensatory mitigation required in each permit to mitigate the loss of the biological functions and values of the canal. The compensatory mitigation ratio shall be determined in consultation with the appropriate agencies with the goal of no net loss of habitat functions and values. Potential compensatory mitigation options include purchasing mitigation credits from an agency-approved wetlands mitigation bank or paying an agency-approved in-lieu fee. Where direct impacts to jurisdictional aquatic resources can be avoided, exclusion fencing shall be installed

between the avoided aquatic resource and limits of disturbance to protect from indirect impacts. A qualified wetland specialist shall oversee and guide installation of exclusion fencing. Appropriate best management practices and spill prevention measures shall also be implemented to ensure protection of jurisdictional aquatic resources during Project construction.

MM-BIO-12 Heritage Trees. If Project construction requires removal of the on-site Valley oak trees that meet the City's definition of a heritage tree, the Project applicant shall obtain a heritage tree removal permit. Within seven days of receipt of the application, the Director shall inspect the premises whereon the heritage trees are located and shall issue an intended decision in writing as to whether or not the application will be approved, with or without conditions; provided, however, that failure to render an intended decision within such period shall not be deemed approval. The intended decision of the Director shall be based upon reasonable standards, including, but not limited to, the following:

A. The condition of the heritage tree with respect to its general health, status as a public nuisance, danger of falling, proximity to existing or proposed structures, interference with utility services and its status as host for plant, pest or disease endangering other species of trees or plants with infection or infestations.
B. The necessity of the requested action to allow construction of improvements or otherwise allow economic or other reasonable enjoyment of property.
C. The topography of the land and the effect of the requested action on soil retention, water retention and diversion or increased flow of surface waters.
D. The number, species, size, and location of existing trees in the area and the effect of the requested action on shade areas, air pollution, historic values, scenic beauty, and the general welfare of the city as a whole.
E. Good forestry practices such as, but not limited to, the number of healthy trees the subject parcel of land will support. In the intended decision on an application for a permit, the Director may attach reasonable conditions to ensure compliance with the stated purposes of this chapter, such as, but not limited to, a condition requiring up to two replacement trees from 15-gallon containers or larger, in a suitable location as substitutes for the removed tree or trees, at the sole expense of the applicant. Any such intended decision shall include a statement for the reasons for the decision.

4.4.7 Level of Significance After Mitigation

Threshold a Three wildlife species were determined to have a low to moderate potential to occur within the Project site and could occur during construction of the Project: burrowing owl, Swainson's hawk and San Joaquin kit fox. Suitable habitat for these three species would be directly impacted by the Project.

The Project could result in potentially significant impacts to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, including burrowing owl, Swainson's hawk, San Joaquin kit fox, and nesting migratory birds and raptors. Implementation of MM-BIO-1 through MM-BIO-12 is required to reduce impacts to **less than significant level**.

Threshold c: The Project could result in potentially significant impacts to jurisdictional waters as a result of Project activities. Implementation of MM-BIO-5 through MM-BIO-10 and MM-BIO-11 is required to reduce direct to **a less-than-significant level**.

Threshold e: Implementation of MM-BIO-12 (Heritage Trees), consistent with Chapter 8.52 of the City of Tulare Code of Ordinances would reduce potential impacts on Valley oaks to **less than significant**.

4.4.8 References

CDFG (California Department of Fish and Game). 2012. *Staff Report on Burrowing Owl Mitigation.* State of California Natural Resource Agency, Department of Fish and Game, May 7, 2012. Accessed July 2022. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843.

CDFW. 2022a. Rarefind 5: Commercial version. Online database. California Natural Diversity Database. CDFW, Biogeographic Data Branch. Accessed May 2020. https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data

CDFW (California Department of Fish and Wildlife). 2022b. "California Natural Communities List." Sacramento, California: CDFW, Vegetation Classification and Mapping Program. July 2022. Accessed January 2021. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

City of Tulare. 2014. *Tulare General Plan for the City of Tulare*. Accessed September 2022. https://www. https://www.tulare.ca.gov/home/showdocument?id=260.

CNPS (California Native Plant Society). 2022. *Inventory of Rare and Endangered Plants of California.* Online edition, Version 8-03. Sacramento, California: CNPS, Rare Plant Program. Accessed July 2022. http://www.rareplants.cnps.org/.

Coulombe, H.N. 1971. "Behavior and Population Ecology of the Burrowing owl, *Speotyto cunicularia*, in the Imperial Valley of California." *Condor* 73:162–176.

County of Tulare. 2012. General Plan 2012. Accessed July 2023. http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/000General%20Plan%202030%20Part%20I%20and%20Part%20II/GENERAL%20PLAN%202012.pdf

Gervais, J.A., D.K. Rosenberg, and L.A. Comrack. 2008. "Burrowing Owl (*Athene cunicularia*)." In *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California*, edited by W.D. Shuford and T. Gardali, 218–226. Studies of Western Birds no. 1. California: Western Field Ornithologists (Camarillo), and California Department of Fish and Game (Sacramento). February 4, 2008. Accessed December 11, 2012. http://www.dfg.ca.gov/wildlife/nongame/ssc/birds.html.

Green, G.A. and R.G. Anthony. 1989. "Nesting Success and Habitat Relationships of Burrowing owls in the Columbia Basin, Oregon." *Condor* 91:347–354.

Haug, E.A., B.A. Millsap, and M.S. Martell. 1993. "The Burrowing Owl (*Speotyto cunicularia*)." In *The Birds of North America*, edited by A. Poole and F. Gill. Philadelphia, Pennsylvania: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.

Lantz, S. J., H. Smith, and D.A. Keinath. 2004. *Species Assessment for Western Burrowing Owl* (Athene cunicularia hypugaea) *in Wyoming*. Prepared for the U.S. Department of Interior and Bureau of Land Management, Wyoming State Office, Cheyenne, Wyoming. September 2004.

Martin, D.J. 1973. "Selected Aspects of Burrowing owl Ecology and Behavior." *Condor* 75: 446–456.

Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation*. Second edition. Sacramento, California: California Native Plant Society.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley.

SWRCB (State Water Resources Control Board). 2019. *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Adopted April 2, 2019. https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf.

USDA (U.S. Department of Agriculture). 2022. "Web Soil Survey" USDA, Natural Resources Conservation Service. Accessed February 2022. http://websoilsurvey.nrcs.usda.gov/.

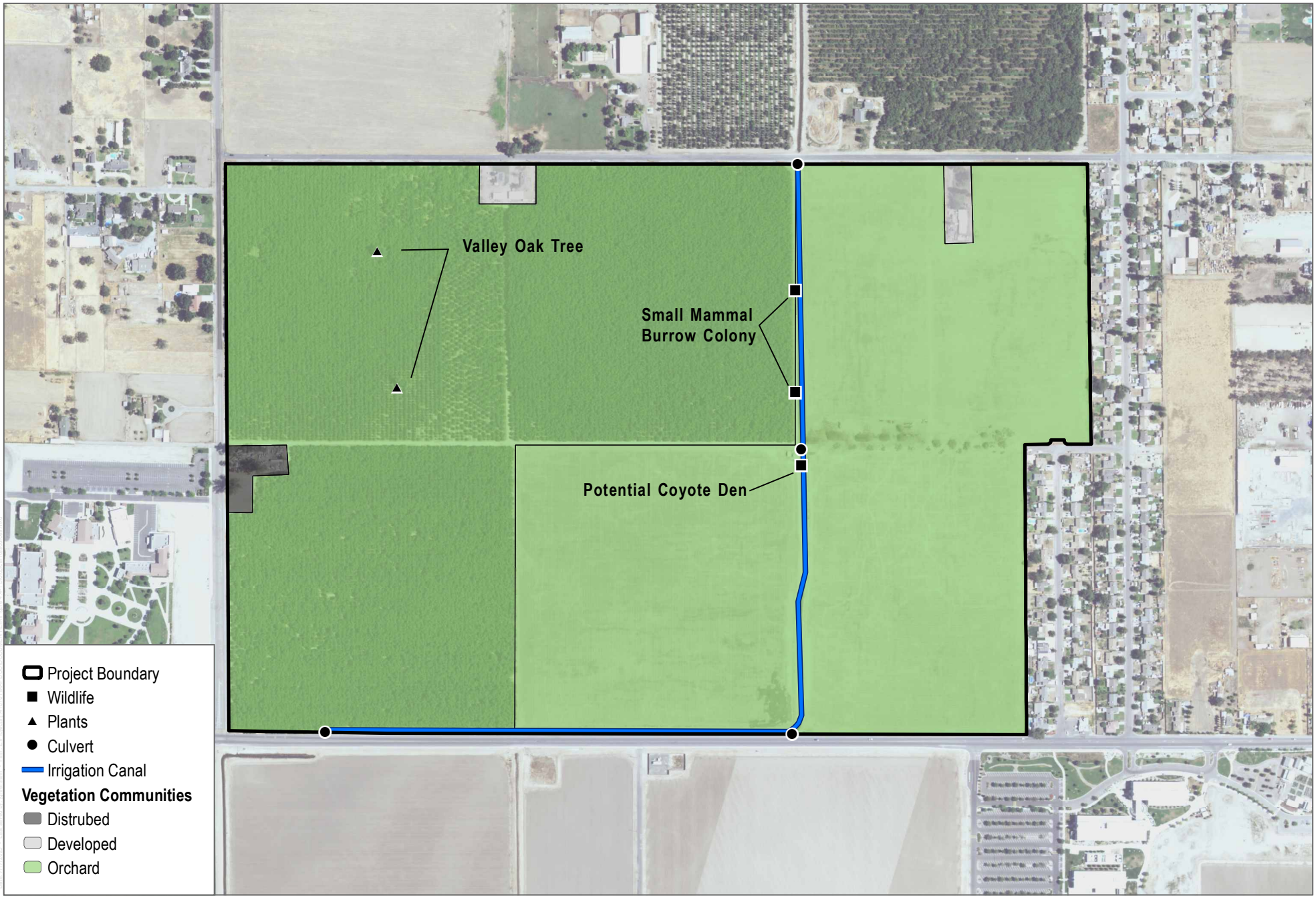
USFWS (U.S. Fish and Wildlife Service). 1998. Recovery Plan for Upland Species of the San Joaquin Valley, California. Portland, Oregon: U.S. Fish and Wildlife Service, Region One. September 1998.

USFWS. 2011. Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance. Sacramento, California.

USFWS. 2022a. Information for Planning and Consultation (IPaC). Accessed July 2022. https://ecos.fws.gov/ipac/

USFWS. 2022b. "National Wetlands Inventory." U.S. Department of the Interior, USFWS. Accessed July 2022. http://www.fws.gov/wetlands/.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990. *California's Wildlife*. Vol. II. Birds. Sacramento, California: California Department of Fish and Game.



SOURCE: NAIP 2020

DUDEK

0 250 500 Feet

FIGURE 4.4-1

Biological Resources

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK

4.5 Cultural and Tribal Cultural Resources

This section assesses potential effects on existing cultural and tribal cultural resources that could result from implementation of the Chandler Grove Master Plan and Annexation Project (Project or proposed Project). The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County LAFCO for the proposed project, LAFCO will consider including additional land west of the project site (see Figure 3-6) for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Cultural resources are defined as prehistoric or historic-period archaeological resources, Native American resources of cultural and religious significance, historic-period architectural resources, and historic period engineering features, including canals and railroad resources. This section describes the cultural setting of the Project site, discusses known resources within the Project site, and also identifies the resource sensitivity of the site.

Information contained in this section is based on publicly available data as well as survey and evaluation of cultural and tribal cultural resources and the built environment within the Project Site and surrounding area, including the following:

- Appendix D-1 Archaeological Resources Inventory Report for the Chandler Grove Annexation Project, Tulare County, CA, prepared by Dudek (2022)
- Appendix D-2 Built Environment Inventory and Evaluation Report for the Chandler Grove Master Plan and Annexation Project, Tulare County, CA, prepared by Dudek (2022)

Other sources consulted are listed in Section 4.5.8, References, of this section.

One comment letter was received from Native American Heritage Commission (NAHC) in response to the Notice of Preparation, which included recommendations for tribal consultation and consulting legal counsel regarding compliance with Assembly Bill 52, Senate Bill 18, and applicable laws. The Notice of Preparation and comments received are provided in Appendix A.

4.5.1 Existing Conditions

The entirety of the Project site consisted of orchards, dirt roads, and three properties that include three residences located at; 12607 and 12609 Avenue 228 (APNs: 184-050-007, 184-050-034, 184-050-035); and 12905 Avenue 228 (APN: 184-050-010). Information on the age and condition of these residences is provided below. The ground surface of the Project site has been highly disturbed by previous agricultural activities. No major rivers, stream, or drainages flow through the Project site; however, a segment of the Bates Slough Ditch transects the Project site along with three concrete culverts located within the Project site.

Prehistoric Context

The following provides a brief background on the prehistory of the area; please see Appendix D for more specific details on the prehistory and ethnography.

Paleoindian Period (ca. 12,000 to 9000 BP)

There is reasonably ample evidence of human habitation in the southern San Joaquin Valley dating to approximately 12,000 years ago, although this does not appear to be the case in the central and southern Sierra Nevada. While few sites of Paleoindian age have been identified in the southern valley, occupation is known to date to at least 11,000 years ago (e.g., Fenenga 1993; Fredrickson and Grossman 1977; Riddell and Olsen 1969; Siefkin 1999; Wallace 1991; Wallace and Riddell 1988). Most of the evidence for a Paleoindian presence in the valley has been limited to surface finds of fluted projectile points (see below). In the adjacent Sierra Nevada, the few known isolated fluted points suggest that people spent little time there, perhaps because it was too cold during this period of time.

As noted above, the evidence for a Paleoindian occupation in the Sierra Nevada and southern valley has been in the form of numerous fluted, concave base (Clovis or "Clovis-like") projectile points, along with other artifacts presumed to be Paleoindian in age (e.g., "humpies" and crescents; see Fredrickson and Grossman 1977; Sampson 1991). Such artifacts have been collected from surface contexts in several locations, most notably from the southern shoreline of Tulare Lake to the southwest of Yokohl Valley. Unfortunately, most of these discoveries have been made by amateur collectors, many of whom were collecting illegally, so virtually no provenance has been provided for these artifacts. This has resulted in an enormous and irretrievable loss of data for understanding the Paleoindian Period in this region.

Early Period (ca. 9000 to 6000 BP)

Evidence for the Early Period in the southern San Joaquin Valley and the southern and central Sierra Nevada is meager. During this period, however, it is believed that human subsistence was based largely on the hunting of large game and fishing (Sutton 1997:12). Grinding implements, such as mortars, pestles, milling stones, and manos, appear infrequently during this time in the archaeological record. Other types of artifacts in these assemblages include hand-molded baked clay net weights, Olivella and Haliotis shell beads and ornaments, charmstones, and stemmed projectile points. Bone artifacts are uncommon. Burials are typically fully extended, oriented to the west, and generally have associated artifacts (e.g., quartz crystals). Cremations are rare (Moratto 1984:181–182; Sutton 1997:12).

Middle Period (ca. 6000 to 3000 BP)

After about 6,000 years ago, the climate became generally warmer, and there appears to have been fairly substantial use of upland and foothill environments in the central Sierra Nevada during the Middle Period. This time period is characterized by a more diversified and generalized subsistence pattern (Moratto 1984:183; Sutton 1997:12). While hunting, fowling, and fishing continue to be the focus of subsistence activities, an increased emphasis on seed processing (particularly acorns) is evident. Artifacts include Olivella and Haliotis beads and other ornaments, distinctive spindle-shaped charmstones, cobble mortars, chisel-ended pestles, and large projectile points (inferring use of the atlatl) (Moratto 1984:183; Sutton 1997:12). Extensive use is evident of bone tools, such as awls, fish spear tips, saws, and flakers. Burials are tightly flexed and have few associated artifacts. At the same time, there is a slight increase in the number of cremations. Evidence of violent death is common, as indicated by disarticulated skeletons with embedded weapon points (Moratto 1984:183).

Late Period (ca. 3000 to 150 BP)

The Late Period is divided into four phases with associated marker traits: (1) the Early Late Period (3000 to 1500 BP, intensification of acorns, large corner-notched points (Elko series); (2) Late Period Phase 1 (1500 to 700 BP), introduction of bow and arrow, Rose Spring series arrow points, acorn-based economies, extensive trade; (3) Late Period Phase 2 (700 to 300 BP), large middens, Desert series arrow points (Desert Side-notched and Cottonwood types); and (4) Late Period Phase 3 (300 to 150 BP), ethnographic groups, historic trade goods.

During the Late Period in general, subsistence began to focus on the processing of acorns and other plant foods, with a decreased emphasis on hunting, fowling, and fishing (Moratto 1984:183; Sutton 1997:12). Typical artifacts of this period include Olivella beads, Haliotis ornaments, stone beads and cylinders, clamshell disk beads, tubular smoking pipes of schist and steatite, arrow shaft straighteners, flat-bottomed mortars, cylindrical pestles, and small side-notched projectile points for use with the bow and arrow. Burials are often in flexed positions and cremation is more common than during the Middle Period (Moratto 1984:183).

The Late Period is the best represented time period in the southern San Joaquin Valley. In the adjacent Buena Vista Lake Basin, however, there appears to be a brief hiatus at approximately 2,000 BP, after which time there appears to have been greater activity around lakeshore sites (Hartzell 1992:304–305). Subsequent deteriorating environmental conditions apparently led to decreased activity and diminished occupation (Hartzell 1992:312; also see Sutton 1997; but for alternative views, see Fenenga [1992] and Siefkin [1999]).

Ethnographic Setting

The Southern Valley Yokuts, Foothill Yokuts, Monache, and Tubatulabal inhabited Tulare County (County of Tulare 2010). The Southern Valley Yokuts occupied the largest territory, with the Diablo Range on the west, Sierra Nevada foothills on the east, Kings River to the north, and Tehachapi Mountains to the south. The Foothill Yokuts inhabited the western slopes of the Sierra Nevada, between the Kern River and Fresno River. The Monache inhabited the Sierras east of the Foothill Yokuts. The Tubatulabal inhabited the Sierra Nevada Mountains, extending westward near the Kern River and near Mt. Whitney in the east (County of Tulare 2010).

Historic Setting

The Southern San Joaquin Valley, prior to contact was dominated by the Yokut people, who had over 50 individual tribes and settlements throughout Tulare, Kings, Kern and Fresno counties. During the Spanish Era, the influence of the missions did not reach into the interior of the San Joaquin Valley, as much as it extended along the coast. Several Spanish explorers, including Don Pedro Fages and Father Francisco Garces, and Father Juan Martin traveled through Tulare County, but at that time, the region was dominated by an interior lake and swampland subsequently named the valle de tulares. Between 1769 and 1809, Spanish influence appears limited to occasional missions, without any permanent settlements or outposts established. Political strife in Mexico, beginning in 1810, eventually led to the withdrawal and consolidation of Spanish resources to the missions and the major pueblos in Alta California, and in 1821, Mexico emerged independent of Spain (Mitchell 1974:9–11).

While Mexico consolidated its power and secularized missions in the aftermath of their war for independence, Mexican governors largely left the southern San Joaquin Valley alone. Instead, American, French, Russian, and Canadian trappers and explorers appear to have made inroads into the interior San Joaquin Valley. In 1825–1826, Jedediah Smith and a group of fur trappers are reported to have reached Tulare Lake after crossing the Sierra Nevada, followed by Kit Carson, Ewing Young, and an explorer party in 1831. Later John C. Fremont made

an account of the region during his visit in 1844, which after its publishing attracted many American settlers to the region. Other trappers and hunters made expeditions to present-day Tulare County, but no permanent non-Native American settlements were made in Tulare County until the American Period (Menefee and Dodge 1913:5–6; Mitchell 1974:12).

From 1846 to 1848, territorial disputes between Euro-American settlers carried out the Mexican-American War, and Mexico was forced to abandon control of Alta California, culminating in the Treaty of Guadalupe Hidalgo. When California was admitted to the United States in 1850, it was divided into counties and Tulare County was then part of Mariposa County, one of the largest in the state. In 1852, Mariposa County was divided, and the southernmost portion became Tulare County. A few decades later, Tulare County was again divided into Tulare, Fresno, Kern, Kings, and Inyo counties (Mitchell 1974:12–13).

During the 1849 gold rush, a land boom took place when many settlers came to Tulare and worked claims in the foothills and western slopes of the Sierra Nevada. Cattle were raised by local ranchers to feed the miners. Due to its mild climate and fertile soil, one-fourth of the county's terrain was usable for agriculture. Tulare County became a significant agricultural hub with major agricultural resources that include barley, oats, wheat, corn, cotton, and alfalfa. Common crop trees include apples, pears, peaches, plums, figs, apricots, oranges, lemons, and limes (Elliot 1883:19–59; Mitchell 1974:9–70).

In 1852, the Matthew Brothers, millers from Iowa, were among the first settler to plant fields of corn and wheat near Visalia. By 1860, ranchers and farmers homesteaded the area near Tulare, planting citrus and nut trees. During this period, one of the largest deciduous fruit orchards in California was at the Paige and Martin Ranch near Tulare. The ranch had its own water wells and miles of irrigation ditches. North of Tulare was Tagus Ranch, which became the world's largest growers of peaches. In the early 1860s, the orange industry in the county started with Mrs. Huffman and Mrs. Gibbons who planted orange seeds in Visalia. Seeds from their orange trees were planted throughout Tulare County on family orchards and still bear fruit. Citrus fruits were primarily planted in the north half of the county and grain farming shifted west and to the south half of the county. Also in the early 1860s, the first dairy in the county was established north of the City of Tulare by Dr. W. F. Cartmill. Dr. Cartmill sold dairy products to miners. A livestock-adjacent industry, alfalfa to feed these dairy cows also became a popular crop in the county. In 1862, a catastrophic flood decimated the San Joaquin Valley's agriculture, resulting in failed crops and killing thousands of livestock. The years after this flood were also marked by a severe, multiyear drought. The San Joaquin Valley recovered by the late 1860s with over 3,000 acres of wheat planted. By 1871, orchard crops had returned, and walnuts were introduced near Visalia (Mitchell 1974:9–70).

In 1872, the population of Tulare County rose with the completion of the Southern Pacific Railroad. The Southern Pacific route ran north to south through the San Joaquin Valley and passed through the City of Tulare. The railroad enabled large-scale farming by handling transportation of goods throughout the state. As a result, by 1887 Tulare County became one of the largest wheat producers in the United States with thousands of acres planted (Dumermuth 2020; Mitchell 1974:9–70).

As a result of the increase in agricultural production, irrigation infrastructure that supported this practice grew. In 1887, the Wright Irrigation Act was passed, which allowed private property owners to co-own an irrigation district and seek water rights. Prior to this legislation, riparian rights were used, which entitled any watercourse-adjacent landowner to divert a portion of that water, and this became difficult to attain as more settlers appeared and more farms were established in the area. After the passage of the Wright Irrigation Act, a proliferation of such irrigation districts and irrigation canals proliferated around the Cities of Tulare and Visalia. Early irrigation companies included the Consolidated People's Ditch Company, Kaweah Canal & Irrigation Company, Kaweah and

Mill Creek Water Company, Tulare Irrigation District, Wutchumna Water Company, Lakeside Ditch Company, Bliss and Hyde Ditch Company, Farmer's Ditch Company, Lindsay-Strathmore Irrigation District, Settlers Ditch Company, and others. These districts utilized Tule River and Kaweah River, and smaller tributaries Deep Creek and Outside Creek to provide natural irrigation sources for such companies in the area surrounding City of Tulare (Grunsky 1898:14–35; Zack 2017:16–18, 35, 44).

The economic backbone of Tulare County remained agriculture well into the twentieth century, diversifying from wheat, citrus, and dairy to an array of crops. Despite another major flood in 1906, which again disrupted the agriculture industry in Tulare County, in 1911, alfalfa became the dominant crop of Tulare County, with over 8,000 acres under cultivation. In addition to alfalfa, corn was planted across 3,000 acres. During the 1910s, the dairy industry grew. The number of dairy cows quadrupled, and creameries opened in Tulare. The dairy industry was one of the main industries in the city of Tulare, with facilities located west of the Project site. In addition, walnuts became a multimillion-dollar industry by the 1920s and large-scale cotton crops emerged across thousands of acres. The fruit industry boomed as well during this time due to the advancement of refrigeration of trucks and freight cars for cold storage. (Cone 1911:26–28; Mitchell 1974:9–70).

In addition to intensive agricultural development, residential development emerged with the advancement of cars and the road system, including the introduction of a north–south, east–west street grid outside of major cities. As a result of the increased connectivity of Tulare County communities, between 1910 and 1940 the population of Tulare County swelled from 35,440 to 107,152. After the Depression years, World War II brought in more people to California and to Tulare County, to work in the war industries including agricultural production for the war effort. After World War II ended in 1948, the population in the County had expanded to 149,264 in 1950 (Mitchell 1974:9–70; Zack 2017:87–89).

Freeways were built through the valley, which attracted roadside commercial development in areas such as Visalia and Tulare. The City of Tulare developed with residences and commercial businesses, while in the unincorporated area to the east was still dominated by large farms. Nearby Visalia, north of the Project site, developed to the south over time. During the 1960s, agriculture transitioned from wheat and grain to diverting land to other crops. By this time, San Joaquin Valley produced nearly ninety percent of cotton in California. The City grew over time. Between the 1960s and 1980s, the City began expanding to the west and east, and the areas became suburbanized as farms were traded for residences. The eastern boundary line of the city expanded to Road 124, the western edge of the Project site. Between the 1980s and 1990s, the City experienced development to the north. By the 1990s, the City expanded east toward the agricultural landscape and Project site as the population grew. The City has slowly grown about 3% between the 1990s and 2010s (Tulare General Plan 2014:15; Mitchell 1974:9–70; NETR 2022).

Background Research

Records Search

A California Historical Resource Information System (CHRIS) records search was completed by the Southern San Joaquin Valley Information Center (SSJVIC) at California State University Bakersfield on July 25, 2022. The results of the SSJVIC records search indicated that five previous reports have been recorded within 0.5 miles of the Project site. Of the five total reports, three reports intersect portions of the Project site. Table 4.5-1 summarizes the previous reports prepared in the Project vicinity (Appendix D).

Table 4.5-1. Previous Cultural Resources Studies

Report Number	Authors	Date	Title
Previous Studies Intersecting the Project Site			
TU-00041	Self, William	1995	Class I Overview, Santa Fe Pacific Pipeline Partners, L.P., Proposed Concord to Colton Pipeline Project
TU-01190	Mitchell, Annie R.	1957	Jim Savage and the Tulareño Indians
TU-01775	Whitney, Devin, and Dubois, Autumn	2016	Archaeological Assessment TCNS ID#141263 Proposed 74-Foot Monopole Telecommunications Structure, American Towers LLC, Tulare, Tulare County, California
Previous Studies Within 0.5 Miles of the Project Site			
TU-01353	Parr, Robert E.	2008	Archaeological Survey of 16 Deteriorated Power Poles on Southern California Edison Company, Skinkle, Gillette, Sunset, Granite, Sargent, Zante, Cattle, and Hack, 12 kV Circuits, Tulare County, California
TU-01498	Leach-Palm, Laura, Paul Brandy, Jay King, Pat Mikkelsen, Libby Seil, Lindsay Hartman, and Jill Bradeen	2010	Cultural Resources Inventory of Caltrans District 6 Rural Conventional Highways in Fresno, Western Kern, Kings, Madera, and Tulare Counties

Source: Appendix D.

The records search did not identify any cultural resources within the Project site. There was one cultural resource located within a 0.5-mile radius of the Project site (Table 4.5-2) (Appendix D).

Table 4.5-2. Previously Recorded Cultural Resources

Primary Number	Trinomial	Name	Type	Age	Attributes
Previously Recorded Sites Intersecting the Project Site					
None					
Previously Recorded Sites within 0.5 Miles of the Project Site					
P-54-004621	CA-TUL-002877H	JTU-106; Bates Slough Ditch	Structure	Historic	Canal/Aqueduct

Source: Appendix D.

Previously Recorded Built-Environment Resources

The SSJVIC records indicate that one previously recorded cultural resource was identified within the 0.5-mile buffer. This record (P-54-004621) documents a segment of the Bates Slough Ditch, a built-environment resource. Although the recorded segment of this resource falls outside of the Project site, it is a linear resource that extends south beyond its currently recorded limit, and another segment of the Bates Slough Ditch intersects the Project site for nearly 1 mile of its total length. It is a north-south trending irrigation ditch structure located on both sides of SR-137 (Lindsay Avenue) between mileposts 19.08 and 19.89, passing under SR-137 via a concrete, double barrel culvert, dating between 1927 and 1951.

Archival Research

In addition to the SSJVIC records search results, building development and archival research was conducted for the Project site in order to establish a thorough and accurate historic context for the significance evaluations and to confirm the building development history of the buildings and structures within the Project site. Dudek accessed several archival repositories, historical records, and related additional reports and are summarized in more detail in the historic built environment report for the Project (Appendix D).

Historical Map and Imagery Review

The Project site is currently planted with orchards but does also contain three residential buildings, associated outbuildings, and a ditch that traverses the site. Topographical maps and historical aerial images indicate that the Project site had only been used in the past for agricultural purposes and do not indicate any natural drainages or topographical features of any kind within the Project site.

The historical aerials were also used to obtain approximate dates of construction and dates of alterations for buildings and structures within the Project site. Two properties were located within the Project site that include buildings that are over 45 years in age and subject to demolition as a result of the Project:

- 12607 and 12609 Avenue 228 (APNs: 184-050-007-000, 184-050-034-000, and 184-050-035-000)
- 12905 Avenue 228 (APN: 184-050-010-000)

Geomorphology

The ground surface of the Project site has been highly disturbed by previous agricultural activities. The USGS characterized deposits in the region as Quaternary alluvium and marine deposits (NRCS 2022). No major rivers, streams, or drainages flow through the Project site, although the Elk Bayou lies 1.4 miles to the southeast. Although the Project site itself would have likely been dry grassland, its proximity to the Elk Bayou would have made this spot an attractive place to reside while exploiting these resources. The low elevation and level ground at the Project site indicate the area could have been subject to seasonal flooding from the Elk Bayou, inundating and shifting alluvial sedimentation since the Holocene during wetter years.

Based on review of the results from previous technical studies completed in the vicinity, little remains of undisturbed ground surface conditions and few archaeological surface deposits have been located in the area. Given the level of disturbance, the Project site has limited potential to support the presence of intact cultural deposits on the surface.

Cultural Resources Pedestrian Survey

Dudek archaeologists conducted an intensive-level pedestrian cultural survey of the Project site on August 31 to September 2, 2022. The entirety of the Project site consisted of orchards, dirt roads, and three properties. Evidence for buried cultural deposits was opportunistically sought through inspection of the undisturbed areas. The soils appeared to be mostly medium brown silty sand with extremely low rock content. Ground visibility ranged from excellent to good, with some portions of the Project site obscured by grass in between the orchard rows. No archaeological resources were observed within the Project site.

Built Environment Pedestrian Survey

In addition to the archeological survey, Dudek architectural historians conducted an intensive level built environment survey on September 1, 2022 of those properties containing built resources over 45 years in age, which include: 12609 Avenue 228 (APNs: 184-050-007 and 184-050-035), 12905 Avenue 228 (APN: 184-050-010), and the Bates Slough Ditch. Three properties, described in detail below, contain buildings and structures over the age of 45 (historic age).

Property 1 includes six historic-age buildings or structures located at 12607 and 12609 Avenue 228 (APNs: 184-050-007, 184-050-034, and 184-050-035). Building 1 is a single-family residence at 12607 and 12609 Avenue 228 consisting of a one-story building with an L-shaped plan and horizontal siding that appears to be constructed or moved to the property circa 1961-1967. Building 2 is a modified Quonset hut garage or vehicle storage building that appears to be constructed circa 1969-1972. Building 3 is a single-family residence located at 12609 Avenue 228 consisting of a one-story residence reflecting a Folk National style and appears in the earliest historical aerial image of 1937. Building 4 is a rectangular plan garage which appears to be constructed circa 1961-1967. Ancillary Structure 5 is a well, pump, and generator under a metal canopy structure appearing in aerial photographs circa 1989-1994. Ancillary Structure 6 is an open-air garage or shed with metal framing located between Avenue 228 and E. Bardsley Avenue and appears in aerial photographs circa 1972-1984.

Property 2 contains four historic-age buildings or structures located at 12905 Avenue 228 (APN: 184-050-010). Building 1 is a rectangular plan residence at 12905 Avenue 228 appearing on a historic aerial of 1946. Building 2 is a rectangular plan shed appearing in aerial photographs circa 2014-2016. Building 3 is a rectangular plan shed appearing in aerial photographs circa 1969-1984. Ancillary Structure 4 is a round silo structure several stories high and constructed of concrete and appears to be constructed circa 1946-1952.

Property 3 is limited to one historic-age linear structure, the Bates Slough Ditch that crosses the Project site. It is an earthen trapezoidal ditch that functions as an irrigation ditch and appears in a 1946 historical aerial image. The Bates Slough Ditch has three concrete culverts within the Project site. The total length of the segment within the Project site spans 4,738 feet.

Historic Structures

As a result of research, review of previous reports and records, and evaluation for historical significance of the three properties within the Project site, the buildings at 12607 and 12609 Avenue 228 (Property 1 APNs: 184-050-007, 184-050-034, and 184-050-035), 12905 Avenue 228 (Property 2 APN: 184-050-010), and the Bates Slough Ditch (Property 3 P-54-004621) are not recommended eligible for listing in the NRHP, CRHR, or Tulare County register either individually or as part of a multi-property district.

The 12607, 12609, and 12905 Avenue 228 properties are not significant under any criteria, does not have a period of significance, and the integrity of these properties do not require further examination. The Bate Slough Ditch (Property 3) is also not significant under any criteria, does not have a period of significance, and the integrity of the property does not require further examination.

Therefore, no historical resources for the purposes of CEQA are within the Project site. Table 4.5-3 summarizes these findings.

Table 4.5-3. Findings of Potential Effects

Property Name	Property Type	NRHP/CRHR Significance Criteria	California Historical Resource Status Code	CEQA Finding for Historical Resources
12607 and 12609 Avenue 228 (APNs: 184-050-007-000, 184-050-034-000, and 184-050-035-000)	Residential/ Agricultural Property	Not eligible	6Z: Found ineligible for NR, CR or local designation through survey evaluation	No Impact
12905 Avenue 228 (APN: 184-050-010-000)	Residential Property	Not eligible	6Z: Found ineligible for NR, CR or local designation through survey evaluation	No Impact
Bates Slough Ditch	Linear Irrigation Feature	Not eligible	6Z: Found ineligible for NR, CR or local designation through survey evaluation	No Impact

Source: Appendix D.

Native American Coordination

NAHC Sacred Lands File Search

Dudek contacted the NAHC on July 25, 2022, to request a search of its Sacred Lands File (Attachment B of Appendix D-1). The results of this search are still pending.

Assembly Bill 52 Consultation

The Project is subject to compliance with Assembly Bill (AB) 52 (California Public Resources Code [PRC] Section 21074), which requires consideration of impacts to Tribal Cultural Resources (TCRs) as part of the CEQA process and requires the lead agency to notify any tribal groups (who have requested notification) of the proposed Project. Pursuant to AB 52, the City sent Project notification letters on September 2, 2022 to the Santa Rosa Rancheria Tachi Yokut Tribe, Tubatulabals of Kern Valley, Tule River Indian Tribe, Wuksache Indian Tribe/Eshom Valley Band, and Kern Valley Indian Community.

Because AB 52 is a government-to-government process including consultation regarding sensitive information, all records of correspondence related to AB 52 notification and any subsequent consultation are on file with the City. The notification letters contained a Project description, outline of AB 52 timing, an invitation to consult, a Project location map, and contact information for the appropriate lead agency representative. The City did not receive a response from any of the tribes pertaining to AB 52 consultation.

Senate Bill 18 Consultation

The Project is requesting a General Plan Amendment and Specific Plan Amendment; therefore, it is subject to compliance with Senate Bill (SB) 18 (Government Code Section 65352.3), which requires local governments to invite California Native American tribal representatives to participate in consultation about proposed General Plan and Specific Plan adoptions or amendments. This process is separate from AB 52, discussed above. The City is considering an amendment to the General Plan for the parcels within the Project site; therefore, pursuant to SB 18, the City sent Project notification letters on September 2, 2022 to the Santa Rosa Rancheria Tachi Yokut

Tribe, Tubatulabals of Kern Valley, Tule River Indian Tribe, Wuksache Indian Tribe/Eshom Valley Band, and Kern Valley Indian Community. The letters contained a project description, request for consultation, and contact information for the appropriate lead agency representative. Documents related to SB 18 consultation are on file with the City. All evidence of communication resulting for tribal consultation is on file with the City. The City did not receive a response from any of the tribes pertaining to SB 18 consultation to date.

4.5.2 Relevant Regulations, Plans, Policies, and Ordinances

Federal, state, and local governments have developed laws and regulations designed to protect and preserve significant cultural resources that may be affected by actions that they undertake or regulate. The National Historic Preservation Act (NHPA) and CEQA are the basic federal and state laws governing the preservation of historic, archeological, and TCRs of national, regional, state, and/or local or tribal significance within the state.

Cultural resources are defined as prehistoric or historic-period archaeological resources, Native American resources of cultural and religious significant, historic-period architectural resources, and historic-period engineering features, including canals and railroad resources. TCRs are defined as 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 or that is either 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 (PRC) Section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the new resource to a California Native American tribe.

Federal

National Register for Historic Places

The National Register of Historic Places (NRHP) was established by the NHPA of 1966 as “an authoritative guide to be used by federal, State, and local governments; private groups; and citizens to identify the nation’s historic resources and indicate what properties should be considered for protection from destruction or impairment” (36 CFR 60.2). The NRHP recognizes both historical-period and prehistoric archaeological properties that are significant at the national, State, and local levels.

While there is no federal nexus for this Project, the subject properties were evaluated in consideration of NRHP designation criteria. The NRHP is the United States’ official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service, under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act, as amended. Its listings encompass all National Historic Landmarks, as well as historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation’s history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history.

In addition to these basic evaluation criteria, the NRHP outlines further criteria considerations for significance. Moved properties; birthplaces; cemeteries; reconstructed buildings, structures, or objects; commemorative properties; and properties that have achieved significance within the past 50 years are generally not eligible for the NRHP. The criteria considerations are exceptions to these rules, and they allow for the following types of resources to be NRHP eligible (NPS 1995:25):

A. a religious property deriving primary significance from architectural or artistic distinction or historical importance;
B. a building or structure removed from its original location, but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event;
C. a birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life;
D. a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, from association with historic events;
E. a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;
F. a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
G. a property achieving12 significance within the past 50 years if it is of exceptional importance.

Once the significance of a resource has been determined, the resource then must be assessed for integrity. Integrity is 1) the ability of a property to illustrate history and 2) possession of the physical features necessary to convey the aspect of history with which it is associated (NPS 1995:44). The evaluation of integrity is grounded in an understanding of a property's physical features and how they relate to the property's significance. Historic properties either retain integrity (that is, convey their significance) or they do not. To retain integrity, a property will always possess several, and usually most, of the seven aspects of integrity (NPS 1995:44–45):

1. Location is the place where the historic property was constructed or the place where the historic event occurred.
2. Design is the combination of elements that create the form, plan, space, structure, and style of a property.
3. Setting is the physical environment of a historic property.

4. Materials are the physical elements that were combined or deposited during a particular period and in a particular pattern or configuration to form a historic property.
5. Workmanship is the physical evidence of crafts of a particular culture or people during any given period in history or prehistory.
6. Feeling is the property's expression of the aesthetic or historic sense of a particular period.
7. Association is the direct link between an important historic event or person and a historic property.

State

California Register of Historical Resources

In California, the term "historical resource" includes, but is not limited to, "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1[j]). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. A resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria (PRC Section 5024.1[c][1–4]):

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

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852[d][2]).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. Prehistoric resources are those that pre-date written records, while historic resources reflect written records or recorded events of the past. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

The following CEQA statutes (PRC Section 21000 et seq.) and CEQA Guidelines (14 CCR 15000 et seq.) are of relevance to the analysis of archaeological, historic, and TCRs:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) define "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource"; it also defines the circumstances when a project would materially impair the significance of a historical resource.
- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation in place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may also help avoid conflict with religious or cultural values of groups associated with an archaeological site.

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14 CCR 15064.5(b)). If a resource is listed or eligible for listing in the CRHR, included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(g)), it is an "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; 14 CCR 15064.5(a)(4)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant impact under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR 15064.5[b][1]; PRC Section 5020.1[q]). In turn, the significance of a historical resource is materially impaired when a project does any of the following:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register [CRHR] as determined by a lead agency for purposes of CEQA (14 CCR 15064.5[b][2]).

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

Under PRC Section 21083.2, if it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required.

Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts on non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); 14 CCR 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as a tribal cultural resource (PRC Section 21074(c)), further consideration of significant impacts is required (refer to Section 4.5.5, Impacts Analysis).

CEQA Guidelines Section 15064.5(d) and (e) assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. Described as follows, these procedures are detailed in California Health and Safety Code (H&SC) Section 7050.5 and PRC Section 5097.98.

California Health and Safety Code Section 7050.5; Public Resources Code Section 5097.98

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. H&SC Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains can occur until the county coroner has examined the remains (H&SC Section 7050.5(b)). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (H&SC Section 7050.5(c)). The NAHC will notify the most likely descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours from being granted access to the site. The MLD may recommend means of treatment or disposition, with appropriate dignity, the human remains and associated grave goods.

Native American Historic Cultural Sites (California Public Resources Code Section 5097 et seq.)

The Native American Historic Resources Protection Act (PRC Section 5097, et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NRHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

Senate Bill 18

The Local and Tribal Intergovernmental Consultation process, commonly known as SB 18, was signed into law September of 2004 and took effect March 1, 2005. SB 18 refers to PRC Sections 5097.9 and 5097.993, which define cultural places as:

- Native American sanctified cemetery place of worship, religious or ceremonial site, or sacred shrine (PRC Section 5097.9).
- Native American historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register of Historic Resources pursuant to Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site (PRC Section 5097.993).

SB 18 established responsibilities for local governments to contact, provide notice to, refer plans to, and consult with California Native American tribes that have been identified by the NAHC and if that tribe requests consultation after local government outreach as stipulated in Government Code Section 65352.3. The purpose of this consultation process is to protect the identity of the cultural place and to develop appropriate and dignified treatment of the cultural place in any subsequent project. The consultation is required whenever a general plan, specific plan, or open space designation is proposed for adoption or to be amended. Once local governments have sent notification, tribes are responsible for requesting consultation. Pursuant to Government Code Section 65352.3(a)(2), each tribe has 90 days from the date on which they receive notification to respond and request consultation.

In addition to the requirements stipulated previously, SB 18 amended Government Code Section 65560 to "allow the protection of cultural places in open space element of the general plan," and amended Civil Code Section 815.3 to add "California Native American tribes to the list of entities that can acquire and hold conservation easements for the purpose of protecting their cultural places."

Assembly Bill 52

The legislature added the requirements regarding tribal cultural resources through AB 52. By including an understanding if any TCRs could be present within an area early in the CEQA process, the legislature intended to ensure that local and tribal governments, public agencies, and project proponents would have information available to identify and address potential adverse impacts to TCRs . By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process (AB 52 Section 1[b][7]). Please see Section 4.5.5 for information regarding the City's AB 52 consultation process for this Project.

Section 1 of the bill states the legislature's intent as follows (AB 52 Section 1[b]):

> In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments, and respecting the interests and roles of project proponents, it is the intent of the Legislature, in enacting this act, to accomplish all of the following: (1) Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities. (2) Establish a new category of resources in CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation. (3) Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible. (4) Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because CEQA calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources. (5) In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, at the earliest possible point in the CEQA environmental review process. To accomplish those goals, the legislature added or amended the following sections in the PRC: 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 5097.94.

Local

City of Tulare 2035 General Plan

The Conservation and Open Space Element of the City of Tulare's General Plan 2035 (adopted October 7, 2014) describes the cultural and archaeological resources, regulatory framework, and policies and plans to protect such resources (City of Tulare 2014). The applicable cultural resource planning goals and policies are described below.

The City's goal, COS-5 is to "manage and protect sites of cultural and archaeological importance for the benefit of present and future generations" (City of Tulare 2014) and consists of numerous policies to assist in the implementation of preserving cultural and archaeological resources.

COS-P5.1 Archaeological Resources. The City shall support efforts to protect and/or recover archaeological resources.

COS-P5.2 Evaluation of Historic Resources. The City shall use appropriate State and federal standards in evaluating the significance of historical resources that are identified in the City.

COS-P5.3 Historic Preservation. The City shall encourage the preservation of historic residences and neighborhoods wherever appropriate.

COS-P5.5 Historic Structures and Sites. The City shall support public and private efforts to preserve, rehabilitate, and continue the use of historic structures, sites, and districts. Where applicable, preservation efforts shall conform to the current Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Building.

COS-P5.6 Protection of Resources with Potential State or Federal Designations. The City shall encourage the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Inventory of Historic Resources. Such sites may be of statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values.

COS-P5.7 State Historic Building Code. The City shall utilize the State Historic Building Code for designated properties.

COS-P5.9 Discovery of Archaeological Resources**.** In the event that archaeological/paleontological resources are discovered during site excavation, grading, or construction, the City shall require that work on the site be suspended within 100 feet of the resource until the significance of the features can be determined by a qualified archaeologist /paleontologist. If significant resources are determined to exist, an archaeologist shall make recommendations for protection or recovery of the resource. City staff shall consider such recommendations and implement them where they are feasible in light of project design as previously approved by the City.

COS-P5.10 Discovery of Human Remains. Consistent with Section 7050.5 of the California Health and Safety Code and CEQA Guidelines (Section 15064.5), if human remains of Native American origin are discovered during project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code, Section 5097). If any human remains are discovered or recognized in any location on the project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- The Tulare County Coroner/Sheriff has been informed and has determined that no investigation of the cause of death is required; and
- If the remains are of Native American origin:
  - The descendants of the deceased Native Americans have made a timely recommendation to the landowner or the person responsible for the excavation work, for

means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code, Section 5097.98.

- The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission, or
- The landowner or his or her authorized representative rejects any timely recommendations of the descendent, and mediation conducted by the Native American Heritage Commission has failed to provide measures acceptable to the landowner.

COS-P5.11 Impact Mitigation. If preservation of cultural/historical resources is not feasible, the City shall make every effort to mitigate impacts, including relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records.

COS-P5.12 Mitigation Monitoring for Historical Resources. The City shall develop standards for monitoring mitigation measures established for the protection of historical resources prior to development.

COS-P5.13 Alteration of Sites with Identified Cultural Resources. When planning any development or alteration of a site with identified cultural or archaeological resources, consideration should be given to ways of protecting the resources. The City shall permit development in these areas only after a site-specific investigation has been conducted pursuant to CEQA to define the extent and value of resource, and mitigation measures proposed for any impacts the development may have on the resource.

COS-P5.15 Solicit Input from Local Native Americans. The City shall solicit input from the local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

COS-P5.16 Confidentiality of Archaeological Sites. The City shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect resources that are determined to exist. An archaeologist/paleontologist shall make recommendations for protection or recovery of the resource. City staff shall consider such recommendations and implement them where they are feasible in light of project design as previously approved by the City.

COS-P5.17 Cooperation of Property Owners. The City shall encourage the cooperation of property owners to treat cultural resources as assets rather than liabilities and encourage public support for the preservation of these resources.

COS-P5.18 Archaeological Resource Surveys. Prior to project approval, the City shall require project applicant to have a qualified archaeologist conduct the following activities:

1. Conduct a record search at the Regional Archaeological Information Center located at California State University Bakersfield and other appropriate historical repositories;
2. Conduct field surveys where appropriate; and
3. Prepare technical reports, where appropriate, meeting California Office of Historic Preservation Standards (Archaeological Resource Management Reports).

City of Tulare Municipal Code

Section 10.96.040: Designation Criteria

(A) Historic resources. Any building, structure, object or site may be designated as an historic resource if it is found by the Commission and Council to meet the following criteria:

(1) It has been in existence more than 50 years and it possesses integrity of location, design, setting, materials, workmanship, feeling and association, and:

(a) It is associated with events that have made a significant contribution to the broad patterns of our history; or

(b) It is associated with the lives of persons significant in our past; or

(c) It embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic values; or

(d) It has yielded or may be likely to yield, information important in prehistory or history.

(2) It has been in existence less than 50 years; it meets the criteria of division (A)(1) above and is of exceptional importance within the appropriate historical context, local, state or national.

(B) Local historic districts. Any finite group of resources (buildings, structures, objects or sites) may be designated as a local historic district if it meets the definition set forth in § 10.96.020, its designation is consented to by the majority of the property owners within the local historic district, at least 50% of the resources within the proposed local historic district are 50 years of age or older, and it is found by the Commission and Council to meet one or more of the following criteria:

(1) It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, or architectural heritage, or

(2) It is identified with a person or group that contributed significantly to the culture and development of the city, or

(3) It embodies distinctive characteristics of a style, type, period or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship, or

(4) Structures within the area exemplify a particular architectural style or way of life important to the city, or

(5) The area is related to a designated historic resource or district in such a way that its preservation is essential to the integrity of the designated resource or local historic district, or

(6) The area has potential for yielding information of archaeological interest.

(C) National Register historic districts. The nomination of any finite group of resources (buildings, structures, objects or sites), including any local historic district, to the National Register of Historic Places as a National Register historic district may be recommended under this chapter if the nomination is supported by more than 50% of the property owners within the proposed National Register historic district.

(D) Contributors to historic districts. Any building, structure, object or site may be designated as contributor to a local historic district or a proposed National Register historic district if it contributes to the significance of the specific historic district under the criteria set forth above in this section.

(Ord. 07-28, passed December 18, 2007)

Transit-Oriented Development Plan (TOD)

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City of Tulare. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City of Tulare's General Plan documents. There are no specific cultural or tribal cultural-related policies and measures contained in TOD. In the absence of applicable goals, policies, or implementation measures within the TOD, refer to the applicable policies, goals, and implementation measures of the Tulare City General Plan above.

4.5.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to cultural resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to cultural resources would occur if the Project would:

a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
c. Disturb any human remains, including those interred outside of dedicated cemeteries.
d. 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).
e. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.5.4 Methodology

Records Search

To identify built-environment cultural resources potentially affected by the Project, a California Historical Resource Information System (CHRIS) records search was completed by the Southern San Joaquin Valley Information Center (SSJVIC) at California State University Bakersfield on July 25, 2022. The 2022 records search included the

Project site and a 0.5-mile buffer. Results were returned on August 8, 2022. As part of this process, Dudek reviewed the collection of mapped prehistoric, historical, and built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. Additional consulted sources included the NRHP, California Inventory of Historical Resources/CRHR and listed Office of Historic Preservation Archaeological Determinations of Eligibility, California Points of Historical Interest, California Historical Landmarks, and California Department of Transportation (Caltrans) Bridge Survey information.

Dudek contacted the NAHC on July 25, 2022, to request a search of its Sacred Lands File; however, the results of this search are still pending. In addition, Pursuant to AB 52 and SB 18, the City sent Project notification letters on September 2, 2022 to the Santa Rosa Rancheria Tachi Yokut Tribe, Tubatulabals of Kern Valley, Tule River Indian Tribe, Wuksache Indian Tribe/Eshom Valley Band, and Kern Valley Indian Community. The City did not receive a response to these notification letters pertaining to AB 52 and/or SB 18.

Field Surveys

Archaeologists Elizabeth Sivell and Brianna Kenny conducted an intensive-level pedestrian cultural survey of the Project site on August 31 to September 2, 2022. Archaeological survey exceeded the applicable Secretary of Interior's Professional Qualifications and Standards for archaeological survey and evaluation. Transects were placed at no more than 15 meters apart. Survey crew was equipped with a GPS receiver with sub-meter accuracy. The entirety of the Project site consisted of orchards, dirt roads, and three properties. Evidence for buried cultural deposits was opportunistically sought through inspection of natural and artificial erosion exposures.

In addition to the archeological survey, Dudek architectural historians conducted an intensive level built environment survey on September 1, 2022 of those properties containing built resources over 45 years in age, which include: 12609 Avenue 228 (APNs: 184-050-007 and 184-050-035), 12905 Avenue 228 (APN: 184-050-010), and the Bates Slough Ditch.

Historical Map and Imagery Review

Dudek consulted historical maps and aerial photographs to understand development of the Project site and surrounding properties. There were 11 U.S. Geological Survey (USGS) maps available for review, dating from 1925 through 2018 (NETR 2022). There were 12 aerial photographs available for review, dating from 1956 through 2020.

4.5.5 Impacts Analysis

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

Less than Significant Impact with Mitigation Incorporated. As detailed in Chapter 3, Project Description, the Project proposes to develop approximately 220 acres of the 231-acre Master Plan Project site. Development would include residential buildings, commercial uses, community and park facilities, a future school, and roadways. Project construction would require building demolition, site clearing, grading, and trenching for utilities. These activities could disturb on-site historical resources, which hereafter are described as "historic-era built environment resources", as represented by buildings, structures, and objects that are older than 45-years in age. Impacts to archaeological resources, including both historic-era archaeological resources and prehistoric archaeological resources, are addressed under Threshold b below.

As defined by the CEQA Guidelines (14 CCR 15000 et seq.), a "historical resource" is defined as a resource that is listed in or eligible for listing in the NRHP or CRHR, has been identified as significant in a historical resource survey, or is listed on a local register of historical resources. Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; 14 CCR 15064.5(b)). If a site is listed or eligible for listing in the CRHR, or included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is a historical resource and is presumed to be historically or culturally significant for the purposes of CEQA (PRC Section 21084.1; 14 CCR 15064.5(a)).

A Built Environment Inventory and Evaluation Report was prepared for the Project (Appendix D-2), and a cultural resources records search, review of literature and archival resources (historic maps, aerial photographs, topographic maps), and an archeological field survey were conducted for the Project site (Appendix D-1). Three properties containing buildings and structures over the age of 45 (historic age) were identified on the site. Property 1 includes six historic-age buildings or structures located at 12607 and 12609 Avenue 228 (APNs: 184-050-007, 184-050-034, and 184-050-035), Property 2 contains four historic-age buildings or structures located at 12905 Avenue 228 (APN: 184-050-010), and Property 3 is limited to one historic-age linear structure, the Bates Slough Ditch that crosses the Project site.

As a result of research, review of previous reports and records, and evaluation for historical significance of the three properties within the Project site, it was determined that the 12607 and 12609 Avenue 228 property is not significant under any criteria, it does not have a period of significance and the integrity of the property does not require examination; the 12905 Avenue 228 property is not significant under any criteria, it does not have a period of significance and the integrity of the property does not require examination; and the Bate Slough Ditch is not significant under any criteria, it does not have a period of significance and the integrity of the property does not require examination. None of the three properties inside the Project site are recommended eligible for listing in the NRHP, CRHR, or Tulare County register. Therefore, no known historical resources for the purposes of CEQA are within the Project site. Therefore, there would be no impacts to any known historic-era built environment resources because these resources are not NRHP or CRHR eligible and, thus, are not considered a significant historical resource under CEQA.

However, the potential for intact cultural deposits to exist within native soils to the depths of assumed ground disturbance is unknown. In the event that unanticipated cultural resources are encountered during Project implementation, an assessment and evaluation of the resource would be conducted potentially resulting in the determination that the resource is historical in accordance with the definition outlined in Section 15064.5. As a result, the Project has a potential to impact and thus cause a substantial adverse change in the significance of a yet unknown historical resource.

Thus, mitigation is required to address impacts related to the inadvertent discovery of yet unknown historical resources, as outlined in Mitigation Measure (MM) CUL-1, MM-CUL-2, and MM-CUL-3. MM-CUL-1 requires that all project construction personnel participate in a Workers Environmental Awareness Program training for the proper identification and treatment of inadvertent discoveries. MM-CUL-2 requires the retention of an on-call qualified archaeologist to address inadvertent discoveries. MM-CUL-3 requires construction work occurring within 100 feet of a cultural resource discovery be immediately halted until the qualified archaeologist, meeting the Secretary of Interior's Professional Qualification Standards for Archaeology, can assess and evaluate the discovery pursuant to CEQA. Additionally, MM-CUL-3 requires the inadvertent discovery clause be included on all construction plans. With implementation of MM-CUL-1, MM-CUL-2, and MM-CUL-3, significant impacts to historical resources would be reduced to less than significant with mitigation incorporated.

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

Less than Significant with Mitigation Incorporated. A CHRIS database records search, NAHC Sacred Lands File (SLF) search, background research, and an archaeological pedestrian survey were conducted as part of the Archaeological Resources Inventory Report that was prepared for the Project (Appendix D-1). No prehistoric archaeological resources and no historic-era archaeological resources were identified within the Project site. A review of the geomorphology of the Project site has revealed that the area has been highly disturbed by previous agricultural activities. The Project site is an area that has a sparse record of prehistoric occupation, as supported by the SSJVIC records search. Based on review of the Project setting, the Project has a low potential to impact any cultural resources.

Although no archaeological resources were identified within the Project site, based on undisturbed conditions in much of the Project site, there is a potential, albeit low, for the discovery of unanticipated cultural resources during initial Project-related ground disturbance. Construction activities could result in damaging or destroying unknown archeological resources. Archaeological resources are often difficult to identify from surface evidence alone and may contain buried cultural deposits in areas with appropriate soils. Such subsurface deposits are most likely to be exposed within 3 feet of the surface during activities requiring grading and other ground preparation. Additionally, recreation areas, such as paths and trails introduce access by higher frequencies of people to areas where unknown archaeological resources may be present, thereby elevating the potential for resources to be identified and disturbed by the public that may have been missed during an archaeological survey.

The loss of and/or substantial damage to undiscovered historic-era or prehistoric archaeological resources would be less than significant with implementation of MM-CUL-1 through MM-CUL-3 to reduce impacts to unknown subsurface archaeological resources. With implementation of MM-CUL-1 through MM-CUL-3 impacts to archaeological resources pursuant to Section 15064.5 would be reduced to a less-than-significant level.

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

Less than Significant with Mitigation Incorporated. Development of the proposed Project could result in the destruction, damage, or discovery of human remains on the Project site during site disturbing construction activities, particularly site clearing, grading, trenching and excavation. As stated in the Environmental Setting, the area has been used both historically and during prehistoric times by Native American inhabitants as well as early settlers to the area. Human remains were not discovered during the site survey and a search of the NAHC Sacred Land Files failed to identify any known onsite resources. A cultural resources records search, review of literature and archival resources (historic maps, aerial photographs, topographic maps), and a field survey were conducted for the Project site. The CHRIS records search results and archival document review did not identify any location within or near the Project where human burials/remains exist, including those interred outside of formal cemeteries. The pedestrian survey also did not identify any evidence of human remains or archaeological resources that may suggest the potential presence of human burials/remains, including those interred outside of formal cemeteries.

However, in the unlikely event that human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98, pursuant to MM-CUL-4. The County Coroner must be notified of the inadvertent discovery immediately. If the remains are determined to be Native American, the County Coroner will notify the NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized

representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD will have the opportunity to offer recommendations for the disposition of the remains. With incorporation of MM-CUL-4, impacts associated with human remains would be less than significant.

The proposed Project would comply with Section 7050.5 of the California Health and Safety Code as well as CEQA Guidelines Section 15064.5; however, there is a potential to discover unknown buried human remains during construction. If unanticipated human remains were discovered because of ground-disturbing activities, implementation of MM-CUL-4 would ensure impacts would be reduced to a less-than-significant level.

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

AND

Threshold e: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074, as either a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC, Section 5024.1(c)? In applying the criteria set forth in PRC, Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant with Mitigation Incorporated. As indicated in Chapter 3, the Project proposes to develop approximately 220 acres of the total 231-acre Master Plan Project site. Development would include residential buildings, commercial uses, community and park facilities, a future school, and roadways. Project construction would require building demolition of the three on-site buildings and associated outbuildings, site clearing, grading, and trenching for utilities which could cause substantial adverse changes in the significance of a TCR (site, feature, place, cultural landscape, sacred place, or object) with cultural value to a California Native American tribe.

A review of the NAHC Sacred Lands File was conducted as part of the cultural survey conducted for the Project and the search "failed to indicate the presence of Native American cultural resources in the immediate Project area" (Appendix D-1). The proposed Project is subject to compliance with SB 18 and AB 52 to ensure that consultation with tribes is conducted and tribes are allowed the opportunity to provide comments, monitor, and preserve TCRs if found during construction. As part of the AB 52 and SB 18 consultation requirements, the City sent Project notification letters on September 2, 2022 to the Santa Rosa Rancheria Tachi Yokut Tribe, Tubatulabals of Kern Valley, Tule River Indian Tribe, Wuksache Indian Tribe/Eshom Valley Band, and Kern Valley Indian Community, inviting each tribe to engage in tribal consultation, if desired. Compliance with the notification and outreach required under AB 52 and SB 18 is complete and no further tribal consultation was requested.

Under CEQA, an effect to a Tribal Cultural Resource is considered a "substantial adverse change," if it is shown that the change would materially impair the significance of the resource. That is, a project that demolishes or materially alters in an adverse manner those physical characteristics of a Tribal Cultural Resource conveying its historic significance would materially impair the significance of a historical resource. Therefore, such a change would constitute a "substantial adverse change" under CEQA. As previously discussed in Section 4.5.1, Existing

Conditions, no previously recorded archaeological resources of Native American origin or Tribal Cultural Resources listed in the CRHR or a local register were identified within the Project site as a result of the SCCIC records search nor as a result of information provided from consulting tribes. Therefore, the Project would not adversely affect tribal cultural resources that are listed or eligible for listing in the state or local register.

The Project site has been thoroughly researched, surveyed, and analyzed to identify the level of potential for TCRs. TCRs have not been identified through tribal consultation under AB 52 or SB 18, and the lead agency has not identified any TCRs within the Project site that would warrant discretionary designation of a resource as a TCR. Notwithstanding, MM-CUL-3 and MM-CUL-4 are required to help ensure the proper treatment of TCRs and human remains that may be inadvertently encountered during ground-disturbing activities. With incorporation of MM-CUL-3, MM-CUL-4, impacts associated with TCRs would be less than significant.

4.5.6 Mitigation Measures

Mitigation measures have been developed in order to ensure that potential impacts to historic-era and prehistoric cultural resources are appropriately managed. MM-CUL-1, requires that all Project construction personnel participate in a Workers Environmental Awareness Program training for the proper identification and treatment of inadvertent discoveries. MM-CUL-2 requires the retention of an on-call qualified archaeologist to address inadvertent discoveries. MM-CUL-3 requires construction work occurring within 100 feet of a cultural resource discovery be immediately halted until the qualified archaeologist, meeting the Secretary of Interior's Professional Qualification Standards for Archaeology, can assess and evaluate the discovery pursuant to CEQA. Additionally, MM-CUL-3 requires the inadvertent discovery clause be included on all construction plans. impacts to unknown cultural resources would be reduced to less than significant.

In the event human remains are unearthed, management strategies have been developed with the intent of responding to the inadvertent discovery of human remains and to ensure compliance with applicable regulations and codes. MM CUL-4 requires that Project activities in the vicinity of any possible human remains be halted and the County coroner be notified in the event human remains are discovered. The coroner would then identify if the remains are human and, if so, whether they are Native American in origin. If potential human remains are Native American, landowner coordination with the Tribe would be required in order to determine the appropriate course of action and methods for respectful treatment. With these measures implemented, impacts to human remains would be reduced to less than significant.

The following mitigation measures are applicable to the proposed Project.

MM-CUL-1 Workers Environmental Awareness Program (WEAP) Training. All construction personnel and monitors who are not trained archaeologists should be briefed regarding unanticipated discoveries prior to the start of construction activities. A basic presentation should be prepared and presented by a qualified archaeologist to inform all personnel working on the Project about the archaeological sensitivity of the area. The purpose of the WEAP training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Project and explain the importance of and legal basis for the protection of significant archaeological resources. Each worker should also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection, and the immediate contact of the on-call archaeologist and if appropriate, tribal representative. Necessity of training attendance should be stated on all construction plans.

MM-CUL-2 On-Call Archaeological Construction Monitoring. In consideration of the general sensitivity of the Project site for cultural resources, a qualified archaeologist should be retained to conduct spot monitoring as well as on-call response in the case of an inadvertent discovery of archaeological resources. A qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, should oversee and adjust monitoring efforts as needed (increase, decrease, or discontinue monitoring frequency) based on the observed potential for construction activities to encounter cultural deposits. The archaeologist should be responsible for maintaining monitoring logs. Following the completion of construction, the qualified archaeologist should provide an archaeological monitoring report to the lead agency and the San Joaquin Valley Information Center with the results of the archaeological monitoring program.

MM-CUL-3 Inadvertent Discovery of Archaeological Resources. All construction crew members shall be alerted to the potential to encounter archaeological material. In the unlikely event that cultural resources (sites, features, or artifacts) are exposed during construction activities, all construction work occurring within 100 feet of the find shall immediately stop and the lead agency representative contacted. A qualified specialist, meeting the Secretary of the Interior's Professional Qualification Standards, shall be assigned to review the unanticipated find, and evaluation efforts of this resource for the NRHP and CRHR listing shall be initiated in consultation with the lead agency. Prehistoric archaeological deposits may be indicated by the presence of discolored or dark soil, fire-affected material, concentrations of fragmented or whole freshwater bivalves shell, burned or complete bone, non-local lithic materials, or the characteristic observed to be atypical of the surrounding area. Common prehistoric artifacts may include modified or battered lithic materials; lithic or bone tools that appeared to have been used for chopping, drilling, or grinding; projectile points; fired clay ceramics or non-functional items; and other items. Historic-age deposits are often indicated by the presence of glass bottles and shards, ceramic material, building or domestic refuse, ferrous metal, or old features such as concrete foundations or privies. Preservation in place through avoidance, capping, or other options should be considered the preferred option for management of any inadvertent cultural discovery. If the discovery proves potentially significant under CEQA, and the area cannot be feasibly avoided, additional work, such as preparation of an Archaeological Treatment Plan, testing, or data recovery, may be warranted.

MM-CUL-4 Inadvertent Discovery of Human Remains. Should human remains be discovered, work shall halt in that area and procedures set forth in PRC Section 5097.98 and California Health and Safety Code Section 7050.5 shall be followed, beginning with notification to the County Coroner. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has reviewed the site conditions and determined, within 2 working days of notification of the discovery, if the remains are human and appropriate next steps. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant shall provide their recommendation within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

4.5.7 Level of Significance After Mitigation

Threshold a: The Project could result in potentially significant impacts to historical resources pursuant to Section 15064.5. MM-CUL-1 through MM-CUL-3 would be implemented and Project impacts would be reduced to **less than significant** with mitigation incorporated.

Threshold b: The Project could result in potentially significant impacts to archaeological resources pursuant to Section 15064.5. MM-CUL-1 through MM-CUL-3 would be implemented, and Project impacts would be reduced to **less than significant** with mitigation incorporated.

Threshold c: The Project could result in potentially significant impacts to human remains. MM-CUL-4 would be implemented, and Project impacts would be **less than significant** with mitigation incorporated.

Threshold d and Threshold e: The Project would result in potentially significant impacts associated with a substantial adverse change in the significance of a currently unknown or unidentified TCR if one or more are inadvertently encountered as a result of ground-disturbing activities. With the incorporation of previously outlined MM-CUL-3 through MM-CUL-4, impacts associated with TCRs would be **less than significant** with mitigation incorporated.

4.5.8 References

City of Tulare. 2014. City of Tulare 2035 General Plan. The Planning Center, DC&E. October 7, 2014. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000. Accessed on September 2, 2022.

Cone, Victor M. 1911. Irrigation in the San Joaquin Valley, California. Office of Experiment Stations – Bulletin 239. Washington D.C.: U.S. Department of Agriculture. https://archive.org/download/irrigationinsanj239cone/irrigationinsanj239cone.pdf.

County of Tulare. 2010. Tulare County General Plan 2030 Update. Recirculated Draft EIR SCH #2006041162. ESA. Prepared for County of Tulare. Accessed on October 28, 2022. https://general plan.co.tulare.ca.us/documents/generalplan2010/RecirculatedDraftEIR.pdf.

Dumermuth, Derryl. 2020. "Farming in Tulare." Tulare Historical Museum webpage. Originally published on November 6, 2020. Accessed on September 2, 2022. https://www.tularehistoricalmuseum.org/post/farming-in-tulare.

Elliott, Wallace W. 1883. History of Tulare County California with Illustrations, Descriptive of its Scenery, Farms, Residences, Public Buildings, Factories, Hotels, Business Houses, Schools and Mines from Original Drawings with Biographical Sketches. San Francisco, CA: Wallace W. Elliott & Co. Publishers. https://archive.org/download/historyoftularec00wwel/historyoftularec00wwel.pdf.

Fenenga, G.L. 1992. "Regional Variability in the Early Prehistory of the American Far West." PhD diss., University of California, Berkeley.

Fenenga, G.L. 1993. "Test Excavations at the Witt Site (CA-KIN-32)." In *Contributions to Tulare Lake Archaeology II, Finding the Evidence: The Quest for Tulare Lake's Archaeological Past*, edited by W.J. Wallace and F.A. Riddell, 25–38. Tulare Lake Archaeological Research Group, Redondo Beach.

Fredrickson, D.A. and J.W. Grossman. 1977. "A San Dieguito Component at Buena Vista Lake, California." *The Journal of California Anthropology* 4(2):173–190.

Grunsky, Carl E. 1898. "Irrigation Near Fresno, California." Water Supply and Irrigation Papers of the United States Geological Survey. No. 18. Washington D.C.: U.S. Department of the Interior. https://doi.org/10.3133/wsp18.

Hartzell, L.L. 1992. "Hunter-gatherer Adaptive Strategies and Lacustrine Environments in the Buena Vista Lake Basin, Kern County, California." PhD diss., University of California, Davis.

Menefee, Eugene L. and Fred A. Dodge. 1913. History of Tulare and Kings Counties, California, with Biographical Sketches of the Leading Men and Women of the Counties Who Have Been Identifies with Their Growth and Development From the Early Days to the Present. Los Angeles, CA: Historic Record Company. https://tile.loc.gov/storage-services/public/gdcmassbookdig/historyoftularek01mene/historyoftularek01mene.pdf.

Mitchell, Annie. 1974. A Modern History of Tulare County. Visalia, CA: Limited Editions of Visalia, Inc.

Moratto, M.J. 1984. *California Archaeology.* New York, New York: Academic Press.

NETR (National Environmental Title Research). 2022. Historical Aerials of 12905- 12909 Avenue 228, Tulare, CA, dating from 1956, 1969, 1984, 1994, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020. Accessed September 16, 2022. https://www.historicaerials.com/viewer.

NPS (National Park Service). 1995. "How to Apply the National Register Criteria for Evaluation." National Register Bulletin 15. Washington DC: U.S. Department of the Interior, NPS. Accessed August 31, 2022. https://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf.

NRCS (Natural Resources Conservation Service). 2022. Web Soil Survey. September 2022. https://websoilsurvey.nrcs.usda.gov/app/websoilsurvey.aspx

Riddell, F.A., and W.H. Olsen. 1969. "An Early Man Site in the San Joaquin Valley, California." *American Antiquity* 34(2): 121–130.

Sampson, M. 1991. "A Distinctive Flaked-Stone Tool Type From Tulare Lake Basin." In *Contributions to Tulare Lake Archaeology I: Background to a Study of Tulare Lake's Archaeological Past*, edited by W.J. Wallace and F.A. Riddell, 53–60. Tulare Lake Archaeological Research Group, Redondo Beach.

Siefkin, N. 1999. "Archaeology of the Redtfeldt Mound (CA-KIN-66), Tulare Basin, California." Master's thesis, California State University, Bakersfield.

Sutton, M.Q. 1997. "A Background for Archaeological Investigations at Buena Vista Lake, Southern San Joaquin Valley." *Kern County Archaeological Society Journal* 8:3–21.

Tulare General Plan. 2014. City of Tulare General Plan 2035. The Planning Center. DC&E. October 7, 2014. Accessed September 29, 2022. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000.

Wallace, W.J. 1991. "Tulare Lake's Archaeological Past." In *Contributions to Tulare Lake Archaeology I: Background to a Study of Tulare Lake's Archaeological Past*, edited by W.J. Wallace and F.A. Riddell, 23–33. Tulare Lake Archaeological Research Group, Redondo Beach, California.

Wallace, W.J. and F.A. Riddell, eds. 1988. "Archaeological Background of Tulare Lake, California." In *Early Occupation in Far Western North America: The Clovis-Archaic Interface*, edited by J.A. Willig, C.M. Aikens, and J.L. Fagan, 87–101. Nevada State Museum Anthropological Papers No. 21, Carson City, Nevada.

Zack, Richard. 2017. Quest for Water: Tulare Irrigation District Its History, People, and Progression. Tulare, CA: Tulare Irrigation District. Held by the Annie Mitchell History Room, Tulare County Public Library.

INTENTIONALLY LEFT BLANK

4.6 Energy

This section describes the existing energy conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This section assesses potential effects on energy that could result from implementation of the proposed Project. The Project also includes annexing approximately 864 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 633 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site (see Figure 3-6) for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information contained in this section is based on the energy use calculations and modeling files prepared for the Project, provided as follows:

- Appendix B-1, Health Effects of Criteria Air Pollutants (CalEEMod Calculations and Modeling), prepared by Dudek (2023)
- Appendix B-2, Heath Risk Assessment, prepared by Dudek (2022)
- Appendix B-3, Ambient Air Quality Assessment, prepared by Dudek (2022)

Other sources consulted are listed in Section 4.6.7, References, of this section.

No comments were received related to energy resources during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.6.1 Existing Conditions

Electricity

According to the U.S. Energy Information Administration, California used approximately 255,224 gigawatt hours of electricity in 2018 (EIA 2020a). By sector in 2017, commercial uses utilized 46% of the state's electricity, followed by 35% for residential uses and 19% for industrial uses (EIA 2020a). Electricity usage in California for different land uses varies substantially by the types of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Due to the state's energy efficiency building standards and efficiency and conservation programs, California's electricity use per capita in the residential sector is lower than any other state except Hawaii (EIA 2020b).

Southern California Edison (SCE) provides electricity to the Project. SCE, a subsidiary of Edison International, serves approximately 180 cities in 11 counties across central and Southern California. SCE receives electric power from a variety of sources. According to the 2021 SCE Power Content Label, renewable energy accounts for 31.4% of the overall energy resources, with geothermal resources at 5.7%, wind power at 10.2%, large hydroelectric sources at 0.5% and solar energy is at 14.9% (SCE 2022).

Natural Gas

According to the U.S. Energy Information Administration, California used approximately 2,154,030 million cubic feet of natural gas in 2019 (EIA 2020c). Natural gas is used for cooking, space heating, generating electricity, and as an alternative transportation fuel. The majority of California's natural gas customers are residential and small commercial customers (core customers), which accounted for approximately 35% of the natural gas delivered by California utilities in 2018 (CPUC 2020). Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 65% of the natural gas delivered by California utilities (CPUC 2020). The CPUC regulates California natural gas rates and natural gas services, including in-state transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. Biogas (e.g., from wastewater treatment facilities or dairy farms) is just beginning to be delivered into the gas utility pipeline systems, and the state has been encouraging its development (CPUC 2020). In 2019, PG&E delivered approximately 4.9 billion therms of natural gas to the region, with 3 billion therms for non-residential use and 1.9 billion therms for residential use (CEC 2020a, 2020b).

Petroleum

According to the U.S. Energy Information Administration, California used approximately 681 million barrels of petroleum in 2018, with the majority (584 million barrels) used for the transportation sector (EIA 2020d). This total annual consumption equates to a daily use of approximately 1.9 million barrels of petroleum. There are 42 U.S. gallons in a barrel, so California consumes approximately 78.4 million gallons of petroleum per day, adding up to an annual consumption of 28.7 billion gallons of petroleum. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation, which are described in Section 4.6.2, below. As such, the CEC anticipates an overall decrease of gasoline demand in the state over the next decade (CEC 2018a).

4.6.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). In 2020, the Trump Administration sought to lower CAFE standards issued by the Obama Administration to require, for example, a fleet average of 40 mpg by 2026 instead of 55 mpg by 2025. On April 1, 2022, the Department of Transportation updated CAFE standard back up near Obama Administration levels, with a new fleet average of 49 mpg by 2026. Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased corporate average fuel economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and lighting efficiency standards (Sections 301–325)
- Building energy efficiency (Sections 411–441)

The RFS requires ever-increasing levels of renewable fuels to replace petroleum (EPA 2017). The U.S. Environmental Protection Agency (EPA) is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the Energy Policy Act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of greenhouse gas (GHG) emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of our nation's renewable fuels sector. The updated program (RFS2) includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green" jobs.

State

Warren–Alquist Act

The California Legislature passed the Warren–Alquist Act in 1974, which created the CEC. The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation's first energy conservation standards for buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high demand projections, and transferred it to a more impartial CEC.

- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Action Plan

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure the provision of adequate, reliable, and reasonably priced electrical power and natural gas supplies; it also identified cost-effective and environmentally sound energy policies, strategies, and actions for California's consumers and taxpayers. In 2005, the CEC and CPUC adopted a second Energy Action Plan to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based, in part, on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

Assembly Bill 32 (2006) and Senate Bill 32 (2016)

In 2006, the State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the Legislature enacted Senate Bill (SB) 32, which extended the horizon year of the state's codified GHG reduction planning targets from 2020 to 2030, requiring California to reduce its GHG emissions to 40% below 1990 levels by 2030. In accordance with AB 32 and SB 32, the California Air Resources Board (CARB) prepares scoping plans to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the scoping plans focus on increasing energy efficiencies, using renewable resources, and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources.

California Building Standards

Part 6 of Title 24 of the California Code of Regulations (CCR) was established in 1978 and serves to enhance and regulate California's building standards. Part 6 establishes energy efficiency standards for residential and non-residential buildings constructed in California to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies.

The current Title 24, Part 6 standards, referred to as the 2019 Title 24 Building Energy Efficiency Standards, became effective on January 1, 2020. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards use approximately 53% less energy than those under the 2016 standards (CEC 2018b). Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018b).

Title 24 also includes Part 11, the California Green Building Standards (CALGreen). CALGreen establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water

conservation, material conservation, and interior air quality. The 2019 CALGreen standards are the current applicable standards. For nonresidential projects, some of the key mandatory CALGreen 2019 standards involve requirements related to bicycle parking, designated parking for clean air vehicles, electric vehicle charging stations, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, and excavated soil and land clearing debris (24 CCR Part 11).

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law SB 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the CPUC. The CEC regulations do the following (Perata, Chapter 598, Statutes of 2006):

- Establish a standard for baseload generation owned by, or under long-term contract to, publicly owned utilities of 1,100 pounds carbon dioxide (CO_2) per megawatt-hour. This encourages the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This facilitates public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard.

Assembly Bill 1493

Adopted in 2002 by the state legislature, AB 1493 ("Pavley" regulations) required that CARB develop and adopt, no later than January 1, 2005, regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.

The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005 and was denied by the EPA in March 2008. That decision was based on a finding that California's request to reduce GHG emissions from passenger vehicles did not meet the Clean Air Act requirement of showing that the waiver was needed to meet "compelling and extraordinary conditions."

The EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On September 24, 2009, CARB adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. These amendments were part of California's commitment to a nationwide program to reduce new passenger vehicle GHGs by 2016. CARB's September 2009 amendments allowed for California's enforcement of the Pavley rule while providing vehicle manufacturers with new compliance flexibility. The amendments also prepared California to harmonize its rules with the federal rules for passenger vehicles. It was expected that the Pavley regulations would reduce GHG emissions from California passenger vehicles by approximately 22% by 2012 and approximately 30% by 2016 while improving fuel efficiency and reducing motorists' costs.

Executive Order S-1-07

Issued on January 18, 2007, Executive Order S-1-07 sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2-equivalent (CO_2e) grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard was to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation was expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste. In addition, the Low Carbon Fuel Standard was expected to drive the availability of plug-in hybrid, battery electric, and fuel-cell power motor vehicles. The Low Carbon Fuel Standard was anticipated to lead to the replacement of 20% of the fuel used in motor vehicles with alternative fuels by 2020.

Senate Bill 375

SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plans (RTPs) that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise an SCS to achieve the GHG reduction target, the metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), an SCS does not regulate the use of land; supersede the land use authority of cities and counties; or require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In September 2010, CARB adopted the first SB 375 targets for the regional metropolitan planning organizations. The targets for the Tulare County Association of Governments (TCAG) were a 13% reduction in emissions per capita by 2020 and a 16% reduction by 2035 of the 2005 baseline. Achieving these goals through adoption of an SCS is the responsibility of the metropolitan planning organizations.

Truck and Bus Regulation, On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

On December 12, 2008, CARB approved the Truck and Bus Regulation to significantly reduce particulate matter (PM) and oxides of nitrogen (NO_x) emissions from existing diesel vehicles operating in California. Amendments to this regulation were approved by CARB on April 25, 2014.

The regulation applies to nearly all diesel-fueled, dual-fueled, or alternative-diesel-fueled trucks and buses with a gross vehicle weight rating greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. The purpose of this regulation is to reduce emissions of diesel PM, NO_x, and other criteria pollutants from in-use diesel-fueled vehicles.

Heavier trucks and buses with a gross vehicle weight rating greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Starting January 1, 2012, heavier trucks were required to meet a particular engine model year schedule. Fleets that comply with the schedule must install the best available PM filter on 1996 model year and newer engines and replace the vehicle 8 years later. Trucks with 1995 model year and older engines must be replaced starting in 2015. Replacements with a 2010 model year or newer engines meet the final requirements, but owners can also replace with used trucks that have a future compliance date on the schedule. For example, a replacement with a 2007 model year engine complies until 2023. By 2023, all trucks and buses must have 2010 model year engines, with few exceptions. No reporting is required if complying with this schedule (CARB 2014).

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB proposed new emissions standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that by 2025, cars will emit 75% less smog-forming pollution than the average new car sold in 2011 (CARB 2011). To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025 (EPA and NHTSA 2012). The zero-emissions vehicles (ZEVs) program acts as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 through 2025 model years. The Clean Fuels Outlet regulation ensures that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

Executive Order B-16-12

Governor Brown issued Executive Order S-16-12 on March 23, 2012. The executive order requires that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. It orders CARB, the CEC, the CPUC, and other relevant agencies work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve the following by 2015:

- The state's major metropolitan areas will be able to accommodate ZEVs, each with infrastructure plans and streamlined permitting
- The state's manufacturing sector will be expanding ZEV and component manufacturing
- The private sector's investment in ZEV infrastructure will be growing
- The state's academic and research institutions will be contributing to ZEV research, innovation, and education

CARB, the CEC, and the CPUC, were also directed to establish benchmarks to help achieve the following goals by 2020:

- The state's ZEV infrastructure will be able to support up to 1 million ZEVs
- The costs of ZEV will be competitive with conventional combustion vehicles
- ZEVs will be accessible to mainstream consumers
- There will be widespread use of ZEVs for public transportation and freight transport

- Transportation sector GHG emissions will be falling as a result of the switch to ZEVs
- Electric vehicle charging will be integrated into the electricity grid
- The private sector's role in the supply chain for ZEV component development and manufacturing will be expanding

Benchmarks were also established to help achieve the following goals by 2025:

- Over 1.5 million ZEVs will be on California roads and their market share will be expanding
- Californians will have easy access to ZEV infrastructure
- The ZEV industry will be a strong and sustainable part of California's economy
- California's clean, efficient vehicles will annually displace at least 1.5 billion gallons of petroleum fuels

On a statewide basis, the executive order establishes a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050.

Cap-and-Trade Program

To achieve the goals of AB 32, the Climate Change Scoping Plan: A Framework for Change included an early action plan to develop a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system. The cap-and-trade regulation, which is a key element of California's climate plan, took effect in January 2012, and compliance obligation began in January 2013. The cap-and-trade program sets a statewide limit on sources responsible for 85% of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest-cost options to reduce emissions. The first phase of the cap-and-trade regulation included electricity generated in and imported into California, large combustion sources (i.e., generally those emitting more than 25,000 metric tons [MT] of CO_2e per year), and certain industrial sectors. The second phase added providers of transportation fuels and other combustion fuels (e.g., natural gas, propane) to the cap-and-trade program. The regulation requires that emissions generated by these facilities and combustion of fuels be reduced over time under a declining "cap."

Renewable Energy Sources

SB 1078 established the California Renewables Portfolio Standard (RPS) program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20% standard by December 31, 2017. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. SB 1078 relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the RPS by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

SB 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20% of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) required all California utilities to generate 33% of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 set a three-stage compliance period: by December 31, 2013, 20% had to come from renewables; by December 31, 2016, 25% had to come from renewables; and by December 31, 2020, 33% had to come from renewables.

SB 350 (2015) expanded the RPS because it requires retail seller and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, with interim goals of 40% by 2024 and 45% by 2027.

SB 100 (2018) accelerated and expanded the standards set forth in SB 350 by establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024; 52% by December 31, 2027; and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 also states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. SB 100 requires that the achievement of 100% zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid, and that the achievement not be achieved through resource shuffling.

Consequently, utility energy generation from non-renewable resources is expected to be reduced based on implementation of the 60% RPS by 2030. Therefore, any project's reliance on non-renewable energy sources would also be reduced.

Assembly Bill 1007 (2005)

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with CARB and in consultation with other state agencies, plus federal and local agencies. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Local

City of Tulare General Plan

The City General Plan Conservation and Open Space Element sets targets and strategies to reduce GHG emissions and associated climate change by supporting new renewable energy facilities, which would have energy-reducing co-benefits. The relevant City General Plan goals and policies include the following (City of Tulare 2014):

Goal COS-6: To encourage energy conservation in new and existing developments throughout the city.

Policy COS-P6.1: Energy Conservation Measures. The City shall require the use of energy conservation features in new construction and renovation of existing structures in accordance with state law. New features that may be applied to construction and renovation include:

- Green building techniques (such as use of recycled, renewable, and reused materials; efficient lighting/power sources; design orientation; building techniques; etc.);
- Cool roofs;
- Enhanced insulation;
- Application of solar technologies (e.g. photovoltaic, water heating, etc.); and
- Energy Star compliance programs.

Policy COS-P6.2: Landscape Improvements for Energy Conservation. The City shall encourage the planting of shade trees along all city streets and as part of new development to reduce radiation heating.

Policy COS-P6.3: Promote Energy Conservation Awareness. The City shall coordinate with local utility providers to provide public education energy conservation programs.

Policy COS-P6.4: Local and State Programs. The City shall participate to the extent feasible in local, regional and state programs that strive to reduce the consumption of natural or man-made energy sources.

Policy COS-P6.5: Promote Renewable Energy Industry Clusters. The City shall promote development of and capital investment in renewable energy.

Policy COS-P6.6: Solar Energy. The City shall work with developers to encourage the incorporation of passive and active solar devices such as solar collectors, solar cells, and solar heating systems into the design of local buildings. Additionally, the City shall work with developers to ensure that building and site design take into account the solar orientation of buildings during design and construction.

Tulare Transit-Oriented Development Plan

The Project site is located within the COS North Transit Oriented Development Plan Area that is outlined in the Tulare TOD Plan for the City. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD Plan are based on the City's General Plan documents. There are no specific energy-related policies and measures contained in TOD Plan applicable to the proposed Project. In the absence of applicable goals, policies, or implementation measures within the TOD Plan, refer to the applicable policies, goals, and implementation measures of the City General Plan above.

4.6.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to energy are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to energy would occur if the Project would:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Methodology

A brief overview of the methodology applied to assess the Project's potential impacts is provided below:

Electricity: The Project's on-site electricity usage data were determined using California Emissions Estimator Model (CalEEMod) Version 2020.4.0 (CAPCOA 2021). Electricity demand within SCE's service area was obtained from CPUC reports (specifically, the RPS Program Updates [CPUC 2019]) and from the California Energy Commission (CEC). Electricity would be necessary for multiple purposes, including building heating and cooling, lighting, and electronics.

Natural Gas: The Project on-site natural gas usage data were provided using CalEEMod. Regional natural gas demand data was obtained from CEC reports (specifically, the California Energy Demand Forecast [CEC 2018a]).

Petroleum: Potential impacts were assessed through projected traffic trip generation during construction and operation, as provided by the CalEEMod outputs, spreadsheet-based model and emission factors from CARB EMFAC2017 (Appendix B), and the Traffic Impact Analysis that was prepared for the Project (Appendix I). Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton of CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton of CO_2 per gallon (The Climate Registry 2022). Heavy-duty construction equipment associated with construction activities and vendor trucks were assumed to use diesel fuel. It was assumed that construction workers would travel to and from the Project site in gasoline-powered vehicles. Fuel consumption from worker and vendor trips was estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. The fuel consumption resulting from the Project's operational phase would be attributable to vehicles traveling to and from the Project site. Similar to construction worker and vendor trips, fuel consumption for operation was estimated by converting the total CO_2 emissions from the Project to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Based on the Traffic Impact Analysis prepared for the Project, the Project would generate 23,315 daily trips from the residential, school, commercial, and public works land uses.

4.6.4 Impacts Analysis

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

Less-than-Significant Impact. The Project would consume energy resources during construction and operation, as discussed below.

Electricity

Construction Energy Usage

Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, would be provided by SCE. The electricity used for such activities would be temporary, would be substantially less than that required for Project operation, and would therefore have a negligible contribution to the Project's overall energy consumption.

Operational Energy Usage

The operational phase would require electricity for multiple purposes, including building heating and cooling, lighting, and electronics. CalEEMod was used to estimate Project emissions from electricity uses (see Appendix B for calculations). Default electricity generation rates in CalEEMod were used based on the proposed land use and climate zone and were adjusted to reflect compliance with 2019 Title 24 standards. Water consumption estimates for both indoor and outdoor water use were estimated using CalEEMod default values. Electricity use for water supply were based on the electric pump rating, pump flowrate, electricity intensity factors from CalEEMod for Tulare County, and the indoor and outdoor water use default values in CalEEMod (CAPCOA 2021). According to these estimations, the Project would consume approximately 12,237,585 kilowatt-hours per year (Appendix B). For disclosure, in comparison, approximately 4.6 billion kilowatt-hours of electricity were used in Tulare County in 2020 (CEC 2020c).

In summary, although electricity consumption would increase at the Project site due to implementation of the Project, the Project would comply with the applicable energy standards and regulations. Construction electricity usage would be minimal relative to the Project's overall energy consumption. For these reasons, electricity consumption of the Project would not be considered inefficient, wasteful, or unnecessary, and impacts would be less than significant.

Natural Gas

Construction Energy Usage

Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection. Any minor amounts of natural gas that may be consumed as a result of Project construction would be substantially less than that required for Project operation and would have a negligible contribution to the Project's overall energy consumption.

Operational Energy Usage

Default natural gas usage rates in CalEEMod for the proposed land use and climate zone were used and adjusted based on compliance with 2019 Title 24 standards. According to these estimations, the Project would consume approximately 26,333,954 kBTU per year (Appendix B). This amount of natural gas is equivalent to 263,402 therms. For disclosure, in comparison, Tulare County consumed approximately 160,000,000 therms of natural gas in 2020 (CEC 2020b).

In summary, although natural gas usage would increase due to implementation of the Project, the Project would comply with the applicable energy standards and regulations, and usage would be decreased through green building standards. For these reasons, the natural gas consumption of the Project would not be considered inefficient or wasteful, and impacts would be less than significant.

Petroleum

Construction Energy Usage

Heavy-duty construction equipment of various types would be used during each phase of Project construction. The CalEEMod analysis discussed in Section 4.3, Air Quality, and included in Appendix B lists the assumed equipment usage for each phase of construction.

Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase, as estimated using CalEEMod, to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Construction is estimated to occur in the years 2024 and 2025 based on the construction phasing schedule; all details for construction criteria air pollutants discussed in Section 4.3, and Appendix B is also applicable for the estimation of construction-related GHG emissions. The conversion factor for gasoline is 8.78 kilograms per metric ton CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton CO_2 per gallon (The Climate Registry 2022). The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles, is shown in Table 4.6-1.

Table 4.6-1. Total Project Construction Petroleum Demand

Off-Road Equipment (diesel)	Haul Trucks (diesel)	Vendor Trucks (diesel)	Worker Vehicles (gasoline)
Gallons			
1,224,956.55	368.41	196,729.72	388,754.94

Source: See Appendix B-1 for outputs.

In summary, construction associated with the potential future development facilitated by the Project over the construction period is anticipated to consume 388,755 gallons of gasoline from worker vehicles and 1,422,055 gallons of diesel from off-road equipment, haul trucks, and vendor trucks. In Tulare County in 2023, it is estimated that approximately 240 million gallons of petroleum would be consumed by on-road vehicles, and approximately 7.8 million gallons of petroleum would be consumed by off-road equipment (CARB 2022). Approximately 28.7 billion gallons of petroleum are consumed in California annually (EIA 2020d).

The Project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, which would minimize fuel consumption. Although construction activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of construction. Further, the petroleum consumed related to Project construction would be typical of construction projects of similar types and sizes and would not necessitate new petroleum resources beyond what are typically consumed in California. Therefore, because petroleum use during construction would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be less than significant.

Operational Energy Usage

During operations, the majority of fuel consumption resulting from the Project would involve the use of motor vehicles traveling to and from the Project site.

Petroleum fuel consumption associated with motor vehicles traveling to and from the Project site is a function of the vehicle miles traveled (VMT) as a result of Project operation. The annual VMT attributable to the Project is expected to be 58,493,551 VMT (Appendix B). The Project would consume an estimated 1,453,718 gallons of gasoline per year and 305,007 gallons of diesel per year from operation of vehicle trips traveling to and from the Project site. For disclosure, by comparison, approximately 28.7 billion gallons of petroleum are consumed in California annually (EIA 2020d).

Over the lifetime of the Project, the fuel efficiency of the vehicles being used by the Project is expected to increase. As such, the amount of petroleum consumed as a result of vehicular trips to and from the Project site during operation would decrease over time. Numerous regulations are in place that require and encourage

increased fuel efficiency. For example, CARB has adopted a new approach to passenger vehicles by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and ZEVs in California (CARB 2017). The Project would be required to comply with CARB's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, which would minimize fuel consumption. Operation of the Project is expected to use decreasing amounts of petroleum over time due to advances in fuel economy. The Project would provide a hub for public transportation, connecting residential development and commercial and community spaces within a bike-friendly, public transport-centric development.

The Project's impacts in the category of air quality emissions were determined to be potentially significant, and the Project would implement Mitigation Measure (MM) AQ-1 through MM-AQ-6, as detailed in Section 4.3 of this Environmental Impact Report, including implementing a Transportation Demand Management Program to facilitate opportunities for bicycling and pedestrian travel, as well as ride-sharing and carpooling to reduce VMT. Reducing air quality emissions during operation would help reduce construction-related fuel usage.

In summary, although Project implementation would result in an increase in petroleum use during construction and operation, over time vehicles would use less petroleum due to advances in fuel economy. Additionally, the Project would include a variety of features that would encourage electric and zero-emissions technology, ride-sharing and carpooling, and reduced vehicle miles traveling to and from the site during operation. Given these considerations, petroleum consumption associated with the Project would not be considered inefficient or wasteful, and impacts would be less than significant.

Threshold b: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-Than-Significant Impact**.** The Project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR, Part 6). Part 6 of Title 24 establishes energy efficiency standards for residential and non-residential buildings constructed in California in order to reduce energy demand and consumption.

Successful implementation of the TCAG 2022 RTP/SCS would result in GHG emission reductions, reducing potential impact on the environment, facilitating efficient public investments, maximizing mobility and accessibility, supporting economic vitality, improving public health, and building on active transportation. The Project would be consistent with the policies and supportive strategies within the TCAG 2022 RTP/SCS. The Project would be required to comply with CALGreen standards. Furthermore, the Project would implement MM-AQ-1 through MM-AQ-5 to facilitate opportunities for bicycling and pedestrian travel, ride-sharing, and carpooling; encouraging electric, zero-emission technology, ride-sharing, and carpooling; and reducing VMT to and from the site during operation. The Project is in accordance with the City Transportation System Management Plan. As a transit-oriented development, approximately 6 transit stops would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas.

Because the Project would comply with the applicable energy standards and regulations, the Project would result in a less-than-significant impact associated with the potential to conflict with energy standards and regulations.

4.6.5 Mitigation Measures

No mitigation measures are required.

4.6.6 Level of Significance After Mitigation

As detailed above, the potential impacts of the proposed Project were found to be less than significant with no mitigation required.

4.6.7 References

CAPCOA. 2021. California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0. Accessed October 2022.

CARB (California Air Resources Board). 2011. "Facts About The Advanced Clean Cars Program." November 9, 2011. Accessed April 19, 2017. http://www.arb.ca.gov/msprog/zevprog/factsheets/advanced_clean_cars_eng.pdf.

CARB. 2014. "Truck and Bus Regulation, On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation." August 29, 2014. Accessed April 19, 2017. http://www.arb.ca.gov/msprog/onrdiesel/documents/FSRegSum.pdf.

CARB. 2017. "Clean Car Standards - Pavley, Assembly Bill 1493." January 11, 2017. Accessed April 17, 2017. https://www.arb.ca.gov/cc/ccms/ccms.htm.

CARB. 2022. Emissions Factor (EMFAC) 2021. Accessed September 2022. https://arb.ca.gov/emfac/.

CEC (California Energy Commission). 2018a. California Energy Demand 2018–2030 Preliminary Forecast. CEC-200-2018-002-CMF. February 2018. Accessed November 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2017-integrated-energy-policy-report/2017-iepr.

CEC. 2018b. 2019 Building Energy Efficiency Standards Fact Sheet. March 2018. https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf.

CEC. 2020a. "Gas Consumption by Entity." Accessed September 2022. http://ecdms.energy.ca.gov/gasbycounty.aspx.

CEC. 2020b. "Gas Consumption by Planning Area." Accessed September 2022. http://ecdms.energy.ca.gov/gasbyplan.aspx.

CEC. 2020c. "Electricity Consumption by Entity." Accessed September 2022. http://ecdms.energy.ca.gov/elecbycounty.aspx.

City of Tulare. 2014. City of Tulare General Plan. October 2014. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000.

CPUC (California Public Utilities Commission). 2019. 2019 California Renewables Portfolio Standard Annual Report. November 2019. Accessed October 2020. https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/2019%20RPS%20Annual%20Report.pdf.

CPUC. 2020. "Natural Gas and California." Accessed May 2020. http://www.cpuc.ca.gov/natural_gas/.

EIA (U.S. Energy Information Administration). 2020a. "State Electricity Profiles – California Electricity Profile 2018." December 31, 2019; corrected March 23, 2020. Accessed May 2020. https://www.eia.gov/electricity/state/california/index.php.

EIA. 2020b. "California State Energy Profile." Last updated January 16, 2020. Accessed May 2020. https://www.eia.gov/state/print.php?sid=CA.

EIA. 2020c. "Natural Gas Consumption by End Use." May 2020. Accessed May 2020. https://www.eia.gov/dnav/ng/ng_cons_sum_a_EPG0_VC0_mmcf_a.htm.

EIA. 2020d. "California State Profile and Energy Estimates – Table F16: Total Petroleum Consumption Estimates, 2017." Accessed May 2020. https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US&sid=CA.EPA (U.S. Environmental Protection Agency). 2017. "Overview for Renewable Fuel Standard." Last updated June 7, 2017. Accessed February 2019. https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard.

EPA and NHTSA (U.S. Environmental Protection Agency and National Highway Traffic Safety Administration). 2012. 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards. EPA–HQ–OAR–2010–0799, NHTSA-2010-0131.

SCE (Southern California Edison). 2022. 2021 Power Content Labels.https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.energy.ca.gov%2Fsites%2Fdefault%2Ffiles%2F2023-01%2F2021_Power_Content_Labels_sortable_table-Updated_01-31-2023_ADA.xlsx&wdOrigin=BROWSELINK

The Climate Registry. 2022. Default Emission Factors. May 2022. https://www.theclimateregistry.org/wp-content/uploads/2022/06/2022-The-Climate-Registry-Default-Emission-Factors.pdf.

TCAG (Tulare County Association of Governments). 2022. Draft Regional Transportation Plan/Sustainable Communities Strategy. https://tularecog.org/tcag/planning/rtp/rtp-2022/.

4.7 Geology and Soils

This section describes the existing geological conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This section assesses potential effects on geology and soils and paleontological resources that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information contained in this section is based on published and unpublished geological and paleontological reports, including those available from the California Geological Survey (CGS), U.S. Geological Survey (USGS), and City of Tulare, as well as the following:

- Appendix E, Paleontological Resources Inventory Memorandum from the Natural History Museum of Los Angeles County (2022)

Other sources consulted are listed in Section 4.7.7, References, of this section.

No comments were received related to geology and soils and paleontological resources during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.7.1 Existing Conditions

4.7.1.1 Regional Geology

The Project site is located near the geologic boundary between the Great Valley and Sierra Nevada Geomorphic Provinces of California, approximately 15 miles west of the eastern boundary of the southern San Joaquin Valley. The Sierra Nevada range and foothills are characterized by Cretaceous and Jurassic-age (Mesozoic) granitic rocks of the Sierra Nevada batholith locally overlain by Paleozoic-age metamorphic rocks of the Sierran foothills. The San Joaquin Valley is characterized by a thick accumulation of Quaternary-age non-marine sediments shed from the Sierra Nevada mountains, overlying Pleistocene-age terrace and alluvial fan deposits, and older marine sediments (CDMG 1965).

4.7.1.2 Topography

The topography of the site is relatively flat to gently sloping to the southwest, with an elevation change across the site of approximately 9 feet (Figure 3-1, Project Location Map).

4.7.1.3 Soils and Geologic Formations

The Project site is underlain by Recent (past 11,700 years) alluvial fan deposits and basin deposits, consisting of unconsolidated and semi-consolidated sand, silt, clay, and gravel. The alluvial deposits are generally nonmarine and form from stream runoff from adjacent highlands and from periodic formation of lakes. The alluvial fan deposits form as large alluvial, lobate shaped fan bodies that spread out from the streams as flow gradients decrease. The basin deposits form as evaporites, resulting from silts and clays settling out from the surface waters (CGS 2010; CDMG 1965).

The alluvial deposits are overlain by surficial soils, consisting of saline-sodic complex, fine sandy loam, and loamy sand. Soils across the majority of the site, including the western and southwestern Project areas, consist of Nord fine sandy loam on 0% to 2% slopes, found on alluvial fans and flood plains. These soils are well-drained, have negligible runoff, and are rarely flooded or ponded. The north and northeastern portions of the site are underlain by Biggriz-Biggriz and Calgro-Calgro saline-sodic complex soils, on 0% to 2% slopes. These soils are found on remnants of alluvial fans, consist of loam and sandy loam, are somewhat to moderately poorly drained, and have low to negligible runoff. A small portion of the northeastern Project area is underlain by Tujunga loamy sand on 0% to 2% slopes. These soils are found on flood plains, are somewhat excessively drained, and have negligible runoff (USDA NRCS 2022).

4.7.1.4 Geologic Hazards

Regional Seismicity

Ground shaking as a result of earthquakes is a potential hazard throughout California. The intensity of ground shaking at any particular site and relative potential for damage from this hazard depends on the earthquake magnitude, distance from the source (epicenter), and the site response characteristics (ground acceleration, predominant period, and duration of shaking). Seismicity varies greatly between the two major geologic provinces represented in Tulare County. The Central Valley is an area of relatively low tectonic activity, bordered by mountain ranges on either side. The predominant seismic hazards in Tulare County generally result from movement along faults associated with the creation of these mountain ranges (County of Tulare 2010).

The Project site is situated in a low to moderate seismicity area in the tectonically stable San Joaquin–Sierran tectonic block. As with most of central California, the site has experienced historic earthquakes from various regional faults. The San Andreas Fault, located approximately 70 miles southwest of the site, has been responsible for several, large historic earthquakes, including the 1906 San Francisco earthquake (maximum magnitude (M)=7.9) and the 1857 Fort Tejon earthquake (M=7.8). Other major earthquakes include the 1872 Owens Valley earthquake (M=7.5–7.7, located 70 miles east the Project site) and the 1952 Tehachapi–White Wolf earthquake (M=7.2, located 70 miles south of the Project site).

Regional Faulting

The California Geological Survey (CGS) classifies faults as:

- Holocene-active faults, which are faults that have moved during the past approximate 11,700 years. These faults are capable of surface rupture and are also known as active faults.

- Pre-Holocene faults, which are faults that have not moved in the past 11,700 years. This class of fault may be capable of surface rupture but is not regulated under the Alquist-Priolo Special Studies Zones Act of 1972. Pre-Holocene faults are also known as potentially active faults.
- Age-undetermined faults, which are faults where the recency of fault movement has not been determined (CGS 2018). Age-undetermined faults are also known as inactive faults.

This fault classification is consistent with criteria of the Alquist-Priolo Earthquake Fault Zoning Act of 1972 (see Section **Error! Reference source not found.**, Relevant Plans, Policies, and Ordinances**Error! Reference source not found.**, for information about this act). No known active or potentially active faults are present on the Project site. With the exception of the active Kern Canyon Fault, the western Sierra Nevada foothills region contains a fairly large number of small-length, inactive faults (CGS 2022a). Regional faults in the vicinity of the site are shown on Figure 4.7-1, Regional Fault Map. Distances to regional faults and maximum probable earthquake magnitudes are shown in **Error! Reference source not found.**. Several of these faults are actively creeping (i.e., moving slowly) due to subsurface oil and water withdrawal (SCEDC 2022), thus reducing fault strain and minimizing the potential for large earthquakes.

Table 4.7-1. Active Earthquake Faults Within a 75-Mile Radius of Project Site

Fault Name	Distance and Direction from Project Site	Estimated Maximum Magnitude (Mw)*
Pond Fault	35 miles south	Fault Creep
New Hope	46 miles south	Fault Creep
Kern Canyon	50 miles east	Unavailable
Kern Front	52 miles south	Fault Creep
San Andreas	65 miles southwest	6.8–8.0
Owens Valley	74 miles east	7.4

Sources: USGS 2022a; SCEDC 2022; Lawrence Livermore National Laboratory 2009.
Notes:
* Moment Magnitude (Mw) is a measure of an earthquake's magnitude (size or strength) based on its seismic energy. Magnitudes are based on a logarithmic scale (base 10), which means that every whole number you go up on the magnitude scale, recorded ground motion goes up 10 times in strength. Probable Magnitude is the estimated magnitude of a given fault if it were to activate, expressed in Mw.

Liquefaction, Seismically Induced Settlement, and Lateral Spreading

Liquefaction is a process whereby soil is temporarily transformed to a fluid form, typically when a site is subjected to strong seismic shaking, on-site soils are cohesionless, groundwater is encountered within 50 feet of the surface, and soil relative densities are less than about 70%. If the four previous criteria are met, a seismic event could result in a rapid pore water pressure increase from the earthquake-generated ground accelerations. Surface manifestation of liquefaction may consist of surface rupture and/or sand boils, and surface settlement. Sand boils occur where liquefiable soil is extruded upward through the soil deposit to the ground surface. Providing an increase in overburden pressure and a compacted fill mat can mitigate surface manifestation. The California Geological Survey has not evaluated the liquefaction potential of the Project site (CGS 2022b). However, in the Fall of 2020, depth to groundwater in the vicinity of the site was greater than 150 feet (Tulare Irrigation District 2020). Therefore, the potential for liquefaction to occur at the Project site is very low.

Lateral spreading occurs when liquefiable soils are in the immediate vicinity of a free face, such as a slope. Factors controlling lateral displacement include earthquake magnitude, distance from the earthquake epicenter, thickness of

liquefiable soil layer, grain-size characteristics, fine contents of the soil, and Standard Penetration Test blow counts. Because the potential for liquefaction at the site is very low, the potential for lateral spreading is similarly very low.

Settlement can occur in poorly consolidated soils during seismic shaking. During settlement, the soil materials are physically rearranged by the shaking, which can result in reduced stabling alignment of the individual minerals. Settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils or improperly founded or poorly compacted fill. These areas are known to undergo extensive settling with the addition of irrigation water (County of Tulare 2012). The potential for seismically induced settlement is present at the Project site.

Landslides/Debris Flow Deposits

Landslides occur when masses of rock, earth, or debris move down a slope, including rock falls, deep failure of slopes, and shallow debris flows. Landslides are influenced by human activities such as grading and other construction activities, irrigation of slopes, and mining activities, and by natural factors such as precipitation, geology/soil types, surface/subsurface flow of water, and topography. Landslides may also be triggered by floods and earthquakes. Areas having the potential for earthquake-induced landslides generally occur within areas of previous landslide movement, or where local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements. The topography of the Project site and surrounding area is relatively flat to gently sloping. As a result, the potential for landslides or debris flows is not present on-site.

Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. Subsidence caused by groundwater withdrawal generally presents a more serious problem than withdrawal of oil and gas, since it can affect large areas. Oil and gas withdrawal, on the other hand, tends to affect smaller, localized areas. Some areas of the Central Valley have subsided more than 20 feet during the past 50 years (County of Tulare 2010). Based on a land subsidence map compiled by the U.S. Geological Survey, the Project site is located within a regional area of subsidence due to groundwater pumping (USGS 2022b). However, based on the Seismic/Geologic Hazard and Microzone Map in the Tulare County General Plan, Health and Safety Chapter, Geologic and Seismic Hazards Section, the Project site is not located within an area of historic ground subsidence that occurred in the Tulare-Wasco area from 1948 to 1954. The Project site is located northeast of this area of historic subsidence (County of Tulare 2012).

Expansive Soils

Certain types of clay soils expand when they are saturated and shrink when dried. These are called expansive soils and can pose a threat to the integrity of improvements that are built on them without proper engineering. Expansive soils are derived primarily from weathering of feldspar minerals and volcanic ash. Remedial grading and the use of foundations systems designed to accommodate soil expansion are typically required to mitigate potential impacts related to expansive soil. As previously discussed, on-site soils generally consist of loamy sand and sandy loam, which have a component of clay. Therefore, the potential exists on-site for expansive soils.

4.7.2 Relevant Plans, Policies, and Ordinances

Federal

International Building Code

The International Building Code (IBC) is a model building code developed by the International Code Council. The purpose of the IBC is to provide minimum standards for building construction to ensure public safety, health, and welfare. Prior to the creation of the IBC, several different building codes were used; however, by 2000, the IBC had replaced these previous codes. The IBC is updated every three years.

Occupational Safety and Health Administration Regulations

Excavation and trenching are among the most hazardous construction activities. The Occupational Safety and Health Administration Excavation and Trenching Standard, Title 29 of the Code of Federal Regulations, Sections 1926.650 through 1926.652, covers requirements for excavation and trenching operations. The Occupational Safety and Health Administration requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

State

California Building Code

California law provides a minimum standard for building design through the California Building Code (CBC). The CBC is based on the IBC, with amendments for California conditions. Part 2, Volume 2, Chapter 16 of the CBC contains specific requirements for seismic safety. Part 2, Volume 2, Chapter 18 of the CBC regulates soils and foundations. Part 2, Volume 2, Appendix J of the CBC regulates grading activities. Construction activities also are subject to occupational safety standards for excavation, shoring, and trenching as specified in California Occupational Safety and Health Administration regulations (Title 8 of the California Code of Regulations) and in Section A33 of the CBC.

Alquist–Priolo Earthquake Fault Zoning Act

The Alquist–Priolo Earthquake Fault Zoning Act was signed into law in 1972. The purpose of this act is to prohibit the location of most structures for human occupancy across the traces of active faults and to thereby mitigate the hazard of earthquake fault rupture. Under the act, the State Geologist is required to delineate “Earthquake Fault Zones” along known active faults in California. Cities and counties affected by the zones must regulate certain development projects within the zones. They must withhold development permits for a site within the zones until geologic investigations demonstrate that the site is not threatened by surface displacement from future faulting. According to the CGS, the Project site is not located within an Earthquake Fault Zone.

Seismic Hazards Mapping Act

The CGS, formerly the California Division of Mines and Geology (CDMG), provides guidance with regard to seismic hazards. Under CDMG’s Seismic Hazards Mapping Act of 1990, seismic hazard zones are to be identified and mapped to assist local governments in land use planning. The intent of this publication is to protect the public from

the effects of strong ground shaking, liquefaction, landslides, ground failure, or other hazards caused by earthquakes. In addition, CDMG's Special Publications 117, "Guidelines for Evaluating and Mitigating Seismic Hazards in California," provides guidance for the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations.

NPDES Construction General Permit

Construction projects that disturb more than 1.0 acre of land surface, or that are part of a common plan of development or sale that disturbs more than 1.0 acre of land surface, are subject to the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002, as amended by Orders 2010-0014-DWQ and 2012-006-DWQ), and also known as the Construction General Permit. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater and moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management, and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Each category contains specific BMPs to achieve the goals of the overarching category.

In the Project area, the Construction General Permit is implemented and enforced by the Central Valley Regional Water Quality Control Board (RWQCB), which administers the stormwater permitting program. Dischargers are responsible for notifying the RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected. A risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner.

California Environmental Quality Act

The CEQA Guidelines require that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to paleontological resources. Paleontological resources, which are limited, nonrenewable resources of scientific, cultural, and educational value, are recognized as part of the environment under these state guidelines. This study satisfies project requirements in accordance with CEQA (13 PRC 21000 et seq.).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section VII(f) of CEQA Guidelines Appendix G, the "Environmental Checklist Form," which addresses the potential for adverse impacts to "unique paleontological resource[s] or site[s] or … unique geological feature[s]." This provision covers fossils of signal importance – remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group – as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth.

Public Resources Code 5097.5

The PRC Section 5097.5 (Stats 1965, c 1136, p. 2792) regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.

Local

Tulare City Code

Section 4.70.060 of the Tulare City Code requires that all structures be substantially complete and pass a final inspection, as set forth in the CBC, prior to occupancy or permanent connection of utilities. In addition, any improvements required by conditions of approval, CBC or zoning ordinance, or any Engineering Department requirements, shall be completed prior to occupancy or permanent connection of utilities.

Tulare General Plan

The following goals and policies apply to geology and soils:

Goal SAF-1: To regulate future development to ensure the protection of public health and safety from hazards and hazardous materials and the adequate provision of emergency services.

Policy SAF-P1.1: Development Constraints. The City shall permit development only in areas where the potential danger to the health and safety of people and property can be mitigated to an acceptable level.

Policy SAF-P1.4: Building and Codes**.** Except as otherwise allowed by State law, the City shall ensure that all new buildings intended for human habitation are designed in compliance with the latest edition of the California Building Code, California Fire Code, and other adopted standards based on risk (e.g., seismic hazards, flooding), type of occupancy, and location (e.g., floodplain, fault).

Policy SAF-P1.5: Hazard Awareness and Public Education. The City shall continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.

Policy SAF-P1.7: Site Investigations. The City shall require applicants to conduct site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, and/or flooding.

Goal SAF-1: To manage and protect sites of cultural and archaeological importance for the benefit of present and future generations.

Policy COS-P5.9: Discovery of Archaeological Resources. In the event that archaeological/paleontological resources are discovered during site excavation, grading, or construction, the City shall require that work on the site be suspended within 100 feet of the resource until the significance of the features can be determined by a qualified archaeologist /paleontologist. If significant resources are determined to exist, an archaeologist shall make recommendations for protection or recovery of the resource. City staff shall consider such

recommendations and implement them where they are feasible in light of project design as previously approved by the City.

Transit-Oriented Development Plan (TOD)

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City of Tulare. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City of Tulare's General Plan documents. There are no specific geology and soils-related policies and measures contained in TOD. In the absence of applicable goals, policies, or implementation measures within the TOD, refer to the applicable policies, goals, and implementation measures of the Tulare City General Plan above.

4.7.3 Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2022 CEQA California Environmental Quality Act Statute & Guidelines. Would the Project:

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
   i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
   ii. Strong seismic ground shaking?
   iii. Seismic-related ground failure, including liquefaction?
   iv. Landslides?
   b. Result in substantial soil erosion or the loss of topsoil?
   c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
   d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
   e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?
   f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

4.7.4 Impacts Analysis

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

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impacts. The Project site does not overlie an Alquist-Priolo Earthquake Fault Zone, or any other known active or potentially active fault (Figure 4.7-1, Table 4.7-1). In addition, based on the nature of the Project (i.e., residential development), the Project would not directly or indirectly cause potential substantial adverse effects as a result of rupture of a known earthquake fault. As a result, **no impacts** would occur.

ii. Strong seismic ground shaking?

Less than Significant. The Project site is situated in a low to moderate seismicity area in the tectonically stable San Joaquin–Sierran tectonic block. However, as with most of central California, seismically induced ground shaking can be expected during the life of the Project. The proposed Project would be required to comply with the then current CBC, which includes requirements to ensure that new development would not cause or exacerbate geological and soil hazards. The 2019 CBC design parameters are specifically tailored to minimize the risk of structure failure due to seismic hazards and include a requirement for a standard, Project-specific geotechnical report (also known as a soils investigation), as part of the building permit process (CBC Chapter 18 and 18A).

In accordance with the CBC, the geotechnical report provides specific recommendations related to soils and seismic engineering, including recommendations for remedial grading, foundation design, and retaining walls, thus minimizing the potential for structural distress as a result of seismically induced ground shaking. The geotechnical report is a standard report that provides performance standards, including seismic engineering, which can be used to mitigate standard geotechnical issues. The geotechnical report provides the understanding of the significant effects of the proposed Project and its alternatives. In the case of the relatively flat Project site, with no potential for landslides, fault rupture, or other unmitigable geologic hazards, it can reasonably be assumed that no unresolved geotechnical issues would arise.

Compliance with recommendations of the geotechnical report(s) would minimize the potential for structural damage during an earthquake. As with all development in the City of Tulare, the City's plan check and building inspection procedures would ensure that the proposed Project is constructed according to CBC standards, including the recommendations provided in the geotechnical report. Furthermore, based on the nature of the Project (i.e., residential development), development of the proposed Project would not directly or indirectly cause or exacerbate adverse effects involving strong seismic ground shaking. The Project would be designed to current CBC regulations, with respect to seismic engineering and would therefore be considered seismically safe. Constructing new structures within an earthquake-prone area would not, in and of itself, increase seismic risks to surrounding uses. Therefore, impacts would be **less than significant,** and no mitigation is required**.**

iii. Seismic-related ground failure, including liquefaction?

Less than Significant. As discussed in Section 4.7.1, Existing Conditions, due to the lack of shallow groundwater, liquefaction and lateral spreading are not considered potential geologic hazards. However, other seismic related ground failures are possible at the site, including seismically induced ground settlement, which can result in distress to overlying structures.

In addition, as discussed in Threshold GEO-1b, the proposed Project would be required to comply with the then current CBC, which currently includes provisions to ensure that new development would not cause or exacerbate geological and soil hazards, including seismically induced settlement. These provisions would include incorporation of recommendations of the Project-specific geotechnical report, which would minimize the potential for structural damage during an earthquake. Furthermore, development of the proposed Project would

not foreseeably cause ground failure or directly or indirectly cause or exacerbate adverse effects involving seismic related ground failure, including ground settlement. Therefore, impacts would be **less than significant.**

iv. Landslides?

No Impacts. As discussed in Section 4.7.1, the topography of the Project site and surrounding area is relatively flat to gently sloping. Therefore, Project grading would not directly or indirectly cause potential substantial adverse effects as a result of landslides. As a result, **no impacts** would occur.

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

Less than Significant (Construction). As previously described, on-site soils consist of well-drained sandy loam and loamy sand, on relatively flat topography, which minimizes the potential for erosion. However, construction activities associated with the Project would include substantive earthwork activities that could potentially expose soils to erosion or loss of topsoil. As described more thoroughly in Section 4.10, Hydrology and Water Quality, of this Draft EIR, as part of the plan checking process, the City would require submittal of a SWPPP that is required to be submitted to the Central Valley RWQCB prior to construction, in adherence to the conditions set forth under the Construction General Permit. A SWPPP is required for all projects with ground disturbance greater than 1.0 acre. The SWPPP would incorporate BMPs to ensure that potential water quality impacts during construction from erosion would be minimized.

Typical BMPs would include grading during dry-weather conditions, moisture control of exposed soils to prevent wind erosion when temporarily disturbed, covering of temporary soil stockpiles, construction of temporary catch basins, and utilization of sandbags, as appropriate. If excavations are made during the rainy season (normally from November through April), BMPs would typically include the installation of berms, plastic sheeting, or other devices, to protect exposed soils from the effects of precipitation. Surface water would be prevented from flowing over or ponding at the top of excavations. Construction activities would also be required to comply with the City's grading requirements to eliminate or reduce erosion or sedimentation, which are targeted for protection of water quality, but would also be effective in minimizing erosion or loss of topsoil. Once land disturbance is completed, landscaping would be installed and nonerosive drainage features such as private storm drains and debris/infiltration basins would be constructed. Disturbed areas would be protected until sustainable vegetated growth is established. Typically, protection can be provided by the use of sprayed polymers, straw waddles, jute mesh, or by other measures in accordance with City and statewide general construction stormwater permit requirements. In addition, the Project would be required to comply with all applicable City grading permit regulations, plans, and inspections to reduce sedimentation and erosion.

Thus, with implementation of BMPs, compliance with applicable City grading permit regulations, and compliance with requirements of the statewide NPDES General Construction Permit, the Project construction activities would not result in substantial erosion or loss of topsoil. Impacts would be **less than significant,** and no mitigation is required.

Less than Significant (Operation). Once constructed, operation of the Project would have a more limited degree of erosion potential because of the proposed improvements and associated drainage control features. As discussed in more detail in Section 4.10, during operations, the Project site would include design measures that meet post-construction requirements of the City's Stormwater Management Plan, which include a combination of structural and/or non-structural BMPs. These BMPs could include use of bioswales, porous pavement, landscaping, and onsite detention ponds. The design measures would be required to meet the NPDES MS4 requirements and enforced through the Site plan review process by the City. The implementation of these required water quality BMPs and storm drainage system design measures, consistent with the City's Stormwater Management Plan, would

ensure that the potential for adverse effects related to water quality would be minimized. As a result, impacts would be **less than significant,** and no mitigation is required.

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

As described for Threshold a, the Project site is not susceptible to landslides, liquefaction, or lateral spreading. Based on a land subsidence map compiled by the U.S. Geological Survey, the Project site is located within a regional area of subsidence due to groundwater pumping. However, more specifically, the Project site is not located within an area of historic ground subsidence that occurred in the Tulare-Wasco area from 1948 to 1954. The Project site is located northeast of this area of historic subsidence. Project construction and operation would not induce subsidence and result in unstable ground conditions.

Compliance with recommendations of a site-specific geotechnical report would minimize the potential for structural damage of proposed structures due to geologic hazards. As with all development in the City of Tulare, the City's plan check and building inspection procedures would ensure that the proposed Project is constructed according to CBC standards, including the recommendations provided in the geotechnical report. Furthermore, based on the nature of the Project (i.e., residential development), development of the proposed Project would not directly or indirectly cause or exacerbate adverse effects involving strong seismic ground shaking, subsidence, or collapse. The Project would be designed to current CBC regulations, with respect to seismic engineering and would therefore be considered seismically safe. Constructing new structures within an earthquake-prone area would not, in and of itself, increase seismic risks to surrounding uses. Therefore, impacts would be **less than significant,** and no mitigation is required**.**

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

Less than Significant. On-site soils generally consist of loamy sand and sandy loam, which have a component of clay. Therefore, the potential exists on-site for expansive soils. The proposed Project would be required to comply with the then current CBC, which currently includes requirements to minimize the potential for substantial risks to life or property due to expansive soils. In addition, the Project-specific geotechnical report would include recommendations to address potentially expansive soils during grading and construction. Compliance with these recommendations would minimize the potential for structural damage associated with expansive soils. In addition, Project construction and operation would not increase the potential for substantial risks to life or property associated with the presence of expansive soils because this type of project would not foreseeably create hazards or risks to life or property from expansive soils given the soil engineering that would be done prior to Project construction. As a result, impacts would be **less than significant,** and no mitigation is required.

Threshold e: Would the project 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?

No Impacts. The Project would be provided sewer service by the City. No septic tanks or alternative wastewater disposal systems would be utilized for the Project. As a result, **no impacts** would occur.

Threshold f: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant With Mitigation Incorporated. According to surficial geological mapping by Matthews and Burnett (1965) at a 1:250,000 scale and the latest chronostratigraphic chart of Cohen et al. (2023), the Project

site is underlain by Holocene (less than 11,700 years ago) to possibly late Pleistocene (approximately 128,000 – 11,700 years ago) alluvial fan deposits (map unit Qf) and basin deposits (map unit Qb). These deposits are part of the Great Valley Sequence, which includes stream channel deposits, fan deposits, and basin deposits.

Dudek submitted a paleontological records search request to the Natural History Museum of Los Angeles County (NHMLA) of the Project site and the surrounding vicinity on September 23, 2022, and the results were received on October 23, 2022. The NHMLA reported no fossil localities from within the Project site; however, they did report nearby Pleistocene terrestrial fossil localities (NHMLA 2022). Fossil Locality LACM VP CIT (Los Angeles County Museum Vertebrate Paleontology California Institute of Technology) 117 produced a fossil horse (*Equus*) from 425 feet below the ground surface (bgs) in a well boring east of Angiola. The next closest locality, LACM VP 4087 yielded a fossil mammoth (*Mammuthus*) from an unknown depth bgs approximately 3 miles east of Terra Bella (NHMLA 2022). Other fossil localities include LACM VP 6701, which produced a fossil mammoth (*Mammuthus*) from 6 feet bgs southeast of Ducor; LACM VP 7844 – 7845 yielded deer (Cervidae cf. *Odocoileus*) and a microvertebrate assemblage from an unknown depth bgs along Highway 46 in Polonia Pass; and LACM VP 6216 produced a fossil mammoth (*Mammuthus*) approximately 4 miles north of Creston from an unknown depth bgs.

In addition to the NHMLA fossil records, Jefferson (1991) reported numerous amphibian, reptile and mammal fossils from early Holocene to Pleistocene deposits in Tulare County. Nearby fossils include horses (*Equus* sp.) from Exeter, Earlimart, Tipton, and Delano; mammoths (*Mammuthus* sp. and *Mammuthus columbi*) from Badger, Exeter, Lindsay, and Fountain Springs; mastodon (*Mammut americanum*) from Lindsay; camel (*Camelops* sp.) from Strathmore and Tipton.

No paleontological resources or unique geological features were identified within the Project site as a result of the institutional records search and desktop geological and paleontological review. However, intact paleontological resources may be encountered below the Holocene alluvial fan and basin deposits during deeper excavations that reach undisturbed late Pleistocene alluvial deposits. Given the proximity of past fossil discoveries in the area and the underlying paleontologically sensitive deposits Pleistocene alluvial deposits, the Project site has the potential to yield scientifically significant paleontological resources at depth. In the event that intact paleontological resources are located on the Project site, ground-disturbing activities associated with construction of the Project, such as grading during site preparation and trenching for utilities, have the potential to destroy a unique paleontological resource or site. However, implementation of MM-GEO-1 would reduce potential impacts to a level less than significant because it would require a qualified paleontological monitor to observe deep excavations and halt or divert grading activity in the event that paleontological resources are unearthed.

4.7.5 Mitigation Measures

Implementation of the following mitigation measure is proposed to reduce identified impacts to a less-than-significant level.

MM-GEO-1 Prior to commencement of any grading activity on-site, the applicant shall retain a qualified paleontologist as defined by the Society of Vertebrate Paleontology 2010 Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. The qualified paleontologist or their representative shall attend the preconstruction meeting and present a worker environmental awareness training to construction personnel. A paleontological monitor shall be on-site during any ground disturbance below a depth of 10 feet below the ground surface to determine the feasibility for the sediments to contain paleontological resources. Based on

subsurface observations by the paleontological monitor, in consultation with qualified paleontologist, monitoring needs may be increased or decreased. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Upon completion of the paleontological monitoring program, the qualified paleontologist shall prepare a final monitoring report documenting the results of the mitigation program. This report should include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

4.7.6 Level of Significance After Mitigation

Threshold f: Paleontological findings were not encountered during the paleontological records search to the Natural History Museum of Los Angeles County however, there is a potential for unknown paleontological resources to be onsite. MM-GEO-1 requires the monitoring during construction in case any paleontological resources are unearthed during grading. The Project would result in a **less-than-significant impact** after applying MM-GEO-1 with regard to paleontological resources.

4.7.7 References

CDMG (California Division of Mines and Geology). 1965. National Geologic Map Database. Accessed September 2022. https://ngmdb.usgs.gov/ngmdb/ngmdb_home.html.

CGS (California Geological Survey). 2010. Geological Map of California. California Department of Conservation. Accessed September 2022. https://www.conservation.ca.gov/cgs.

CGS (). 2018. Special Publication 42 Earthquake Faults Zones A Guide for Government Agencies, Property Owners / Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California. California Department of Conservation. Accessed September 11, 2022.

CGS. 2022a. Fault Activity Map of California. California Department of Conservation. Accessed September 2022. https://www.maps.conservation.ca.gov/cgs/fam/app.

CGS. 2022b. Earthquake Zones of Required Investigation. California Department of Conservation. Accessed September 2022. https://www.maps.conservation.ca.gov/cgs/EQZApp/app.

Cohen, K.M., S.C. Finney, P.L. Gibbard, and J.-X. Fan. 2023. "The ICS International Chronostratigraphic Chart." Episodes 36: 199––204. 2013; updated. https://stratigraphy.org/ICSchart/ChronostratChart2022-02.pdf.

County of Tulare. 2010. Tulare County General Plan. September 2022.

County of Tulare. 2012. Tulare County General Plan. September 2022.

Jefferson, G.T. 1991. A Catalog of Late Quaternary Vertebrates from California. Natural History Museum of Los Angeles County, Technical Reports 7:1-174. Unpublished revision: 18 May 2012.

Lawrence Livermore National Laboratory. 2009. 3D Geologic Modeling of Southern San Joaquin Basin for the Westcarb Kimberlina Demonstration Project- A Status Report. September 2022.

Matthews, R.A. and J.L. Burnett. 1965. Geologic map of California: Fresno sheet: California Division of Mines and Geology, scale 1:250,000.

NHMLA (Natural History Museum of Los Angeles County). 2022. Paleontological Resources for the Chandler Grove Annexation Project (PN: 14187). Unpublished Records Search Results Letter from A. Bell with the Natural History Museum of Los Angeles County, Los Angeles, California, dated October 23, 2023.

SCEDC (Southern California Earthquake Data Center at Caltech). 2022. San Andreas Fault Zone – San Gorgonio Pass Area. Accessed September 2022. www.scedc.caltech.edu.

Tulare Irrigation District. 2020. Depth to Groundwater Map, Fall 2020. Accessed July 17, 2023. https://tulareid.org/fall-2020-depth-to-groundwater-mappdf.

USDA NRCS (United States Department of Agriculture Natural Resources Conservation Service). 2022. Web Soil Survey. September 2022. https://websoilsurvey.nrcs.usda.gov/app/websoilsurvey.aspx.

USGS (United States Geological Survey). 2022a. U.S. Quaternary Faults. September 2022. www.usgs.maps.argis.com.

USGS. 2022b. Subsiding Areas in California. September 2022. www.usgs.gov/centers/ca-water-ls.

Faults

- Historic (< 150 years), inferred location
- Historic (< 150 years), moderately constrained location
- Historic (< 150 years), well constrained location
- Late Quaternary (< 130,000 years), inferred location
- Late Quaternary (< 130,000 years), moderately contrained location
- Late Quaternary (< 130,000 years), well constrained location
- Latest Quaternary (<15,000 years), inferred location
- Latest Quaternary (<15,000 years), moderately constrained location
- Latest Quaternary (<15,000 years), well constrained location
- Undifferentiated Quaternary (< 1.6 million years), inferred location
- Undifferentiated Quaternary (< 1.6 million years), moderately constrained location
- Undifferentiated Quaternary (< 1.6 million years), well constrained location

Project Site

Great Valley Thrust Fault System
Nunez Fault
San Andreas Fault Zone
Rinconada Fault Zone
San Juan Fault Zone
Pond Poso Creek Fault
Unnamed Faults Near Rag Gulch
Unnamed Faults Near Little Creek
Mt. Poso Fault
Kern Canyon Fault Zone
Southern Sierra Nevada Fault Zone
Owens Valley Fault Zone
White Mountains Fault Zone
Unnamed Faults In Eureka Valley
Northern Death Valley Fault Zone
Tin Mountain Fault
Hunter Mountain-Saline Valley Fault Zone
Lee Flat Fault Zone
Panamint Valley Fault Zone
Ash Hill Fault
Unnamed Faults In Coso Range
Airport Lake Fault Zone
Wilson Canyon Fault
Unnamed Fault In California
Garlock Fault Zone

Auberry, Sanger, Squaw Valley, Reedley, Selma, Riverdale, Hanford, Lemoore, Lemoore Station, Visalia, Tulare, Corcoran, Woodville, Porterville, Avenal, Allensworth, Delano, Paso Robles, Kernville, Wofford Heights, Lake Isabella, Bodfish, South Lake, Lone Pine, Ridgecrest, Searles Valley

Madera County, Fresno County, Invyo County, San Benito County, Monterey County, Kings County, Tulare County, Kern County, San Luis Obispo County, San Bernardino County

SOURCE: USGS 2022

DUDEK

0 7.5 15 Miles

FIGURE 4.7-1

Regional Fault Map

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK

4.8 Greenhouse Gas Emissions

This section describes the existing conditions of the Project site and vicinity related to greenhouse gas (GHG) emissions, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project (Project). This section assesses potential effects on greenhouse gas emissions that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632-acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information contained in this section is based on the greenhouse gas related emissions calculations and modeling files prepared for the Project, provided as follows:

- Appendix B-1, Health Effects of Criteria Air Pollutants (CalEEMod Calculations and Modeling), prepared by Dudek (2023)
- Appendix B-2, Heath Risk Assessment, prepared by Dudek (2022)
- Appendix B-3, Ambient Air Quality Assessment, prepared by Dudek (2022)

Other sources consulted are listed in Section 4.8.7, References, of this section.

No comments were received related to greenhouse gas emissions during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.8.1 Existing Conditions

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (i.e., decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise (EPA 2017a).

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (IPCC 2013; EPA 2017a). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013).

Greenhouse Gas

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code, Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (see also California Environmental Quality Act [CEQA] Guidelines, Section 15364.5). Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[1]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (e.g., rockets, racecars, and aerosol sprays).

[1] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's "GHG Inventory Glossary" (2021), and EPA's "Glossary of Climate Change Terms" (2016).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbons [CFCs], hydrochlorofluorocarbons [HCFCs], and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to ozone-depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Because PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric ozone (O_3).

Hydrochlorofluorocarbons. HCFCs are a large group of compounds whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is short-lived and varies spatially, which makes it difficult to quantify its global warming potential. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

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

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2016). The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e).

The current version of the California Emissions Estimator Model (CalEEMod) (version 2020.4.0) assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the Project.

Sources of Greenhouse Gas Emissions

Anthropogenic GHG emissions worldwide in 2017 (the most recent year for which data is available) totaled approximately 50,860 million metric tons (MMT) of CO_2e, excluding land use change and forestry (PBL 2018). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65% of the total global emissions, or approximately 33,290 MMT CO_2e (PBL 2018).

Per the U.S. Environmental Protection Agency (EPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2018 (EPA 2020), total United States GHG emissions were approximately 6,676.6 MMT CO_2e in 2018 (EPA 2020). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 81.3% of total GHG emissions (5,428.1 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.8% of CO_2 emissions in 2018 (5,031.8 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2018 were higher by 3.7%, down from a high of 15.2% above 1990 levels in 2007. GHG emissions decreased from 2017 to 2018 by 2.9% (188.4 MMT CO_2e) and overall, net emissions in 2018 were 10.2% below 2005 levels (EPA 2020).

According to California's 2000–2018 GHG emissions inventory (2020 edition), California emitted 425 MMT CO_2e in 2018, including emissions resulting from out-of-state electrical generation (CARB 2020). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and

out-of-state sources, commercial and residential uses, agriculture, high-GWP substances, and recycling and waste. The California GHG emissions source categories and their relative contributions in 2018 are presented in Table 4.8-1.

Table 4.8-1. Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total
Transportation	169.50	40
Industrial uses	89.18	21
Electricity generation[a]	63.11	15
Residential and commercial uses	41.37	10
Agriculture	32.57	8
High GWP substances	20.46	5
Recycling and waste	9.09	2
Totals	**425.28**	**100**

Source: CARB 2020.
Notes: GHG = greenhouse gas; GWP = global warming potential; MMT CO_2e = million metric tons of carbon dioxide equivalent.
Emissions reflect 2018 California GHG inventory.
Totals may not sum due to rounding.
[a] Includes emissions associated with imported electricity, which account for 24.57 MMT CO_2e.

As outlined in Table 4.8-2, the City of Tulare's Greenhouse Gas Emissions by Sectors (2007), the County of Tulare (County) emitted 5,208,060 MT CO_2e in 2007 (Tulare Climate Action Plan).

Table 4.8-2. City of Tulare Greenhouse Gas Emissions by Sectors (2007)

Source Category	Annual GHG Emissions (MT CO_2e)
Electricity	81,246
Natural Gas	320,769
Mobile Sources	160,587
Dairy/Feedlots	42,809
Solid Waste	214,879
Total	**820,291**

Source: County of Tulare 2012.
Notes: GHG = greenhouse gas; MT CO_2e = metric tons of carbon dioxide equivalent.
Reflects inventory year 2007.
Total may not add due to rounding.

Potential Effects of Climate Change

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed mean surface temperature for the decade 2006–2015 was 0.87°C (likely between 0.75°C and 0.99°C) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0°C (1.8°F) of global warming above pre-industrial levels, with a likely range of

0.8°C to 1.2°C (1.4°F to 2.2°F) (IPCC 2018). Global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed, including an increase in annual average air temperature, with record warmth from 2012 to 2016; more frequent extreme heat events; more extreme drought; a decline in winter chill; an increase in cooling degree days and a decrease in heating degree days; and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers, and snowpack—upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed, such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed, including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health, as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California, as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

The California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (CNRA 2006, 2009a, 2012, and 2018a), which have addressed acceleration of warming across the state; more intense and frequent heat waves; greater riverine flows; accelerating sea-level rise; more intense and frequent drought; more severe and frequent wildfires; more severe storms and extreme weather events; shrinking snowpack and less overall precipitation; and ocean acidification, hypoxia, and warming. To address local and regional governments' need for information to support action in their communities, the Fourth Assessment (CNRA 2018a) includes reports for nine regions of the state, including the San Joaquin region, where the Project is located. Key projected climate changes for the San Joaquin region include the following (CNRA 2018b):

- Agriculture is one of the most vulnerable sectors under climate change due in part to more frequent and severe drought, as well as tighter water supply.
- Ecosystems in San Joaquin Valley are highly vulnerable to climate change given existing anthropogenic stressors and the lack of organization of landscape-scale science, funding, and mitigation of adverse impacts within the region.
- Water resources within the San Joaquin Valley region will be severely impacted by climate change.

- Infrastructure in San Joaquin Valley, including urban, water, and transportation systems, may face increased stress from higher temperatures and extreme precipitation events, including droughts and floods.

Agriculture. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production.

Biodiversity and Habitat. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites, and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurred).

Energy. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events, and sea-level rise.

Forestry. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities, and combined with increasing temperatures, have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts, and vegetation conversions.

Ocean and Coastal Ecosystems and Resources. Sea-level rise, changing ocean conditions, and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems, in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea-level rise, in addition to more frequent and severe coastal storms and erosion, is threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting coastal recreational assets such as beaches and tidal wetlands.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves are likely to increase the risk of mortality due to heat-related illness, as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness, such as asthma and allergies.

Transportation. Although the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter. Increased risk of flooding has a variety of public health concerns, including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively groundwater reserves and result in increased overdraft and subsidence. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality.

4.8.2 Relevant Plans, Policies, and Ordinances

Federal

Massachusetts v. EPA.

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel by 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and directs National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling previously discussed, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 by model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200). On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks (EPA 2017b).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program applies to vehicles with model years 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018, the EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by approximately 0.5 million barrels per day (2%–3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of 1 degree Celsius by 2100 (EPA and NHTSA 2018). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the EPA and NHTSA published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program" (84 FR 51310), which became effective November 26, 2019. The Part One Rule revokes California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the EPA and NHTSA issued Part Two of the SAFE Rule, which went into effect 60 days after being published in the Federal Register. The Part Two Rule sets CO_2 emissions standards and

corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. In March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

The Inflation Reduction Act of 2022

The Inflation Reduction Act was signed into law by President Biden in August 2022. The bill includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the United States by 40% as compared to 2005 levels by 2030. The bill allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles, and includes measures that will make homes more energy efficient.

State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

The state has taken a number of actions to address climate change. These include EOs, legislation, and CARB plans and requirements. These are summarized below.

EO S-3-05. EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California EPA to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010 (CAT 2006, 2010).

Assembly Bill 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

Senate Bill 32 and AB 197. Senate Bill (SB) 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG

emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

CARB's 2007 Statewide Limit. In 2007, in accordance with California Health and Safety Code Section 38550, CARB approved a statewide limit on the GHG emissions level by 2020, consistent with the determined 1990 baseline (427 MMT CO_2e).

CARB's Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The Climate Change Scoping Plan: A Framework for Change (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR 95480 et seq.)
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030

mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including: energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent global warming potentials identified by the IPCC, from 427 MMT CO2e to 431 MMT CO2e (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. The governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, CARB's Governing Board adopted the 2017 Climate Change Scoping Plan Update (2030 Scoping Plan) (CARB 2017). The 2030 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' "known commitments" include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the LCFS, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and EOs if it meets the general policies in reducing GHG emissions to facilitate the achievement of the state's goals and does not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each planning policy or goals to be consistent. A project would be consistent if it will further the objectives and not obstruct their attainment.

CARB adopted the 2022 Scoping Plan Update in December 2022. The 2022 Scoping Plan outlines the state's plan to reach carbon neutrality by 2045 or earlier, while also assessing the progress the state is making toward achieving GHG reduction goals by 2030. Per the Legislative Analyst's Office, the 2022 Scoping Plan identifies a more aggressive 2030 GHG goal. As it relates to the 2030 goal, perhaps the most significant change in the 2022 plan (as compared to previous Scoping Plans) is that it identifies a new GHG target of 48% below the 1990 level, compared to the current statutory goal of 40% below. Current law requires the state to reduce GHG emissions by at least 40% below the 1990 level by 2030 but does not specify an alternative goal. According to CARB, a focus on the lower target is needed to put the state on a path to meeting the newly established 2045 goal, consistent with the overall path to 2045 carbon neutrality. The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high

GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen (CARB 2022).

The 2022 Scoping Plan Update also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon. Strategies for carbon removal and sequestration include carbon capture and storage from anthropogenic point sources, where CO_2 is captured as it leaves a facility's smokestack and is injected into geologic formations or used in industrial materials (e.g., concrete); and carbon dioxide removal from ambient air, through mechanical (e.g., direct air capture with sequestration) or nature-based (e.g., management of natural and working lands) applications.

The 2022 Scoping Plan details "Local Actions" in Appendix D. The Local Actions includes recommendations intended to build momentum for local government actions that align with the State's climate goals, with a focus on local GHG reduction strategies (commonly referred to as climate action planning) and approval of new land use development projects, including through environmental review under CEQA. The recommendations provided in Appendix D are non-binding and should not be interpreted as a directive to local governments, but rather as evidence-based analytical tools to assist local governments with their role as essential partners in achieving California's climate goals. Appendix D recognizes consistency with a CEQA-qualified GHG reduction plan such as a Climate Action Plan as a preferred option for evaluating potential GHG emission impacts under CEQA. Absent a qualified GHG reduction plan, Appendix D provides recommendations for key attributes that residential and mixed-use projects should achieve that would align with the state's climate goals including EV charging infrastructure, infill location, no loss or conversion of natural and working lands, transit-supportive densities or proximity to transit stops, reducing parking requirements, provision of affordable housing (20% of units), and all-electric appliances with no natural gas connection (CARB 2022). Projects that achieve all key attributes are considered clearly consistent with the state's climate and housing goals and would have a less-than-significant GHG impact under CEQA (CARB 2022). However, projects that do not achieve all attributes are not considered to result in a potentially significant GHG emission impact.

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions. CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that the EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (40 CFR Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that the EPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit more than 10,000 MT CO_2e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emissions levels. Entities that emit more than the 25,000 MT CO_2e per year threshold are required to have their GHG emissions report verified by a CARB-accredited third party.

EO B-18-12. EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40%

below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050, as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO_2e. The EO also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

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.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations (CCR) was established in 1978 and serves to enhance and regulate California's building standards. Although not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (PRC Section 25402[b][1]). The regulations receive input from members of industry and the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (PRC Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (PRC Section 25402[d]) and cost effectiveness (PRC Sections 25402[b][2] and [b][3]). As a result, these standards help to save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2020. The 2019 Title 24 Building Energy Efficiency Standards will further reduce energy used and associated GHG emissions compared to prior standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018). Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings and schools and hospitals. The CALGreen 2019 standards,

which are the current standards, became effective January 1, 2020. For nonresidential projects, some of the key mandatory CALGreen 2019 standards include the following (24 CCR Part 11):

- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles, as shown in Table 5.106.5.2 of the CALGreen Code (5.106.5.2).
- Electric vehicle (EV) charging stations. Construction shall comply with Section 5.106.5.3.1 (single charging space requirements) or Section 106.5.3.2 (multiple charging space requirements) to facilitate future installation of electric vehicle supply equipment (EVSE). The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. Table 5.106.5.3.3 of the CALGreen Code shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE (5.106.5.3).[2]
- Shade trees. Shade trees shall be planted to comply with Sections 5.106.12.1 (surface parking areas), 5.106.12.2 (landscape areas), and 5.106.12.3 (hardscape areas). Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6. (5.106.12).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
  - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
  - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
  - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi [pounds per square inch] (5.303.3.3.1). When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
  - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi] (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle/20 [rim space (inches) at 60 psi] (5.303.3.4.5).
- Outdoor potable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).

[2] Table 5.106.5.3.3 of the CALGreen code establishes a range of electric vehicle (EV) charging space requirements based on the total number of parking places of a project. At the minimum, no EV charging spaces are required if the project has a total of 0 to 9 parking spaces. At the maximum, 6% of the total parking spaces are required to be EV charging spaces for projects with a total number of actual parking spaces of 201 or more.

- Recycled water supply systems. Recycled water supply systems shall be installed in accordance with Sections 5.305.1.1 (outdoor recycled water supply systems), 5.305.1.2 (technical requirements for outdoor recycled water supply systems), and the California Plumbing Code (5.305.1).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1 (construction waste management plan), 5.405.1.2 (waste management company), or 5.408.1.3 (waste stream reduction alternative); or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Outdoor Air Quality. Installations of HVAC, refrigeration, and fire suppression equipment shall comply with Section 5.508.1.1 (no CFCs) and Section 5.508.1.2 (no halons).

The CALGreen standards also include voluntary efficiency measures that are implemented at the discretion of local agencies and applicants. The California Public Utilities Commission (CPUC), CEC, and CARB also have a shared, established goal of achieving zero net energy performance for new construction in California. The key policy timelines include all new residential construction in California needed to be zero net energy by 2020, and all new commercial construction in California will be zero net energy by 2030.[3]

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.

Senate Bill 1. SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

California AB 1470 (Solar Water Heating). This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. AB 1470 required the CEC to evaluate the data

[3] For example, per California's Zero Net Energy Policies and Initiatives, it is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards (CPUC 2013).

available and to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard (RPS) program, which required an annual increase in renewables generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and EO S-21-09).

SB 1368. SB 1368 (September 2006) required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the CPUC.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

EO S-14-08. EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. EO S-14-08 required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The CNRA, through collaboration with the CEC and California Department of Fish and Wildlife, was directed to lead this effort.

EO S-21-09 and SBX1-2. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the CPUC and CEC to ensure that the regulation builds on the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health, and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1 2 expanded the RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. SB X1-2 applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals previously listed.

SB 350. SB 350 (October 2015) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy

conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100. SB 100 (2018) increased the standards set forth in SB 350, establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Mobile Sources

AB 1493. AB 1493 (Pavley July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. The first phase (2009–2012) standards were estimated to result in a reduction of approximately 22% of GHG emissions compared to the emissions from the 2002 fleet, and the mid-term (2013–2016) standards were estimated to result in a reduction of approximately 30%.

Heavy Duty Diesel. CARB adopted the final Heavy Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce PM and NO_x emissions from heavy-duty diesel vehicles. The rule required PM filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule requires nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure on December 12, 2013, to limit idling of diesel-fueled commercial vehicles. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard was to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). Carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

SB 375. SB 375 (Steinberg September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. and to update those targets every 8 years. SB 375 requires the state's 18 regional Metropolitan Planning Organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If a MPO is unable to devise an SCS to achieve the GHG reduction target, the MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), an SCS does not regulate the use of land; supersede the land use authority of cities and counties; or require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In September 2010, CARB adopted the first SB 375 targets for the regional MPOs. The targets for the Tulare County Association of Governments (TCAG) are a 13% reduction in emissions per capita by 2020 and a 16% reduction by 2035 below a 2005 baseline. Achieving these goals through adoption of an SCS is the responsibility of the MPOs. TCAG adopted its first RTP/SCS on June 30, 2014. More recently, the TCAG Board adopted the 2022 RTP/SCS, which builds on the progress made in the 2014 RTP/SCS (TCAG 2022).

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars program (January 2012) is a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single, coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2012). To improve air quality, CARB implemented new emissions standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that by 2025, cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% by 2025. The Zero-Emissions Vehicle (ZEV) program acts as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles (EVs) for the 2018 to 2025 model years.

EO B-16-12. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

AB 1236. AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of EV charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based on substantial evidence in the record that the proposed installation would have a specific, adverse impact on the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. AB 1236 provided that implementation of consistent statewide standards to achieve the timely and cost-effective installation of EV charging stations is a matter of statewide concern, and required EV charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for EV charging stations. AB 1236 also required a city, county, or city and county with a population of fewer than 200,000 residents to adopt this ordinance by September 30, 2017.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

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 conducted several general stakeholder workshops and several focused workshops and in August 2015, published a discussion document titled AB 341 Report to the Legislature, which identified five priority strategies that CalRecycle believed would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (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 decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

Other State Actions

Senate Bill 97. SB 97 (Dutton August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through implementation of project features or off-site measures. The adopted amendments do not establish a GHG emissions threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009b).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions, or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009b), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018c).

Assembly Bill 1279. The Legislature enacted AB 1279, the California Climate Crisis Act, in September 2022. The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

Assembly Bill 1757. AB 1757 (September 2022) requires the 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.

Senate Bill 1020. SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers come from eligible renewable energy resources and zero-carbon resources:

- 90% by December 31, 2035
- 95% by December 31, 2040
- 100% by December 31, 2045

Local

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) does not regulate GHG emissions directly through its permitting responsibilities for stationary sources. Thus, there are no SJVAPCD rules or regulations related to GHGs. The SJVAPCD, however, influences reductions of GHGs from new and modified stationary sources when acting as a lead agency for CEQA. The SJVAPCD implements its GHG policies and reviews whether new or modified stationary sources will implement best performance standards (BPSs).

In 2009, the SJVAPCD developed an internal policy and guidance for local land use agencies to use in evaluating GHG impacts under CEQA. In the Final Staff Report – Addressing GHG Emissions Impacts under the California Environmental Quality Act (SJVAPCD 2009a), the SJVAPCD reviewed potential GHG significance thresholds and approaches suggested by or adopted by entities, including a zero threshold, quantification of a project's GHG impacts without a recommended significance threshold, and specific significance thresholds for different kinds of projects (e.g., residential, mixed use, industrial, plans).[4] The following discussion summarizes the SJVAPCD's conclusions about various categories of GHG significance thresholds.

Zero Threshold. The SJVAPCD concluded that "although a zero threshold is appealing in its simplicity; execution of a zero threshold would be difficult or impossible" (SJVAPCD 2009a). Furthermore, the SJVAPCD found that projects that could not reduce their emissions to zero would require preparation of an environmental impact report and adoption of a statement of overriding consideration by the lead agency. Potentially, projects could choose to relocate to a region with a less-stringent threshold, so-called "leakage," which would still result in GHG emissions outside the SJVAPCD. Finally, the SJVAPCD noted that CARB concluded that zero thresholds are not mandated because some level of GHG emissions is still consistent with climate stabilization, and other regulatory programs will result in GHG reductions. For these reasons, the SJVAPCD did not support a zero threshold. Accordingly, a zero threshold was not selected as an appropriate GHG/climate change threshold for this assessment.

Non-Zero Quantitative Thresholds. The SJVAPCD reviewed numerous quantitative thresholds adopted or proposed by other air districts and organizations, including "mass of GHG emissions generate per unit of activity, GHG emissions per capita per unit basis, and percent reduction compared to business-as-usual" (SJVAPCD 2009a). Although a tiered approach was evaluated, with the final tier incorporating a quantitative threshold, the

[4] These documents encompassed the primary approaches for establishing significance thresholds prior to the March 18, 2010, effective date of revisions of the CEQA Guidelines in accordance with SB 97. Additional guidance regarding assessment of GHG impacts were provided in the revised CEQA Guidelines and accompanying Final Statement of Reasons for Regulatory Action – Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (CNRA 2009b). In addition, the California appellate courts and Supreme Court have more recently considered CEQA cases and, in some cases, issued published decisions that provide additional direction regarding the appropriateness of certain GHG assessment methodologies and significance thresholds.

SJVAPCD concluded that "without supporting scientific information, establishment of tier trigger levels could be argued to be arbitrary, and District staff does not believe the available science supports establishing a bright-line threshold, above which emissions are significant and below which they are not" (SJVAPCD 2009a).

Best Performance Standards. The SJVAPCD evaluated performance-based standards that would state "in quantifiable terms the level and extent of the attribute necessary to reach a goal or objective" (SJVAPCD 2009a). The SJVAPCD considered a project achieving the performance-based standard or mitigating GHG emissions to an equivalent emissions reduction level would be considered to have a less-than-significant cumulative impact on climate change. In conclusion, the SJVAPCD found that the state's GHG emissions reduction target would be accomplished by achieving a 29% reduction from business-as-usual (BAU), and that achieving this reduction would be a "de facto" performance-based standard for GHG emissions reductions.

On December 17, 2009, the SJVAPCD Governing Board adopted Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009b). The guidance recommends the following hierarchy for evaluating a project's impact with respect to its GHG emissions:

- Projects complying with an approved GHG emission reduction plan or GHG mitigation program that avoids or substantially reduces GHG emissions within the geographic area in which the Project is located would be determined to have a less-than-significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing BPSs would not require quantification of project-specific GHG emissions.[5] Consistent with the CEQA Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact for GHG emissions.
- Projects not implementing BPSs would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29% compared to BAU, including GHG emission reductions achieved since the 2002–2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact for GHG (SJVAPCD 2009b).
- For development projects, BPSs would include project design elements, land use decisions, and technologies that reduce GHG emissions. Although the SJVAPCD has adopted BPSs for several types of stationary sources (e.g., boilers), it has not developed BPSs for land development projects. Projects implementing any combination of BPSs and/or demonstrating a total 29% reduction in GHG emissions from BAU would be determined to have a less-than-significant individual and cumulative impact on global climate change (SJVAPCD 2015).

Regarding the BAU threshold, the Supreme Court in its 2015 decision, *Center for Biological Diversity v. Department of Fish and Wildlife*, S217763 (*Newhall*), concluded that substantial evidence is required to support the application of AB 32 statewide GHG reduction goal of 29% to new land use projects. Since neither the BPS nor BAU approach is generally appropriate for this Project, the SJVAPCD guidance was not used for this analysis.

[5] The guidance recommends, "projects requiring preparation of an Environmental Impact Report for any other reason would require quantification of project specific GHG emissions" (SJVAPCD 2009c). This assessment for the Project does include quantification of the Project's construction and operational GHG emissions.

However, the SJVAPCD guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project-related impacts on global climate change.

City of Tulare

The City's General Conservation and Open Space Element sets targets and strategies to reduce GHG emissions and associated climate change by supporting new renewable energy facilities. These are as follows (City of Tulare 2014):

Goal COS-7: Implement the goals, policies, and actions of the Tulare Climate Action Plan (CAP) to reduce greenhouse gas emissions in Tulare.

Policy COS-P7.1: Air Pollution Control Technology. The City shall utilize the Best Available Control Measures (BACM) and Reasonably Available Control Measures (RACM) as adopted by the City to maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate.

Policy COS-P7.2: Air Quality Land Use Compatibility. The City shall consider industrial or other developments which are likely to cause undesirable air pollution with regard to wind direction and circulation in an effort to alleviate effects upon sensitive receptors.

Policy COS-P7.3: CEQA Compliance. The City shall ensure that air quality impacts identified during the CEQA review process are fairly and consistently mitigated.

Policy COS-P7.4: Compact Development. The City shall actively support the development of compact mixed-use projects that reduce travel distances and promote alternative modes of transportation.

Policy COS-P7.5: Cooperation with Other Agencies. The City shall cooperate with other local, regional, federal, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards. The City shall partner with the SJVAPCD, Tulare County Association of Governments (TCAG), and the State Air Pollution Control Board to achieve better air quality conditions locally and regionally.

Policy COS-P7.6: Cumulative Air Quality Impacts. The City shall require developments to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Developers shall be required to present alternatives that reduce air emissions and enhance, rather than harm, the environment.

Policy COS-P7.7: Dust Suppression Measures. The City shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to, the following:

- Site watering or application of dust suppressants,
- Phasing or extension of grading operations,
- Covering of stockpiles,
- Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
- Re-vegetation of graded areas.

Policy COS-P7.8: Indirect Source Review. The City shall require major development projects, as defined by the SJVAPCD, to mitigate air quality impacts associated with the project. As feasible the City shall work with SJVAPCD to determine mitigations that may include, but are not limited to the following:

- Providing bicycle access and parking facilities,
- Increasing density,
- Encouraging mixed use developments,
- Providing walkable and pedestrian-oriented neighborhoods,
- Providing increased access to public transportation,
- Providing preferential parking for high occupancy vehicles, carpools, or alternative fuels vehicles, and
- Establishing telecommuting programs or satellite work centers.

Policy COS-P7.9: Landscape. The City shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing carbon dioxide, producing oxygen, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development.

Policy COS-P7.10: Mixed Land Uses. The City shall encourage the mixing of land uses that generate high trip volumes, especially when such uses can be mixed with support services and where they can be served by public transportation.

Policy COS-P7.11: Paving or Treatment of Roadways for Reduced Air Emissions. The City shall require that all new roads be paved or treated to reduce dust generation where feasible. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured.

Policy COS-P7.12: Prevent Incompatible Uses. The City shall discourage the intrusion into existing urban areas of new incompatible land uses that produce significant noise, odors, or fumes.

Policy COS-P7.13: Purchase of Low Emission/Alternative Fuel Vehicles. The City shall encourage City departments to replace existing vehicles with low emission/ alternative fuel vehicles as appropriate.

Policy COS-P7.14: Ridesharing. The City shall continue to encourage ridesharing programs such as employer-based rideshare programs.

Policy COS-P7.15: Support Statewide Global Warming Solutions. The City shall monitor and support the efforts of the California Air Resources Board, under AB 32, to formulate mitigation strategies, if any, that may be implemented by local government, and further require the City to ultimately consider any such strategies once they become available. If the City Council, after seeking public input on the subject, chooses to implement any such measures it considers to be feasible and desirable, the City's commitment may take the form of a new ordinance, resolution, or other type of policy document.

Policy COS-P7.16: Transportation and Air Quality. When developing the regional transportation system, the City shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in the City of Tulare. Some possible alternatives that should be studied are:

- Public transportation such as buses and light rail, to serve between communities of the valley, publicly subsidized if feasible.
- Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, and park and ride facilities.
- Community bus or other public transportation systems, such as cycling or walking trails, with particular attention to high density areas.

Policy COS-P7.17: Wood Burning Devices. The City shall require the use of natural gas or the installation of low-emission, EPA-certified fireplace inserts in all open hearth fireplaces in new homes as required under the SJVAPCD Rule 4901. The City shall promote the use of natural gas over wood products in space heating devices and fireplaces in all existing and new homes.

Policy COS-P7.18: Climate Action Plan. The City shall, consistent with other City programming and capital priorities and its fiscal constraints, implement and ensure compliance with the goals, policies, and actions of the Tulare Climate Action Plan.

Policy COS-P7.19: Monitoring. On a semi-annual basis, the City shall monitor and report its progress on implementing the goals, policies, and actions of the Climate Action Plan to the City Council.

Policy COS-P7.20: Greenhouse Gas Emissions Reduction. The City should reduce greenhouse gas emissions from City operations, as well as from private development in compliance with the California Global Warming Act of 2006 and any applicable State regulations.

Project Consistency with Applicable GHG-Related Laws and Regulations

A summary of the statewide GHG reduction strategies applicable to the Project is summarized in detail in Table 4.8-3.

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
Building Components/Facility Operations		
Roofs/Ceilings/ Insulation	CALGreen Code (Title 24, Part 11) California Energy Code (Title 24, Part 6)	The Project must comply with efficiency standards regarding roofing, ceilings, and insulation. For example: Roofs/Ceilings: New construction must reduce roof heat island effects per CALGreen Code Section 106.11.2, which requires use of roofing materials having a minimum aged solar reflectance, thermal emittance complying with Sections A5.106.11.2.2 and A5.106.11.2.3, or a minimum aged Solar Reflectance Index as specified in Table A5.106.11.2.2 or A5.106.11.2.3. Roofing materials must also meet solar reflectance and thermal emittance

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
		standards contained in Title 20 Standards. Roof/Ceiling Insulation: Requirements for the installation of roofing and ceiling insulation (see Title 24, Part 6 Compliance Manual at Section 3.2.2).
Flooring	CALGreen Code	The Project must comply with efficiency standards regarding flooring materials. For example, for 80% of floor area receiving "resilient flooring," the flooring must meet applicable installation and material requirements contained in CALGreen Code Section 5.504.4.6.
Window and Doors (Fenestration)	California Energy Code	The Project must comply with fenestration efficiency requirements. For example, the choice of windows, glazed doors, and any skylights for the Project must conform to energy consumption requirements affecting size, orientation, and types of fenestration products used (see Title 24, Part 6 Compliance Manual, Section 3.3).
Building Walls/ Insulation	CALGreen Code California Energy Code	The Project must comply with efficiency requirements for building walls and insulation. Exterior Walls: Must meet requirements in the current edition of the California Energy Code and comply with Section A5.106.7.1 or A5.106.7.2 of CALGreen for wall surfaces, as well as Section 5.407.1, which requires weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2. Construction must also meet requirements contained in Title 24, Part 6, which vary by material of the exterior walls (see Title 24, Part 6 Compliance Manual, Part 3.2.3). Demising (Interior) Walls: Mandatory insulation requirements for demising walls (which separate conditioned from non-conditions space) differ by the type of wall material used (Title 24, Part 6 Compliance Manual Part 3.2.4). Door Insulation: Mandatory requirements for air infiltration rates to improve insulation efficiency; they differ according to the type of door (Title 24, Part 6 Compliance Manual Part 3.2.5). Flooring Insulation: Mandatory requirements for insulation that depend on the material and location of the flooring (Title 24, Part 6 Compliance Manual Part 3.2.6).
Finish Materials	CALGreen	The Project must comply with pollutant control requirements for finish materials. For example, materials including adhesives, sealants, caulks, paints and coatings, carpet systems, and composite wood products must meet requirements in CALGreen to ensure pollutant control (CALGreen Section 5.504.4).
Wet Appliances (Toilets/Faucets/Urinal, Dishwasher/Clothes Washer, Spa and Pool/Water Heater)	CALGreen, California Energy Code, Appliance Efficiency Regulations (Title	Wet appliances associated with the Project must meet various efficiency requirements. For example: Spa and Pool: Use associated with the Project is subject to appliance efficiency requirements for service water heating systems and equipment and spa and pool heating systems and equipment (Title 24, Part 6, Sections 110.3, 110.4, 110.5; Title 20

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
	20 Standards)	Standards, Sections 1605.1(g), 1605.3(g); see also California Energy Code). Toilets/Faucets/Urinals: Use associated with the Project is subject to new maximum rates for toilets, urinals, and faucets effective January 1, 2016 (Title 20 Standards, Sections 1605.1(h),(i) 1065.3(h),(i)): ▪ Showerheads maximum flow rate 2.5 gallons per minute (gpm) at 80 pounds per square inch (psi) ▪ Wash fountains 2.2 x (rim space in inches/20) gpm at 60 psi ▪ Metering faucets 0.25 gallons per cycle ▪ Lavatory faucets and aerators 1.2 gpm at 60 psi ▪ Kitchen faucets and aerators 1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi ▪ Public lavatory faucets 0.5 gpm at 60 psi ▪ Trough-type urinals 16 inches length ▪ Wall mounted urinals 0.125 gallons per flush ▪ Other urinals 0.5 gallons per flush Water Heaters: Use associated with the Project is subject to appliance efficiency requirements for water heaters (Title 20 Standards, Sections 1605.1(f), 1605.3(f)). Dishwasher/Clothes Washer: Use associated with the Project is subject to appliance efficiency requirements for dishwashers and clothes washers (Title 20 Standards, Sections 1605.1(o),(p),(q), 1605.3(o),(p),(q)).
Dry Appliances (Refrigerator/Freezer, Heater/Air Conditioner, Clothes Dryer)	Title 20 Standards CALGreen Code	Dry appliances associated with the Project must meet various efficiency requirements. For example: Refrigerator/Freezer: Use associated with the Project is subject to appliance efficiency requirements for refrigerators and freezers (Title 20 Standards, Sections 1605.1(a), 1605.3(a)). Heater/Air Conditioner: Use associated with the Project is subject to appliance efficiency requirements for heaters and air conditioners (Title 20 Standards, Sections 1605.1(b),(c),(d),(e), 1605.3(b),(c),(d),(e) as applicable). Clothes Dryer: Use associated with the Project is subject to appliance efficiency requirements for clothes dryers (Title 20 Standards, Section 1605.1(q)).
	CALGreen Code	Installations of heating, ventilation, and air conditioning; refrigeration and fire suppression equipment must comply with CALGreen Sections 5.508.1.1 and 508.1.2, which prohibits CFCs, halons, and certain HCFCs and HFCs.
Lighting	Title 20 Standards	Lighting associated with the Project are subject to energy efficiency requirements contained in Title 20 Standards. General Lighting: Indoor and outdoor lighting associated with the Project must comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(j),(k),(n),

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
		1605.3(j),(k),(n)). Emergency Lighting and Self-Contained Lighting: Project must also comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(l), 1605.3(l)). Traffic Signal Lighting: For any necessary Project improvements involving traffic lighting, traffic signal modules and traffic signal lamps will need to comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(m), 1605.3(m)).
	California Energy Code	Lighting associated with the Project will also be subject to energy efficiency requirements contained in Title 24, Part 6, which contains energy standards for non-residential indoor lighting and outdoor lighting (see Title 24 Part 6 Compliance Manual, at Sections 5, 6). Mandatory lighting controls for indoor lighting include, for example, regulations for automatic shut-off, automatic daytime controls, demand responsive controls, and certificates of installation (Title 24 Part 6 Compliance Manual at Section 5). Regulations for outdoor lighting include, for example, creation of lighting zones, lighting power requirements, a hardscape lighting power allowance, requirements for outdoor incandescent and luminaire lighting, and lighting control functionality (Title 24 Part 6 Compliance Manual Section 6).
	AB 1109	Lighting associated with the Project will be subject to energy efficiency requirements adopted pursuant to AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting to reduce electricity consumption 25% for indoor commercial lighting.
Bicycle and Vehicle Parking	CALGreen Code	The Project will be required to provide compliant bicycle parking, fuel-efficient vehicle parking, and electric vehicle (EV) charging spaces (CALGreen Code Sections 5.106.4, 5.106.5.1, 5.106.5.3).
	California Energy Code	The Project is subject to parking requirements contained in Title 24, Part 6. For example, parking capacity is to meet but not exceed minimum local zoning requirements, and the Project should employ approved strategies to reduce parking capacity (Title 24, Part 6, Section 106.6).
Landscaping	CALGreen Code	CALGreen requires and has further voluntary provisions for the following: ▪ A water budget for landscape irrigation use ▪ For new water service, separate meters or submeters must be installed for indoor and outdoor potable water use for landscaped areas of 1,000 to 5,000 square feet ▪ Provide water-efficient landscape design that reduces use of potable water beyond initial requirements for plant installation and establishment
	Model Water Efficient	The model ordinance promotes efficient landscaping in new developments and establishes an outdoor water budget for new

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
	Landscaping Ordinance	and renovated landscaped areas that are 500 square feet or larger (CCR, Title 23, Division 2, Chapter 2.7).
Refrigerants	CARB Management of High GWP Refrigerants for Stationary Sources	Any refrigerants associated with the Project would be subject to CARB standards. CARB's Regulation for the Management of High GWP Refrigerants for Stationary Sources reduces emissions of high-GWP refrigerants from leaky stationary, non-residential refrigeration equipment; reduces emissions resulting from the installation and servicing of stationary refrigeration and air conditioning appliances using high-GWP refrigerants; and requires verification GHG emission reductions (CCR, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 5.1, Section 95380 et seq.).
Consumer Products	CARB High GWP GHGs in Consumer Products	All consumer products associated with the Project will be subject to CARB standards. CARB's consumer products regulations set VOC limits for numerous categories of consumer products, and limits the reactivity of the ingredients used in numerous categories of aerosol coating products (CCR, Title 17, Division 3, Chapter 1, Subchapter 8.5).
Construction		
Use of Off-Road Diesel Engines, Vehicles, and Equipment	CARB In-Use Off-Road Diesel Vehicle Regulation	Any relevant vehicle or machine use associated with the Project will be subject to CARB standards. The CARB In-Use-Off-Road Diesel Vehicle Regulation applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; restricts the adding of older vehicles into fleets starting on January 1, 2014; and requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The requirements and compliance dates of the Off-Road Regulation vary by fleet size, as defined by the regulation.
Greening New Construction	CALGreen Code	All new construction, including the Project, must comply with CALGreen, as discussed in more detail throughout this table. Adoption of the mandatory CALGreen standards for construction has been essential for improving the overall environmental performance of new buildings; it also sets voluntary targets for builders to exceed the mandatory requirements.
Construction Waste	CALGreen Code	The Project would be subject to CALGreen requirements for construction waste reduction, disposal, and recycling, such as a requirement to recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2, or 5.408.1.3, or meet a local construction and demolition waste management ordinance, whichever is more stringent.

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
Solid Waste		
Solid Waste Management	Landfill Methane Control Measure	Waste associated with the Project would be disposed of per state requirements for landfills, material recovery facilities, and transfer stations. Per the statewide GHG emissions inventory, the largest emissions from waste management sectors come from landfills and are in the form of methane (CH_4). In 2010, CARB adopted a regulation that reduces emissions from CH_4 in landfills, primarily by requiring owners and operators of certain uncontrolled municipal solid waste landfills to install gas collection and control systems, and requires existing and newly installed gas and control systems to operate in an optimal manner. The regulation allows local air districts to voluntarily enter into a memorandum of understanding with CARB to implement and enforce the regulation and to assess fees to cover costs of implementation.
	Mandatory Commercial Recycling (AB 341)	AB 341 will require the Project, if it generates 4 cubic yards or more of commercial solid waste per week, to arrange for recycling services using one of the following: self-haul, subscribe to a hauler, arrange for pickup of recyclable materials, or subscribe to a recycling service that may include mixed waste processing that yields diversion results comparable to source separation. The Project will also be subject to local commercial solid waste recycling programs required to be implemented by each jurisdiction under AB 341.
	CALGreen Code	The Project will be subject to CALGreen requirements to provide areas that serve the entire building and are identified for depositing, storing, and collecting nonhazardous materials for recycling (CALGreen Code Section 5.410.1).
Energy Use		
Renewable Energy	California RPS (SB X1-2, SB 350, and SB 100)	Energy providers associated with the Project will be required to comply with the RPS set by SB X1 2, SB 350, and SB 100. SB X1 2 required investor-owned utilities, publicly owned utilities, and electric service providers to increase purchases of renewable energy such that at least 33% of retail sales are procured from renewable energy resources by December 31, 2020. In the interim, each entity was required to procure an average of 20% of renewable energy for the period of January 1, 2011 through December 31, 2013; and were required to procure an average of 25% by December 31, 2016, and 33% by 2020. SB 350 requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030. SB 100 increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31,

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
		2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California by 2045.
	Million Solar Roofs Program (SB 1)	The Project will participate in California's energy market, which is affected by implementation of the Million Solar Roofs Program. As part of Governor Schwarzenegger's Million Solar Roofs Program, California set a goal to install 3,000 megawatts of new solar capacity through 2016. The Million Solar Roofs Program is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time.
	California Solar Initiative- Thermal Program	The Project will participate in California's energy market, which is affected by implementation of the California Solar Initiative – Thermal Program. Multifamily and commercial properties qualify for rebates of up to $800,000 on solar water heating systems and eligible solar pool heating systems qualify for rebates of up to $500,000. Funding for the California Solar Initiative –Thermal program comes from ratepayers of Pacific Gas & Electric, SCE, Southern California Gas Company, and San Diego Gas & Electric. The rebate program is overseen by the CPUC as part of the California Solar Initiative.
	Waste Heat and Carbon Emissions Reduction Act (AB 1613, AB 2791)	The Project will participate in California's energy market, which is affected by implementation of the Waste Heat and Carbon Emissions Reduction Act. Originally enacted in 2007 and amended in 2008, this act directed the CEC, CPUC, and CARB to implement a program that would encourage the development of new combined heat and power systems in California with a generating capacity of not more than 20 megawatts to increase combined heat and power use by 30,000 gigawatt-hour. The CPUC publicly owned electric utilities and CEC duly established policies and procedures for the purchase of electricity from eligible combined heat and power systems. CEC guidelines require combined heat and power systems to be designed to reduce waste energy; have a minimum efficiency of 60%; have NO_x emissions of no more than 0.07 pounds per megawatt-hour; be sized to meet eligible customer generation thermal load; operate continuously in a manner that meets expected thermal load and optimizes efficient use of waste heat; and be cost effective, technologically feasible, and environmentally beneficial.
Vehicular/Mobile Sources		
General	SB 375 and TCAG RTP/SCS	The Project complies with, and is subject to, the TCAG adopted RTP/SCS in 2022, as shown in Table 4.8-8 below.
Fuel	Low Carbon Fuel Standard (LCFS)/ EO S-01-07	Auto trips associated with the Project will be subject to the Low Carbon Fuel Standard (EO S-01-07), which required a 10% or greater reduction in the average fuel carbon intensity by 2020 with

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
		a 2010 baseline for transportation fuels in California regulated by CARB. The program establishes a strong framework to promote the low carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG goals.
Automotive Refrigerants	CARB Regulation for Small Containers of Automotive Refrigerant	Vehicles associated with the Project will be subject to CARB's Regulation for Small Containers of Automotive Refrigerant (CCR, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 5, Section 95360 et seq.). The regulation applies to the sale, use, and disposal of small containers of automotive refrigerant with a GWP greater than 150. The regulation achieves emission reductions through implementation of four requirements: use of a self-sealing valve on the container, improved labeling instructions, a deposit and recycling program for small containers, and an education program that emphasizes best practices for vehicle recharging. This regulation went into effect on January 1, 2010, with a 1-year sell-through period for containers manufactured before January 1, 2010. The target recycle rate was initially set at 90%, and rose to 95% beginning January 1, 2012.
Light-Duty Vehicles	AB 1493 (or the Pavley Standard)	Cars that drive to and from the Project will be subject to AB 1493, which directed CARB to adopt a regulation requiring the maximum feasible and cost-effective reduction of GHG emissions from new passenger vehicles. Pursuant to AB 1493, CARB adopted regulations that established a declining fleet average standard for CO_2, CH_4, N_2O, and HFCs (air conditioner refrigerants) in new passenger vehicles and light-duty trucks beginning with the 2009 model year and phased-in through the 2016 model year. These standards were divided into those applicable to lighter and those applicable to heavier portions of the passenger vehicle fleet. The regulations will reduce "upstream" smog-forming emissions from refining, marketing, and distribution of fuel.
	Advanced Clean Car and ZEV Programs	Cars that drive to and from the Project will be subject to the Advanced Clean Car and ZEV Programs. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles (ZEVs) into a single package of standards called Advanced Clean Cars. By 2025, new automobiles will emit 34% less global warming gases and 75% less smog-forming emissions. The ZEV Program will act as the focused technology of the Advanced Clean Cars Program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018–2025 model years.
	Tire Inflation Regulation	Cars that drive to and from the Project will be subject to the CARB Tire Inflation Regulation, which took effect on September 1, 2010, and applies to vehicles with a gross vehicle weight rating of 10,000 pounds or less. Under this regulation, automotive service providers must, inter alia, check and inflate each vehicle's tires to

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
		the recommended tire pressure rating, with air or nitrogen, as appropriate, at the time of performing any automotive maintenance or repair service, to keep a copy of the service invoice for a minimum of 3 years, and to make the vehicle service invoice available to the CARB or its authorized representative upon request.
	EPA and NHTSA GHG and CAFE standards.	Mobile sources that travel to and from the Project site would be subject to EPA and NHTSA GHG and CAFE standards for passenger cars, light-duty trucks, and medium-duty passenger vehicles (75 FR 25324–25728 and 77 FR 62624–63200).
Medium- and Heavy-Duty Vehicles	CARB In-Use On-Road Heavy-Duty Diesel Vehicles Regulation (Truck and Bus Regulation)	Any heavy-duty trucks associated with the Project will be subject to CARB standards. The regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating greater than 14,000 pounds.
	CARB In-Use Off-Road Diesel Vehicle Regulation	Any relevant vehicle or machine use associated with the Project will be subject to CARB standards. The CARB In-Use-Off-Road Diesel Vehicle Regulation applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulations impose limits on idling, require a written idling policy, and require a disclosure when selling vehicles; require all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; restricted the adding of older vehicles into fleets starting on January 1, 2014; and require fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The requirements and compliance dates of the Off-Road regulation vary by fleet size, as defined by the regulation.
	Heavy-Duty Vehicle GHG Emission Reduction Regulation	Any relevant vehicle or machine use associated with the Project will be subject to CARB standards. The CARB Heavy-Duty Vehicle GHG Emission Reduction Regulation applies to heavy-duty tractors that pull 53-foot or longer box-type trailers (CCR, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 1, Section 95300 et seq.). Fuel efficiency is improved through improvements in tractor and trailer aerodynamics and the use of low rolling resistance tires.
	EPA and NHTSA GHG and CAFE standards.	Mobile sources that travel to and from the Project site would be subject to EPA and NHTSA GHG and CAFE standards for medium- and heavy-duty vehicles (76 FR 57106–57513).

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
Water Use		
Water Use Efficiency	Emergency State Water Board Regulations	Water use associated with the Project will be subject to emergency regulations. On May 18, 2016, partially in response to EO B-27-16, the State Water Board adopted emergency water use regulations (CCR, title 23, Section 864.5 and amended and re-adopted Sections 863, 864, 865, and 866). The regulation directs the State Water Board, Department of Water Resources, and CPUC to implement rates and pricing structures to incentivize water conservation, and calls upon water suppliers, homeowner's associations, California businesses, landlords and tenants, and wholesale water agencies to take stronger conservation measures.
	EO B-37-16	Water use associated with the Project will be subject to Emergency EO B-37-16, issued May 9, 2016, which directed the State Water Resources Control Board to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The Water Board also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25% reduction called for in EO B-29-15. The Water Board and Department of Water Resources will develop new, permanent water use targets to which the Project will be subject. The Water Board will permanently prohibit water-wasting practices, such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.
	EO B-40-17	EO B-40-17 lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinds EO B-29-15, but expressly states that EO B-37-16 remains in effect and directs the State Water Resources Control Board to continue development of permanent prohibitions on wasteful water use to which the Project will be subject.
	SB X7-7	Water provided to the Project will be affected by SB X7-7's requirements for water suppliers. SB X7-7, or the Water Conservation Act of 2009, requires all water suppliers to increase water use efficiency. It also requires, among other things, that the Department of Water Resources, in consultation with other state agencies, develop a single standardized water use reporting form, which would be used by both urban and agricultural water agencies.
	CALGreen Code	The Project is subject to CALGreen's water efficiency standards, including a required 20% mandatory reduction in indoor water use (CALGreen Code, Division 4.3).
	California RPS	Electricity usage associated with Project water and wastewater

Table 4.8-3. Summary of Applicable Greenhouse Gas–Related Laws and Regulations

Project Component	Applicable Laws/ Regulations	Greenhouse Gas Reduction Measures Required for Project
	(SB X1-2, SB 350, SB 100)	supply, treatment, and distribution will be required to comply with RPS set by SB X1-2, SB 350, and SB 100.

Notes: AB = Assembly Bill; CARB = California Air Resources Board; CEC = California Energy Commission; CFC = chlorofluorocarbon; CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; CPUC = California Public Utilities Commission; EO = Executive Order; EPA = Environmental Protection Agency; GHG = greenhouse gas; GWP = global warming potential; HCFC = hydrochlorofluorocarbon; HFC = hydrofluorocarbon; gpm = gallons per minute; MT = metric tons; N_2O = nitrous oxide; NHTSA = National Highway Traffic Safety Administration; PM = particulate matter; RPS = Renewable Portfolio Standard; RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy; SB = Senate Bill; VOC = volatile organic compound; ZEV = zero emission vehicle.

As shown in Table 4.8-3, the Project would be required to comply with the various GHG-reducing regulations.

4.8.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to greenhouse gases/climate change are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to greenhouse gas emissions would occur if the Project would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, although GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project level under CEQA.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009b). The State of California has not adopted emissions-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory, titled "Discussion Draft CEQA and Climate Change Advisory," states the following (OPR 2018):

> Neither the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for perming an impact analysis. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable. Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact.

Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2018). Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

Notwithstanding the CEQA Guidelines, local land use agencies sought additional technical assistance from expert air quality agencies in how to complete the suggested quantitative analysis of the significance of GHG emissions for land use projects being considered under CEQA. The SJVAPCD adopted Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009b). The guidance relies on either BPS or 29% reduction compared to BAU to assess the significance of project-specific GHG emissions on global climate change during the environmental review process. However, based on the findings of the Newhall Case, this BAU approach will not be used. Instead, both a quantitative and qualitative analysis will be used. To provide quantitative analysis, an efficiency metric will be used as outlined in Section 4.8.4, Impacts Analysis. To provide qualitative analysis, compliance will be assessed with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. As a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the TCAG 2022 RTP/SCS, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the state's long-term climate goals. This analysis also considers consistency with regulations and requirements adopted pursuant to the Scoping Plan, the City's General Plan, and the Tulare Climate Action Plan.

Approach and Methodology

Construction

CalEEMod Version 2020.4.0 was used to estimate potential Project-generated GHG emissions during construction. Construction of the Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 4.1.3 in Section 4.1, Air Quality, are also applicable for the estimation of construction related GHG emissions. As such, see Section 4.1.3 for a discussion of construction emissions calculation methodology and assumptions.

Operation

Emissions from the operational phase of the Project were estimated using CalEEMod Version 2020.4.0. Operational year 2033 was assumed consistent with completion of Project construction.

CalEEMod Version 2020.4.0 was used to estimate potential Project-generated operational GHG emissions from area sources (landscape maintenance), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. Emissions from each category are discussed in the following text with respect to the Project. For additional details, see Section 4.1.3 for a discussion of operational emission calculation methodology and assumptions, specifically for area, energy (natural gas), and mobile sources.

Area Sources

CalEEMod was used to estimate GHG emissions from the Project's area sources, which include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. See Section 4.1.3 for a discussion of landscaping equipment emissions calculations.

Energy Sources

The estimation of operational energy emissions was based on CalEEMod land use defaults and total area (i.e., square footage) of the Project's land use. The current version of CalEEMod assumes compliance with the 2019 Title 24 Building Energy Efficiency Standards (CAPCOA 2021).

CalEEMod default energy intensity factors (CO_2, CH_4, and N_2O mass emissions per kilowatt-hour) for Southern California Edison (SCE) and Southern California Gas Company (SoCalGas) are based on the value for PG&E's energy mix in 2008. SB X1 2 established a target of 33% from renewable energy sources for all electricity providers in California by 2020, and SB 100 calls for further development of renewable energy, with a target of 60% by 2030. The CO_2 emissions intensity factor for utility energy use in 2033 (first full year of Project operations) in CalEEMod was adjusted to reflect PG&E's 2018 reported factor, which assumes 29.7% of the power mix consists of eligible renewables (PG&E 2020).

Mobile Sources

All details for criteria air pollutants discussed in Section 4.1.3 are also applicable for the estimation of operational mobile source GHG emissions. Mobile sources for the Project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the Project site. Emissions from the mobile sources during operation of the Project were estimated using CalEEMod and based on the Project's traffic analysis.

Solid Waste

The Project would generate solid waste, and therefore, result in CO_2e emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste.

Water and Wastewater

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. GHG emissions associated with Project water consumption were calculated using CalEEMod using default parameters.

4.8.4 Impacts Analysis

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

Significant and Unavoidable Impact. The Project would generate an increase in GHGs associated with construction activities and operation, as discussed below.

Construction Emissions

Construction of the Project would result in GHG emissions primarily associated with the use of off-road construction equipment, haul trucks, on-road vendor trucks, and worker vehicles.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 4.8.3, Thresholds of Significance. Construction of the Project is anticipated to commence in January 2023 and would last approximately 9.5 years, ending in September 2032. On-site sources of GHG emissions would include off-road equipment and off-site sources such as vendor trucks and worker vehicles. Table 4.8-4 presents construction emissions for the Project from 2023 to 2032 from on-site and off-site emission sources.

Table 4.8-4. Estimated Annual Construction Greenhouse Gas Emissions – Unmitigated

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2023	534.70	0.16	<0.01	539.50
2024	748.00	0.23	<0.01	754.41
2025	2,080.90	0.30	0.07	2,109.58
2026	3,513.07	0.37	0.15	3,566.07
2027	1,801.84	0.21	0.07	1,827.95
2028	925.45	0.15	0.02	935.79
2029	921.47	0.15	0.02	931.66
2030	995.45	0.03	0.02	1,002.60
2031	715.31	0.02	0.01	719.52
2032	308.50	0.01	<0.01	309.49
			Total	12,696.57

Source: Appendix B.
Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix B for complete results.
The values shown are the annual emissions reflect California Emissions Estimator Model "mitigated" output.
Totals may not add due to rounding.

As shown in Table 4.8-4, the estimated total GHG emissions during construction would be approximately 12,697 MT CO_2e over the construction period. Estimated Project-generated construction emissions amortized over 30 years would be approximately 423 MT CO_2e per year. As with Project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the Project would be short term, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

Operational Emissions

Operation of the Project would generate GHG emissions through passenger vehicle to and from the Project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the Project); solid waste disposal; generation of electricity associated with water and wastewater use. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 4.8.3. The estimated operational Project-generated GHG emissions are shown in Table 4.8-5.

Table 4.8-5. Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	760.08	0.03	0.01	764.85
Energy	3,331.78	0.19	0.05	3,350.07
Mobile	15,863.23	0.78	0.82	16,128.32
Solid waste	318.62	18.83	0.00	789.37
Water supply and wastewater	199.61	3.39	0.08	308.64
Amortized 30-Year Construction Emissions				*423.22*
Operation plus Amortized Construction Total				**21,764.46**
Project Efficiency Metric				**6.36**
City Efficiency Metric				**1.62**

Source: Appendix B.
Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent. <0.01 = reported emissions less than 0.01. Totals may not add due to rounding.

In order to compare to a numeric threshold, an efficiency metric was created using a 478,503 MT CO_2e emissions inventory from Tulare's CAP in 2011. Dividing this inventory by a projected Tulare service population of 150,685 by 2030 yields a 2030 metric of 3.18 MT CO_2e per SP. A linear regression between the 2030 and 2045 state goals yields that the target reduction from the 2020 emissions limit in 2033 is 49%; reducing the 2030 metric by this figure yields our final 2033 efficiency metric of 1.62 MT CO_2e per SP (calculation spreadsheet included in Appendix B).

As shown in Table 4.8-5, estimated annual Project-generated GHG emissions would be approximately 21,764 MT CO_2e per year as a result of Project operations and amortized construction. This Project's efficiency metric is 6.36 MT CO_2e per SP, assuming a project SP of 3,424; this exceeds the 2033 efficiency metric of 1.62 MT CO_2e.

GHG Reduction Measures

In the SJVAPCD Final Staff Report Appendix J: GHG Emission Reduction Measures – Development Projects, mitigation measures are detailed along with a percentage CO_2 reduction they anticipate (SJVAPCD 2009c). The following measures apply to the Project (Table 4.8-6).

Table 4.8-6. SJVAPCD Applicable Mitigation Measures

Measure	Measure Name	Percent CO_2 Reduction	Measure Description
4	Proximity to bike path/bike lanes	0.625	Entire Project is located within 1/2 mile of an existing Class I or Class II bike lane and project design includes a comparable network that connects the project uses to the existing offsite facility. Existing facilities are defined as those facilities that are physically constructed and ready for use prior to the first 20% of the project's occupancy permits being granted. Project design includes a designated bicycle route connecting all units, on-site bicycle parking facilities, offsite bicycle facilities, site entrances, and primary building entrances to existing Class I or Class II bike lane(s) within 1/2

Table 4.8-6. SJVAPCD Applicable Mitigation Measures

Measure	Measure Name	Percent CO_2 Reduction	Measure Description
			mile. Bicycle route connects to all streets contiguous with project site. Bicycle route has minimum conflicts with automobile parking and circulation facilities. All streets internal to the project wider than 75 feet have class II bicycle lanes on both sides.
5a	Pedestrian network	0.5	The Project provides a pedestrian access network that internally links all uses for connecting to planned external streets and pedestrian facilities (facilities must be included pedestrian master plan or equivalent).
7	Bus shelter for existing transit	0.5	Bus or Streetcar service provides headways of one hour or less for stops within 1/4 mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting).
18d	Residential density with existing rapid bus transit (7-10 DU/acre—entire residential area = 7.34 DU/acre)	2	Project provides high-density residential development. Mitigation value is based on project density and proximity to existing bus rapid transit. Density is calculated by determining the number of units per acre ("du/acre") within the residential portion of the project's net lot area. Existing transit facilities must be within ¼ mile of project border. Project provides safe and convenient bicycle/pedestrian access to all transit stop(s) within ¼ mile of project border.
23	Suburban mixed-use	3	Have at least three of the following on site and/or offsite within ¼ mile: Residential Development, Retail Development, Park, Open Space, or Office.

The combined effect of the above measures is to provide a 6.625% reduction in GHG emissions, which would reduce the efficiency metric from 6.36 to 5.96 MT CO_2/SP. However, this is still larger than the calculated City metric of 1.62 MT CO_2/SP. The Project would implement the GHG emission mitigation measure strategies listed in Mitigation Measures MM-GHG-1 through MM-GHG-6 to further reduce the potential impacts related to project level GHG emissions. However, despite implementation of MM-GHG-1 through MM-GHG-6, impacts related to GHG emissions would remain significant and unavoidable at a project level.

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

Significant and Unavoidable Impact. Although the Project would be consistent with most of the applicable, plans, policies, and regulations, it would be inconsistent with CARB's 2022 Scoping Plan.

Project Consistency with the City's Climate Action Plan

The City's Climate Action Plan (CAP) includes various goals and policies that promote the use of clean and renewable energy sources, reduce waste, conserve water, and promote the efficient and sustainable use of energy. Table 4.8-7, Consistency with the City of Tulare's CAP, summarizes the Project's consistency with applicable City policies.

Table 4.8-7. Consistency with City of Tulare's Climate Action Plan

CAP Policies	Project Consistency
Goal 1: Increase energy efficiency and conservation	
1.1 Increase energy efficiency in existing City buildings and facilities through Facility Improvement Measures and by retrofitting Edison-owned streetlights. (City measure)	*Not applicable.* The Project does not involve City buildings and facilities.
1.2 Design new City buildings and facilities to exceed California Energy Code requirements by 15%. (City measure)	*Not applicable.* The Project does not involve City buildings and facilities.
1.3 Increase energy efficiency in new commercial and residential development and require new residential and commercial development to achieve enhanced energy efficiency and exceed California Energy Code requirements by 15%.	*Consistent.* The Project buildings would be designed to achieve a minimum LEED certified goal identified by the LEED Green Building Rating System to conserve resources, including energy and renewable resources.
1.4 Reduce the urban heat island effect to cool the local climate and reduce energy consumption by maintaining current rates of public tree planting and increased shading on private property, high albedo surfaces, and cool surfaces.	*Consistent.* The Project would maintain current rates of public tree planting and shading.
1.5 Achieve a 20% reduction in water use by 2020 (20X2020) to reduce energy consumed for groundwater pumping.	*Consistent.* As stated in Section 4.10, the Project would represent a decline in the total groundwater demand for the Project site and would not decrease groundwater supplies or impede with sustainable groundwater management of the basin..
1.6 Facilitate energy efficiency improvements within the residential building stock.	*Consistent.* The Project buildings would be designed to achieve a minimum LEED certified goal identified by the LEED Green Building Rating System to conserve resources, including energy and renewable resources. During construction and operation of the Project, the Project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all waste would be recycled to the maximum extent possible.
1.7 Support commercial and industrial profitability and energy efficiency through programs and partnerships.	*Not applicable.* The Project does not impede the City from implementing this measure.
1.8 Promote voluntary energy efficiency retrofits in the commercial and industrial sectors through financing and incentive programs.	*Not applicable.* The Project does not impede the City from implementing this measure.
1.9 Require stationary equipment in new industrial development to comply with best practice energy efficiency standards.	*Not applicable.* The Project does not involve industrial development.
1.10 Continue to partner in regional initiatives that encourage achievement of regional energy efficiency targets.	*Consistent.* The Project would not obstruct the City from continuing to partner in regional initiatives that encourage achievement of energy targets.
Goal 2: Promote and support renewable energy generation and use.	
2.1 Continue to utilize renewable and alternative	*Consistent.* The Project would not obstruct the City from

Table 4.8-7. Consistency with City of Tulare's Climate Action Plan

CAP Policies	Project Consistency
energy sources at the wastewater treatment plant (the Tulare Water Pollution Control Facility (TWPCF)). (City measure)	continuing to utilize renewable and alternative energy sources at the wastewater treatment plant.
2.2 Increase reliance on local renewable energy sources through provision of a minimum of 30% of commercial and industrial energy needs from on-site renewable energy sources by 2030.	*Not applicable.* The Project does not impede the City from implementing this measure.
2.3 Support deployment of manure digesters at dairies to capture and convert biogas for on- and off-site electricity needs.	*Not applicable.* The Project does not involve dairies.
2.4 Increase reliance on local renewable energy sources through provision of a minimum of 15% of baseline residential energy needs from on-site renewable energy sources by 2030.	*Not applicable.* The Project does not impede the City from implementing this measure.
2.5 Support regional initiatives in expansion of the Valley's renewable energy supplies.	*Consistent.* The Project would not obstruct the City from supporting regional initiatives in expansion of the Valley's renewable energy supplies.
Goal 3: Shift single-occupancy vehicle trips to alternative modes.	
3.1 Increase staff's use of alternative transit modes for work-related commutes and City business travel. (City measure)	*Consistent.* The Project would not obstruct the City from increasing its staff's use of alternative transit modes. The Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops, as approved by the Regional Transit Agency, would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas.
3.2 Increase transportation-related bicycle trips to reduce vehicle miles traveled.	*Consistent.* The Project is in accordance with the City Transit-Oriented Development Plan. Pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas.
3.3 Improve mobility by implementing a citywide Complete Streets ordinance and program.	*Not applicable.* The Project does not impede the City from implementing a Complete Streets program.
3.4 Expand public transit routes and provide light rail transit options.	*Consistent.* The Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops, as approved by the Regional Transit Agency, would be located around the perimeter of the Project site for use by residents.
3.5 Reduce work-related vehicle miles traveled through support of transportation demand management programs.	*Consistent.* The Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops, as approved by the Regional Transit Agency, would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and

Table 4.8-7. Consistency with City of Tulare's Climate Action Plan

CAP Policies	Project Consistency
	the commercial center to the residential areas.
3.6 Support regional transportation management programs to shift single-occupancy vehicle trips to other modes.	*Consistent.* The Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops, as approved by the Regional Transit Agency, would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas.
Goal 4: Reduce emissions from vehicles.	
4.1 Continue use of clean and alternative fuels in the City's fleet. (City measure)	*Not applicable.* The Project does not impede the City from using clean and alternative fuels in its fleet.
4.2 Reduce emissions from on-road vehicle sources.	*Not applicable.* The Project does not impede the City from implementing this measure.
4.3 Establish Tulare as a key node in local and regional commercial and industrial clean fuel infrastructure that demonstrates statewide leadership in supporting a clean heavy-duty fleet.	*Consistent.* The Project is in accordance with the City Transit-Oriented Development Plan.
4.4 Reduce emissions from on-road commercial and industrial transportation sources through reduced vehicle idling and efficient vehicle flow.	*Not applicable.* The Project does not impede the City from implementing this measure.
Goal 5: Increase accessible land use to reduce vehicular trips.	
5.1 Promote accessible housing near transit and services to reduce vehicular trips.	*Consistent.* The Project involves placing developments of various densities next to commercial and educational services. Furthermore, the Project is in accordance with the City Transit-Oriented Development Plan.
5.2 Work with partners to implement Blueprint Principles and create a regional setting that supports smart land use decisions in Tulare.	*Not applicable.* The Project does not impede the City from implementing this measure.
Goal 6: Reduce solid waste.	
6.1 Achieve a 65% diversion of landfilled waste by 2020 and a 75% diversion by 2030 to reduce landfill emissions.	*Not applicable.* The Project does not impede the City from implementing a Complete Streets program.
Goal 7: Promote low emissions in agriculture.	
7.1 Identify strategies to promote low-emissions agricultural practice that strengthens Tulare's role as an international agricultural leader.	*Not applicable.* The Project does not involve agricultural or dairy practices.
7.2 Promote the use of digesters in local dairy operations to reduce methane emissions from dairy cattle.	*Not applicable.* The Project does not involve agricultural or dairy practices.
7.3 Support regional partnerships to promote reduced agricultural emissions and link the farming community with resources to achieve reductions in emissions.	*Not applicable.* The Project does not involve agricultural or dairy practices.

Source: City of Tulare 2011.
Notes: City = City of Tulare; EV = electric vehicle; GHG = greenhouse gas; LEED = Leadership in Energy and Environmental Design.

As discussed in Table 4.8-7, the Project would be generally consistent with the City's CAP policies.

Project Consistency with CARB's Scoping Plan

As discussed above, the California State Legislature passed AB 32 to provide initial direction to limit California's GHG emissions to 1990 levels by 2020 and initiate the state's long-range climate objectives. Since the passage of AB 32, the State has adopted GHG emissions reduction targets for future years beyond the initial 2020 horizon year. CARB is required to develop the Scoping Plan, which provides the framework for actions to achieve the State's GHG emission targets. While the Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations, it is the official framework for the measures and regulations that will be implemented to reduce California's GHG emissions in alignment with the adopted targets. Therefore, a project would be found to not conflict with the statutes if it would meet the Scoping Plan policies and would not impede attainment of the goals therein.

For the Project, the relevant GHG emissions reduction targets include those established by SB 32 and AB 1279, which require GHG emissions be reduced to 40% below 1990 levels by 2030, and 85% below 1990 levels by 2045, respectively. In addition, AB 1279 requires the state achieve net zero GHG emissions by no later than 2045 and achieve and maintain net negative GHG emissions thereafter. CARB's 2017 Scoping Plan update was the first to address the state's strategy for achieving the 2030 GHG reduction target set forth in SB 32 (CARB 2017), and the most recent CARB 2022 Scoping Plan update outlines the state's plan to reduce emissions and achieve carbon neutrality by 2045 in alignment with AB 1279 and assesses progress is making toward the 2030 SB 32 target (CARB 2022). As such, given that SB 32 and AB 1279 are the relevant GHG emission targets, the 2017 and 2022 Scoping Plan updates that outline the strategy to achieve those targets, are the most applicable to the Project.

The 2017 Climate Change Scoping Plan Update (Second Update) included measures to promote renewable energy and energy efficiency (including the mandates of SB 350), increase stringency of the Low Carbon Fuel Standard (LCFS), measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increase stringency of SB 375 targets. The 2022 Scoping Plan for Achieving Carbon Neutrality (Third Update) builds upon and accelerates programs currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; and displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines) (CARB 2022).

Many of the measures and programs included in the Scoping Plan would result in the reduction of Project-related GHG emissions with no action required at the project-level, including GHG emission reductions through increased energy efficiency and renewable energy production (SB 350), reduction in carbon intensity of transportation fuels (LCFS), and the accelerated efficiency and electrification of the statewide vehicle fleet (Mobile Source Strategy). Given that the Project would be located in a High-Quality Transit Area and a SCAG recognized TPA, the Project would also not conflict with the Second Update's goal of reducing GHG emissions through reductions in VMT statewide.

The 2045 carbon neutrality goal required CARB to expand proposed actions in the Third Update to include those that capture and store carbon in addition to those that reduce only anthropogenic sources of GHG emissions. The proposed Project would support the state's carbon neutrality goals, as implementation includes addition of urban-tree and native plantings throughout the Project site, which represent opportunities for potential carbon removal and sequestration over the Project life time. However, the Third Update emphasizes that reliance on carbon

sequestration in the state's natural and working lands will not be sufficient to address residual GHG emissions, and achieving carbon neutrality will require research, development, and deployment of additional methods to capture atmospheric GHG emissions (e.g., mechanical direct air capture). Given that the specific path to neutrality will require development of technologies and programs that are not currently known or available, the Project's role in supporting the statewide goal would be speculative and cannot be wholly identified at this time.

Table 4.8-8 evaluates the Project's potential to conflict with the 2022 Scoping Plan, specifically the Project attributes to reduce operational GHG emissions identified in Appendix D, Local Actions (CARB 2022). Per the Scoping Plan, empirical evidence shows that development projects that are consistent with these attributes to reduce GHG emissions will accommodate growth in a manner that aligns with the GHG and equity goals of SB 32. Additionally, consistency with the Plan project attributes will ensure that projects are: 1) addressing the largest sources of their operational emissions, 2) are in alignment with the priority areas defined for Local Climate Action and are in alignment with the state's climate goals.

Table 4.8-8. Project Potential to Conflict with 2022 Scoping Plan Climate Change Policies and Measures

Plan Project Attributes	Potential to Conflict Prior to Mitigation	Potential to Conflict After Mitigation
Transportation Electrification		
Provide EV charging infrastructure at least in accordance with CALGreen Tier 2 standards[i]	***Potential to conflict.*** The Project currently does not include any EV charging infrastructure.	***No conflict.*** The Project would meet the EV charging infrastructure standards required by the most recent CALGreen standards.
VMT Reduction		
Is located on infill sites that are surrounded by existing urban uses and reuses or redevelop previously undeveloped or underutilized land presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer)[d]	***No conflict.*** The Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas. Utilities such as water, electrical, and gas required for the Project would tie into existing infrastructure near the Project site.	***N/A.***
Do not result in the loss or conversion of the State's natural and working lands	***Project will conflict.*** The Project would convert active agricultural land.	***Project will conflict.***
Consists of transit-supportive densities (minimum of 20 residential dwelling units/acre[e]), *or* In in proximity to	***No conflict.*** This attribute accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units compared to the average residential density in the United States. Increased densities affect the distance	***N/A.***

Table 4.8-8. Project Potential to Conflict with 2022 Scoping Plan Climate Change Policies and Measures

Plan Project Attributes	Potential to Conflict Prior to Mitigation	Potential to Conflict After Mitigation
existing transit (within ½ mile),[f] *or* Satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS)	people travel and provide greater options for the mode of travel they choose. Increasing residential density results in shorter and fewer trips by single-occupancy vehicles and thus a reduction in GHG emissions of up to 30% from project VMT in the study area (CAPCOA 2021). Similarly, transit-oriented development [defined as being located within a 10-minute walk/0.5 mile of a high frequency transit stop (such as the Metrolink Station)] reduces VMT and associated vehicle GHG emissions by up to 31% (CAPCOA 2021).[c] The Project site would develop low-, medium-, and high-density housing, with densities of 3.6, 8.5, and 18.5 dwelling units per acre, respectively. While this would not meet the density criteria, the Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops would be located around the perimeter of the Project site for use by residents. As discussed in Section 4.17, Transportation, the Project has a less than significant VMT impact and would be well-positioned to decrease VMT and associated vehicular GHG emission reductions contemplated by the increased density designation.	
Relax parking requirements[j] by: ▪ Eliminating parking requirements or including maximum allowable parking ratios. ▪ Providing residential parking supply at a ratio of <1 parking space per unit. ▪ Unbundling	*No conflict.* This attribute unbundles, or separates, a residential project's parking costs from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost. The assumption of this attribute is that parking costs are passed through to the vehicle owners/drivers utilizing the parking spaces, thus, this measure results in decreased vehicle ownership and, therefore, a reduction in VMT and GHG emissions. The intent of this measure is incentive increased use of public transit and thus result in less emissions. This measure can achieve up to 15.7%	***N/A.***

Table 4.8-8. Project Potential to Conflict with 2022 Scoping Plan Climate Change Policies and Measures

Plan Project Attributes	Potential to Conflict Prior to Mitigation	Potential to Conflict After Mitigation
residential parking costs from costs to rent or lease.	reduction in emissions from project VMT in the study area (CAPCOA 2021). As discussed above, transit-oriented development [defined as being located within a 10-minute walk/0.5 mile of a high frequency transit stops (such as the Metrolink Station)] reduces VMT and associated vehicle GHG emissions by up to 31% (CAPCOA 2021).[c] The Project provides residential parking in accordance with City standards. There are no specific City standards for studio uses; however, the amount of parking provided is consistent with other similar uses in Southern California and is not intended to over supply parking on the Project site. The Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops would be located around the perimeter of the Project site for use by residents. As such, the Project would be well-positioned to decrease VMT and associated vehicular GHG emission reductions contemplated by the parking attribute.	
At least 20% of the units are affordable to lower-income residents [a,b]	***Project will conflict.*** Affordable housing provides greater opportunity for lower income families to live closer to job centers and achieve a jobs/housing match near transit. It is also an important strategy to address the limited availability of affordable housing that might force residents to live far away from jobs or school, requiring longer commutes. The affordable housing designation is intended to reduce VMT through living more compactly in location-efficient areas. Affordable housing achieves up to 28.6% reduction in GHG emissions from project/site multifamily residential (CAPCOA 2021).[c] As discussed above, Transit-oriented development achieves up to 31% reduction in GHG emissions from project VMT (CAPCOA 2021).[c]	***Project will conflict.***

Table 4.8-8. Project Potential to Conflict with 2022 Scoping Plan Climate Change Policies and Measures

Plan Project Attributes	Potential to Conflict Prior to Mitigation	Potential to Conflict After Mitigation
	The Project does not propose any affordable housing units, and therefore will conflict with the applicable measure.	
Result in no net loss of existing affordable units	***No conflict.*** The Project site does not contain any existing residences. Implementation of the Project would convert agricultural land to homes, infrastructure, and associated amenities, and commercial uses, and would not displace any existing housing or people, or necessitate construction of replacement housing elsewhere.	***N/A.***
Building Decarbonization		
Use all electric appliances, without any natural gas connections, and would not use propane or other fossil fuels for space heating, water heating, or indoor cooking [g,h]	***Potential to conflict.*** The Project currently has not committed to all-electric development.	***Project will conflict.***

Source: CARB 2022.
Notes: MMT CO_2e = million metric tons of carbon dioxide equivalent.
[a] Newmark and Haas 2015.
[b] California Housing Partnership Corporation and TransForm 2014.
[c] These measures are not additive such that you could achieve a greater than 50% reduction by incorporating both characteristics in a project design.
[d] California Government Code Section 65041.1.
[e] Federal Transit Administration 2014.
[f] Washington Department of Transportation 2013.
[g] Energy and Environmental Economics 2019.
[h] Energy and Environmental Economics 2021.
[i] Cal. Code of Regs., tit. 24, Part 11.
[j] CAPCOA 2021.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 4.8-9 highlights measures that have been developed under the 2030 Scoping Plan and the Project's consistency with those measures. Table 4.8-9 also includes measures recommended in the 2030 Scoping Plan. To the extent that these regulations are applicable to the Project, its inhabitants, or uses, the Project would comply with all applicable regulations adopted in furtherance of the Scoping Plan.

Table 4.8-9. Project Potential to Conflict with 2030 Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Potential to Conflict
Transportation Sector		
Advanced Clean Cars	T-1	*No conflict.* The Project's employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
1.5 million zero-emission and plug-in hybrid light-duty electric vehicles by 2025 (4.2 million Zero-Emissions Vehicles by 2030)	Recommended	*Consistent.* The Project would install conduit for 33 future EV charging stations (6% of parking spaces) in accordance with CALGreen standards.
Low Carbon Fuel Standard	T-2	*Consistent.* Motor vehicles driven by the Project's employees would use compliant fuels.
Low Carbon Fuel Standard (18% reduction in carbon intensity by 2030)	Recommended	*Consistent.* Motor vehicles driven by the Project's employees would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	*Consistent*. The Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas.
Advanced Clean Transit	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Last Mile Delivery	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction in Vehicle Miles Traveled	Recommended	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	*Consistent.* These standards would be applicable to the light-duty vehicles that would access the Project site. Motor vehicles driven by the Project's employees would maintain proper tire pressure when their vehicles are serviced. The Project's employees would replace tires in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. Motor vehicles driven by the Project's employees would use low-friction oils when their vehicles are serviced. The Project's employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase. In addition, the Project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.

Table 4.8-9. Project Potential to Conflict with 2030 Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Potential to Conflict
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	*Not applicable.* The Project does not concern the movement of goods.
California Sustainable Freight Action Plan	Recommended	*Not applicable*. The Project does not concern the movement of goods. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	*Consistent.* Heavy-duty vehicles would be required to comply with CARB GHG reduction measures. In addition, the Project would not prevent CARB from implementing this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Project	T-8	*Consistent.* The Project medium- and heavy-duty vehicles could take advantage of the vehicle hybridization action, which would reduce GHG emissions through increased fuel efficiency. In addition, the Project would not prevent CARB from implementing this measure.
Medium and Heavy-Duty GHG Phase 2	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
High-Speed Rail	T-9	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	*Consistent.* The Project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Energy Efficiency (Natural Gas)	CR-1	*Consistent.* The Project will comply with current Title 24, Part 6, of the California Code of Regulations energy efficiency standards for electrical appliances and other devices at the time of building construction.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	*Not applicable.* The Project would not prevent CARB from implementing this measure.

Table 4.8-9. Project Potential to Conflict with 2030 Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Potential to Conflict
Combined Heat and Power	E-2	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Renewable Portfolios Standard (33% by 2020)	E-3	*Consistent.* The electricity used by the Project would benefit from reduced GHG emissions resulting from increased use of renewable energy sources.
Renewable Portfolios Standard (50% by 2050)	Recommended	*Consistent.* The electricity used by the Project would benefit from reduced GHG emissions resulting from increased use of renewable energy sources.
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Water Sector		
Water Use Efficiency	W-1	*Consistent.* The Project would be designed at a minimum to meet LEED certified rating, which would conserve water resources. The Project would not prevent CARB from implementing this measure.
Water Recycling	W-2	*Not applicable.* Recycled water is not available to the Project site. The Project would not prevent CARB from implementing this measure.
Water System Energy Efficiency	W-3	*Not applicable.* This is applicable for the transmission and treatment of water, but it is not applicable for the Project.
Reuse Urban Runoff	W-4	*Not applicable.* The Project would not prevent CARB from implementing this measure.
Renewable Energy Production	W-5	*Not applicable.* Applicable for wastewater treatment systems; not applicable for the Project.
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	*Consistent.* The Project would be required to be constructed in compliance with state or local green building standards in effect at the time of building construction. The Project would be designed at a minimum to meet LEED certified rating, which would conserve water resources.
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-2	*Consistent.* The Project's buildings would meet green building standards that are in effect at the time of construction. The Project would be designed at a minimum to meet LEED certified rating, which would conserve water resources.

Table 4.8-9. Project Potential to Conflict with 2030 Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Potential to Conflict
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-3	*Consistent.* The Project would be required to be constructed in compliance with local green building standards in effect at the time of building construction. The Project would be designed at a minimum to meet LEED certified rating, which would conserve water resources.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-4	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Refinery Flare Recovery Process Improvements	I-4	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Mandatory Commercial Recycling	RW-3	*Consistent.* During construction and operation of the Project, the Project would comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. During construction, all wastes would be recycled to the maximum extent possible.

Table 4.8-9. Project Potential to Conflict with 2030 Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Potential to Conflict
Increase Production and Markets for Compost and Other Organics	RW-4	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Anaerobic/Aerobic Digestion	RW-5	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Extended Producer Responsibility	RW-6	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Environmentally Preferable Purchasing	RW-7	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Forests Sector		
Sustainable Forest Target	F-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
High Global Warming Potential Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Limit High Global Warming Potential Use in Consumer Products	H-4	*Consistent.* The Project's employees would use consumer products that would comply with the regulations that are in effect at the time of manufacture.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.

Table 4.8-9. Project Potential to Conflict with 2030 Scoping Plan GHG Emission-Reduction Strategies

Scoping Plan Measure	Measure Number	Project Potential to Conflict
40% Reduction in Methane and Hydrofluorocarbon Emissions	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
50% Reduction in Black Carbon Emissions	Recommended	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	*Not applicable.* This measure does not apply to the Project. The Project would not inhibit CARB from implementing this Scoping Plan measure.

Sources: CARB 2008, 2017.
Notes: CARB = California Air Resources Board; EV = electric vehicle; GHG = greenhouse gas; LEED = Leadership in Energy and Environmental Design; Project = Chandler Grove Project; SF_6 = sulfur hexafluoride.

Based on the analysis in Tables 4.8-8 and 4.8-9, the Project would not be consistent with the applicable strategies and measures in the Scoping Plan.

Project Consistency with Tulare County Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy

TCAG's 2022 RTP/SCS is a regional growth-management strategy that targets per-capita GHG reduction from passenger vehicles and light-duty trucks in the Tulare region pursuant to SB 375. In addition to demonstrating the region's ability to attain and exceed the GHG emission-reduction targets set forth by CARB, the 2022 RTP/SCS outlines a series of policies and strategies to help balance investments that maintain the roadway system, enhance safety and provide congestion relief, and integrate technological advances as part of the transportation solution. Thus, successful implementation of the 2022 RTP/SCS would result in GHG emission reductions, reducing potential impact on the environment, facilitating efficient public investments, maximizing mobility and accessibility, supporting economic vitality, improving public health, and building on active transportation.

The TCAG 2022 RTP/SCS provides population estimates for the years 2021 and 2035. It estimates that the region's population will increase by approximately 54,000 people between 2021 and 2035, from 481,649 to 535,463. Regarding households, the TCAG 2022 RTP/SCS estimates that the region's total households will increase by approximately 26,600 between 2021 and 2035, from 154,436 to 181,012. CalEEMod assumes that the Project will support a population of 3,424, which would not exceed the annual growth rate of 3,844 residents a year for the region. Although the Project represents a significant amount (89%) of the region's yearly growth, the phased development of the Project, over a number of years,—means that the growth caused by the Project in a given year will be only a fraction of the total 3,424 residents. Therefore, the addition of Project-generated residents to the region's estimated population would not exceed the TCAG 2022 RTP/SCS forecasted population.

Table 4.8-10 summarizes the Project's consistency with the TCAG 2022 RTP/SCS policies and supportive strategies.

Table 4.8-10. Project Consistency with Tulare County Association of Governments' 2022 Regional Transportation Plan/Sustainable Communities Strategy

2022 RTP/SCS Policies	Project Consistency
Goal: Promote the improvement of air quality and greenhouse gas reductions through congestion management coordination of land use, housing, and transportation systems; provision of alternative modes of transportation; and provision of incentives that reduce vehicle miles traveled.	
Objective: Encourage coordinated development to achieve an improved jobs-housing balance.	
Encourage mixed-use developments in urbanized areas.	*Consistent.* The Project will involve multiple land uses, allowing residents to satisfy their needs for education, commercial goods, and community space in a walking- and biking-friendly neighborhood.
Encourage provision of an adequate supply of housing for the region's workforce and adequate sites to accommodate business expansion to minimize interregional trips and long-distance commuting.	*Consistent.* The Project involves low-, medium-, and high-density housing options and a commercial center.
Objective: Plan for and implement coordination of land use and alternative modes of transportation that would reduce vehicle miles traveled by providing urban and rural residents with transportation options in multiple modes.	
Support coordinated alternative modes of transportation including transit, pedestrian, bicycle, and rideshare and vanpool programs.	*Consistent.* The Project is in accordance with the City Transit-Oriented Development Plan. As a transit-oriented development, approximately 6 transit stops, as approved by the Regional Transit Agency, would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas.
Prioritize projects that contribute to improved air quality and reduced greenhouse gas emissions.	
Support the implementation of alternative fuel and other power sources for surface transportation, such as Compressed Natural Gas and electricity.	*Not applicable.* The Project would not prevent TCAG from implementing this strategy.
Achieve United States Environmental Protection Agency National Ambient Air Quality Standards (NAAQS) by required attainment dates, or earlier if practicable.	*Inconsistent.* The Project would have significant AQ impacts, as detailed in Section 4.3.

Table 4.8-10. Project Consistency with Tulare County Association of Governments' 2022 Regional Transportation Plan/Sustainable Communities Strategy

2022 RTP/SCS Policies	Project Consistency
Promote the equitable adoption of clean, renewable energy technologies to ensure a reliable energy supply, enhance the region's economy, and improve air quality locally and regionally.	*Not applicable.* The Project would not prevent TCAG from implementing this strategy.
Expand awareness of the need to reduce greenhouse gases to both agencies and the public and incorporate the latest scientific information into planning efforts.	*Not applicable.* The Project would not prevent TCAG from implementing this strategy.
Support and participate in efforts and coalitions promoting use of Cap-and-Trade funding for projects that help reduce greenhouse gas emissions in Tulare County.	*Not applicable.* The Project would not prevent TCAG from implementing this strategy.
Actively seek out Cap and Trade and other funds, if available, for various projects in Tulare County that will contribute to the reduction of greenhouse gas emissions.	*Not applicable.* The Project would not prevent TCAG from implementing this strategy.
Add "missing links" (streets) to roadway network that reduce out of direction travel and provide a free flow traffic connector that will improve air quality by reducing stop and go truck travel on local arterials.	*Not applicable.* The Project would not prevent TCAG from implementing this strategy.

Source: TCAG 2022.
Notes: EV = electric vehicle; GHG = greenhouse gas; Project = Chandler Grove Project; TCAG = Tulare County Association of Governments; RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy

Based on the analysis in Table 4.8-10, the Project would be generally consistent with the TCAG 2022 RTP/SCS.

4.8.5 Mitigation Measures

To reduce potentially significant impacts under Thresholds a and b, MM-GHG-1 through MM-GHG-6 are identified to reduce Project-generated construction and operational GHG emissions from various Project emission sources.

MM-GHG-1 Construction Emission Reductions. Prior to the issuance of grading permits, the Project Applicant or its designee shall provide evidence to the City of Tulare that the following strategies are implemented:

a) Use electric or hybrid powered equipment for generators and other small pieces of equipment (e.g., forklifts and saws), as commercially available.

b) Use cleaner-fuel equipment such as replacing diesel fuel with compressed natural gas (CNG) or renewable diesel, as commercially available.

c) Reduce idling time of heavy-duty trucks either by shutting them off when not in use or reducing the time of idling to no more than 3 minutes (5-minute limit is required by the state airborne toxics control measure 13 CCR 2485).

Commercially available equipment is herein defined as equipment sourced within 50 vehicle miles of the Project site and within 10% of the cost of the diesel-fueled-equivalent equipment. The Project Applicant must contact at least 3 contractors or vendors within Tulare County and submit to the City justification if the specified equipment is not commercially available.

MM-GHG-2 Require Energy Efficient Appliances. Prior to the issuance of building permits, the Project Applicant or its designee shall provide evidence to the City that exclusively ENERGY STAR-certified appliances shall be installed, which exceed the energy efficiency of conventional appliances.

MM-GHG-3 Outdoor Electrical Outlets. Prior to the issuance of building permits, the applicant or its designee shall provide evidence to the City of Tulare that the design plans include electrical outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment.

MM-GHG-4 Tree Planting. Prior to the issuance of building permits, the applicant or its designee shall plant, at a minimum, one tree per every new residential dwelling unit proposed. Additionally, the applicant shall demonstrate that at least 75% of species planted are native to California or drought tolerant and appropriate for the climate zone region. These trees can be planted roadside, in medians, or in other commonly landscaped areas.

MM-GHG-5 Water Use Efficiency and Water Conservation. Prior to the issuance of building permits, the Project Applicant or its designee shall provide evidence to the City that the residential and recreational building design plans include the following water use efficiency and conservation measures, including:

a) High-efficiency appliances/fixtures to reduce water use, and/or include water-efficient landscape design

b) Low-flow or high-efficiency water fixtures

c) Water-efficient landscapes with lower water demands than required by the California Department of Water Resources (DWR) 2015 Model Water Efficient Landscape Ordinance (MWELO)

d) Planting of drought-tolerant plant species only

e) Provide educational materials to future tenants and building occupants about water saving behaviors and water-conserving landscaping.

MM-GHG-6 Electric Vehicle Charging Infrastructure. Prior to the issuance of building permits, the Project Applicant or its designee shall provide evidence to the City that the Project shall meet the EV charging infrastructure standards required by the most recent CALGreen standards. In order to be "EV Capable," the Project shall provide EV charging infrastructure for 10% of parking spaces for medium- and high-density residential housing and the neighborhood commercial center.

The Project remains in excess of the efficiency metric with quantified mitigation; even with the inclusion of the above mitigation measures, there is no guarantee that it would be below the thresholds. As a result, the GHG impacts of the Project remain significant.

4.8.6 Level of Significance After Mitigation

Threshold a and b: Although the Project would comply with the implementation of MM-GHG-1 through MM-GHG-6, to reduce further GHG impacts associated with construction activities and operation, the Project would remain **significant and unavoidable** after mitigation.

4.8.7 References

California Housing Partnership Corporation and TransForm. 2014. "Why Creating and Preserving Affordable Homes Near Transit is a Highly Effective Climate Protection Strategy." Available at: https://www.transformca.org/sites/default/files/CHPC%20TF%20Affordable%20TOD%20Climate%20Strategy% 20BOOKLET%20FORMAT.pdf

CalRecycle (California Department of Resources Recycling and Recovery). 2012. *AB 341 Final Statement of Reasons: Mandatory Commercial Recycling Regulations*. Accessed August 2016. http://www.calrecycle.ca.gov/laws/rulemaking/archive/2012/MCR/RuleDocs/FSOR.pdf.

CAPCOA (California Air Pollution Control Officers Association). 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008. Accessed February 3, 2021. https://planning.lacity.org/eir/8150Sunset/References/4.E.%20Greenhouse%20Gas%20Emissions/GHG.02_CAPCOA%20CEQA%20and%20Climate%20Change.pdf.

CAPCOA. 2021. *California Emissions Estimator Model (CalEEMod) User's Guide Version 2020.4.0.* Accessed October 2022.

CARB (California Air Resources Board). 2008. *Climate Change Scoping Plan: A Framework for Change.* December 2008. Accessed December 2019. http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm.

CARB. 2012. California Air Resources Board Approves Advanced Clean Car Rules. January 27, 2012. Accessed February 3, 2021. https://ww2.arb.ca.gov/news/california-air-resources-board-approves-advanced-clean-car-rules.

CARB. 2014. *First Update to the Climate Change Scoping Plan Building on the Framework Pursuant to AB 32 – The California Global Warming Solutions Act of 2006*. May 2014. Accessed August 2014. http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

CARB. 2017. *The 2017 Climate Change Scoping Plan Update, The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target.* January 20, 2017. Accessed January 2017. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

CARB. 2020. "California Greenhouse Gas Emission Inventory for 2000–2018." October 15, 2020. Accessed November 2020. https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_sum_2000-18.pdf.

CARB. 2021. "GHG Inventory Glossary." https://ww2.arb.ca.gov/ghg-inventory-glossary.

CARB. 2022. Final 2022 Scoping Plan Update. December 15. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf.

CAT (California Climate Action Team). 2006. *Climate Action Team Report to the Governor Schwarzenegger and the Legislature*. Sacramento, California. March 2006. Accessed August 2016. http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.

CAT. 2010. *Climate Action Team Report to Governor Schwarzenegger and the California Legislature*. Sacramento, California: California Environmental Protection Agency, Climate Action Team. December 2010. Accessed February 3, 2021. https://research.fit.edu/media/site-specific/researchfitedu/coast-climate-adaptation-library/united-states/west-coast-amp-hawaix27i/california---statewide/Bonner-et-al.--2010.--Climate-Action-Team-Report-to-State-Officials.pdf.

CEC (California Energy Commission). 2018. "2carb019 Building Energy Efficiency Standards Fact Sheet." March 2018. Accessed February 3, 2021. https://www.energy.ca.gov/sites/default/files/2020-06/Title24_2019_Standards_detailed_faq_ada.pdf.

City of Tulare. 2011. *Climate Action Plan*. https://www.tulare.ca.gov/home/showpublisheddocument/7484/*636432198506500000.*

City of Tulare. 2014. City of Tulare 2035 General Plan. The Planning Center, DC&E. October 7, 2014.

CNRA (California Natural Resources Agency). 2006. *First California Climate Change Assessment Report*.

CNRA. 2009a. *Second California Climate Change Assessment Report.*

CNRA. 2009b. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97*. December 2009.

CNRA. 2012. *Third California Climate Change Assessment Report*.

CNRA. 2014. *Safeguarding California: Reducing Climate Risk—An Update to the 2009 California Climate Adaptation Strategy.* July 2014. http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf.

CRNA. 2016. Safeguarding California: Implementing Action Plans. March 2016. http://resources.ca.gov/docs/climate/safeguarding/Safeguarding%20California-Implementation%20Action%20Plans.pdf.

CNRA. 2018a. *California's Fourth Climate Change Assessment Statewide Summary Report.* Accessed February 3, 2021. https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf.

CNRA. 2018b. *California's Fourth Climate Change Assessment – San Joaquin Valley Region Report*. https://www.energy.ca.gov/sites/default/files/2019-11/Reg_Report-SUM-CCCA4-2018-003_SanJoaquinValley_Preview_ADA.pdf.

CNRA. 2018c. *Safeguarding California Plan: 2018 Update, California's Climate Adaptation Strategy*. January 2018. http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf.

County of Tulare. 2012. *General Plan 2030 Update. http://generalplan.co.tulare.ca.us/.*

CPUC (California Public Utilities Commission). 2013. California's Zero Net Energy Policies and Initiatives. September 18, 2013. http://annualmeeting.naseo.org/Data/Sites/2/presentations/Fogel-Getting-to-ZNE-CA-Experience.pdf.

Energy and Environmental Economics. 2019. Residential Building Electrification in California: Consumer Economics, Greenhouse Gases and Grid Impacts. https://www.ethree.com/wpcontent/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf.

Energy and Environmental Economics. 2021. Achieving Carbon Neutrality in California: PATHWAYS Scenarios Developed for the California Air Resources Board. https://ww2.arb.ca.gov/resources/documents/achieving-carbon-neutrality-california-final-report-e3.

EPA (U.S. Environmental Protection Agency). 2007. Energy Independence and Security Act of 2007. Accessed December 2016. https://www.gpo.gov/fdsys/pkg/BILLS-110hr6enr/pdf/BILLS-110hr6enr.pdf.

EPA. 2016. "Glossary of Climate Change Terms." August 9, 2016. Accessed August 2016. https://www3.epa.gov/climatechange/glossary.html.

EPA. 2017a. "Climate Change." Last updated January 19, 2017. Accessed January 2017. https://www.epa.gov/climatechange.

EPA. 2017b. *Carbon Pollution Standards for Cars and Light Trucks to Remain Unchanged Through 2025*. January 13, 2017. Accessed February 2017. https://www.epa.gov/newsreleases/carbon-pollution-standards-cars-and-light-trucks-remain-unchanged-through-2025.

EPA. 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2018*. EPA 430-R-20-002. April 2020. https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf.

EPA and NHTSA (National Highway Traffic Safety Administration). 2016. Regulations and Standards: Heavy-Duty. EPA and DOT Finalize Greenhouse Gas and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles. Last updated August 2016. https://www.epa.gov/newsreleases/epa-and-dot-finalize-greenhouse-gas-and-fuel-efficiency-standards-heavy-duty-trucks-0.

EPA and NHTSA. 2018. EPA and NHTSA MYs 2021–2026 CAFE Proposal – By the Numbers. August 2018. https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100V26H.pdf.

FTA (Federal Transit Administration). 2014. Planning for Transit-Supportive Development: A Practitioner's Guide. https://www.transit.dot.gov/funding/funding-finance-resources/transit-orienteddevelopment/planning-transit-supportive.

IPCC (Intergovernmental Panel on Climate Change). 1995. *IPCC Second Assessment Report. https://www.ipcc.ch/site/assets/uploads/2018/06/2nd-assessment-en.pdf*

IPCC. 2007. *IPCC Fourth Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the U.N. Framework Convention on Climate Change*.

IPCC. 2013. *Climate Change 2013: The Physical Science Basis—Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by T.F. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley. Cambridge, United Kingdom and New York, New York: Cambridge University Press.

IPCC. 2014. *Climate Change 2014 Synthesis Report: A Report of the Intergovernmental Panel on Climate Change.* Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Accessed August 2016. http://www.ipcc.ch/report/ar5/syr/.

IPCC. 2018. "Summary for Policymakers." In *Global Warming of 1.5 °C. An IPCC Special Report on the Impacts of Global Warming of 1.5 °C above Pre-industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts To Eradicate Poverty.* Accessed July 2019. https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.

Newmark, G. and Haas, P. 2015. "Income, Location Efficiency, and VMT: Affordable Housing as a Climate Strategy." Available at: https://chpc.net/wp-content/uploads/2016/05/CNT-Working-Paper-revised-2015-12-18.pdf

OEHHA (Office of Environmental Health Hazard Assessment). 2018. *Indicators of Climate Change in California.* May 9, 2018. https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf.

OPR (Governor's Office of Planning and Research). 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review.* Technical Advisory. Sacramento, California: OPR. June 19, 2008. Accessed December 9, 2013. http://opr.ca.gov/docs/june08-ceqa.pdf.

OPR. 2018. *Discussion Draft CEQA and Climate Change Advisory.* Accessed March 2019. http://opr.ca.gov/docs/20181228-Discussion_Draft_Climate_Change_Adivsory.pdf.

PBL (PBL Netherlands Environmental Assessment Agency). 2018. *Trends in Global CO_2 and Total Greenhouse Gas Emissions, 2018 Report*. December 5, 2018. Accessed February 3, 2021. https://www.pbl.nl/en/publications/trends-in-global-co2-and-total-greenhouse-gas-emissions-2018-report.

PG&E (Pacific Gas and Electric Company). 2020. *2020 Corporate Responsibility and Sustainability Report*. Accessed December 2020. https://www.pgecorp.com/corp_responsibility/reports/2020/assets/PGE_CRSR_2020.pdf.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2009a. *Final Staff Report – Addressing GHG Emissions Impacts under the California Environmental Quality Act.* December 2009.

SJVAPCD. 2009b. *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA.* December 2009.

SJVAPCD. 2009c. *SJVAPCD Final Staff Report Appendix J: GHG Emission Reduction Measures – Development Projects*. December 2009.

SJVAPCD. 2015. *Guidance for Assessing and Mitigating Air Quality Impacts*. Accessed August 2017. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

TCAG (Tulare County Association of Governments). 2022. *Draft Regional Transportation Plan/*Sustainable Communities Strategy. https://tularecog.org/tcag/planning/rtp/rtp-2022/.

Washington Department of Transportation. 2013. Tools for Estimating VMT Reductions from Built Environment Changes. https://www.wsdot.wa.gov/research/reports/fullreports/806.3.pdf.

INTENTIONALLY LEFT BLANK

4.9 Hazards and Hazardous Materials

This section describes the existing hazardous materials conditions of the Chandler Grove Master Plan and Annexation Project (proposed Project) and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This section assesses potential effects on hazards and hazardous materials that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information contained in this section is based on a review of the list of hazardous waste and substances sites (Cortese List) in accordance with California Government Code Section 65962.5, as well as the following:

- Appendix F, Hazardous Materials Assessment, prepared by Dudek (2022)
- Appendix G, Water Supply Assessment, prepared by Dudek (2022)

Other sources consulted are listed in Section 4.9.7, References, of this section.

One comment letter was received from The Department of Toxic Substances Control in response to the Notice of Preparation, which included recommendations that DTSC, Regional Water Quality Control Board, or qualified local agency provide regulatory concurrence that the site is safe for construction and the proposed use, stated the EIR should acknowledge the potential for historic or future activities on or near the Project site to result in the release of hazardous wastes/substances on the Project site and requested the Project to comply with California environmental regulations and polices. The Notice of Preparation and comments received are provided in Appendix A.

4.9.1 Existing Conditions

The proposed Project is located in unincorporated Tulare County, California on the south side of Avenue 228. The proposed Project site consists of 228 acres bordered by East Bardsley Avenue to the south, Road 130 to the east, Avenue 228 to the north, and Road 124 to the west (Project site). A Hazardous Materials Assessment (Assessment) was prepared for the Project site in August 2022 (Appendix F). The Assessment included a review of public agency records and online environmental databases, which were searched and reviewed in accordance with the ASTM E1527-21 standard for Phase I Environmental Site Assessments; an interview with the current Project site owner; review of Project site history using aerial photographs, topographic maps, and fire insurance maps; and a site reconnaissance. Present-day and historical information was reviewed and summarized to identify potential hazardous material impacts on the Project site, which are summarized as follows:

- **Historical Agricultural Use** present day. As with all agricultural properties, pesticides and herbicides are likely used. The chemicals of concern associated with t**.** The subject property has been used for agricultural purposes from at least 1937 to hese compounds, such as organochlorinated compounds and metals, can

be bioaccumulative and persistent in site soils. Therefore, the longer a property is used for agricultural purposes, the more likely there is an accumulation of these chemicals of concern. Considering the ongoing, long-term agricultural use and the lack of redevelopment of the Project site, there is a potential for elevated concentrations of pesticide and herbicide-related compounds in surface soils.

- **Drinking Water Quality.** Available water quality data was reviewed for municipal groundwater wells on adjoining properties, one to the south and one to the east. Consistent detections of nitrate and 1,2,3-trichloropropane (TCP) were reported above California State Water Resources Control Board (SWRCB) maximum contaminant levels and action levels respectively, for both groundwater wells. Due to the proximity of these wells to both the south and east, it is possible these constituents could be present in any groundwater accessed at the Project site. While nitrate is not considered a hazardous material, water quality could be impacted. 1,2,3-TCP is a hazardous material as defined by the U.S. Environmental Protection Agency.
- **Releases of Automotive Fluids.** Evidence of a junkyard/auto dismantling operation was observed in the empty paddock area on the western side of the Project site during the site reconnaissance. This evidence was further supported by a Google Maps street view image of the area in March 2021 (Google Earth 2021). Abandoned vehicles were observed in the street view image covering the Project site, in some cases, stacked three high. Soil staining was observed in the area during the site reconnaissance, as well as distressed vegetation. Although the vehicle storage appears to have been short term, impacts to the soil in this area from leaking automotive fluids (oil and fuel) likely occurred, as evidenced by the observations (stained soils and distressed vegetation) during the site reconnaissance.
- **Releases of Petroleum Products.** Hazardous material and petroleum product storage was observed on the Project site near the irrigation supply wells. A 1,000-gallon diesel fuel aboveground storage tank (AST), a 50-gallon hydraulic fluid tank, and two 5-gallon buckets of engine oil were stored on a concrete pad adjacent to both irrigation supply wells. No secondary containment was observed. Soil staining on all sides of the concrete pad and around both wells was observed above de minimis conditions. Strong petroleum odors were also observed in this area.
- **Hazardous Building Materials.** The Project site is developed with three residences, each located on the north side of the Project site on Avenue 228. The residential properties each include multiple buildings. As discussed in Section 9 of the Assessment, the structures were all constructed prior to 1978, and therefore may contain lead-based paints (LBP) and asbestos-containing materials (ACM).

4.9.1.1 Hazardous Material Sites

Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop a Cortese List that is updated at least annually. While the CalEPA no longer maintains a single Cortese List, CalEPA uses the following databases and lists to meet the requirements of Government Code Section 65962.5.

1. List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database.
2. List of Leaking Underground Storage Tank Sites from the State Water Board's GeoTracker database.
3. List of solid waste disposal sites identified by State or Regional Water Board with waste constituents above hazardous waste levels outside the waste management unit.
4. List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from State Water Board.

5. List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

A search of the above-listed online databases was conducted to identify Cortese List sites on or adjoining the Project site, or those which could potentially impact the Project site, based on level of contamination, proximity to the Project site, and other environmental conditions. This search returned no Cortese-list sites identified on or adjoining the Project site.

In addition, there are hazardous material sites that do not meet the definition of a Cortese List site but still have hazardous material impacts that could impact construction or operation of the proposed Project. These may include voluntary cleanup sites or military cleanup sites. These are referred to herein as "non-Cortese List hazardous material sites." A search was conducted as part of the Assessment (Appendix F) to identify non-Cortese List hazardous material sites on or adjoining the Project site, or those which could potentially impact the Project site based on level of contamination, proximity to the Project site, and other environmental conditions. As discussed in Sections 4 and 5 of the Assessment, two adjoining sites were identified that have permitted storage of hazardous materials; neither of these sites have documented releases to the environment which could impact the environmental condition of the Project site. Twelve surrounding sites were identified which either store hazardous materials or have documented hazardous material release; based on level and type of contamination, proximity to the Project site, and other environmental conditions, these sites were determined not likely have impacted the environmental condition of the Project site.

4.9.1.2 Oil and Gas Wells and Pipelines

There are no oil or gas wells located on the Project site, nor is the Project site located within an oil and gas field. One plugged dry hole was identified approximately 0.50 miles east of the Project site (CalGEM 2022). There are no petroleum or hazardous material pipelines identified on or within 1 mile of the Project site (NPMS 2022).

4.9.1.3 Schools

There are two schools located within 0.25 miles of the Project site. Mission Oak High School adjoins the Project site to the west, at 3442 East Bardsley Avenue, and College of the Sequoias, which is a community college, adjoins the Project site to the southeast, at 4999 East Bardsley Avenue (GreenInfo Network 2021).

4.9.1.4 Airports

Three airports were located near the Project site: Mefford Field Airport, Visalia Municipal Airport, and Exeter Airport. Mefford and Visalia are public use airports, while Exeter is a private airport and located greater than 2 miles from the Project site; therefore, Exeter is not discussed further. Mefford Field Airport is located approximately 3.12 miles southwest of the Project site, and Visalia Municipal Airport is located approximately 8.92 miles northwest of the Project site. Neither of the airports are located within 2 miles of the Project site. The Project site is not located within either airport influence area, existing or proposed (Aries Consultants 2012).

The Project site was also evaluated using the OE/AAA Notice Criteria Tool (FAA 2022), using an assumed maximum building height of 30 feet, there are no areas of the Project site where notification would be required in accordance with 14 CFR 77.9.

4.9.1.5 Fire Hazards and Emergency Response

The Project site is in Tulare County, which is within the Tulare County Local Responsibility Area (LRA)[1] (CAL FIRE 2007). The Project Site is in an unzoned area, titled "non-wildland/non-urban," adjoining "urban unzoned" areas to the east and west. The Project areas fall within the response jurisdiction of the Tulare County Fire Department for wildfire hazards and emergency response. Tulare County Fire Department's nearest fire station is at 2082 Foster Drive, Tulare, CA, approximately 1.3 miles west-southwest of the Project site.

As part of the proposed Project, the City of Tulare jurisdictional boundary will be amended to include the Project site. As such, the Project site will then be under the jurisdiction of City of Tulare Fire Department.

Tulare County Fire Department is responsible for emergency response related to fires and first-responder emergencies. When jurisdictional change occurs, this will change to City of Tulare Fire Department. For hazardous materials response, Tulare County Environmental Health is the designated Certified Unified Program Agency (CUPA) for Tulare County, including the Project site. Tulare County Environmental Health is responsible for emergency response related to hazardous materials.

4.9.2 Relevant Plans, Policies, and Ordinances

Federal

U.S. Environmental Protection Agency

Title 40 USC, Chapter 1, Subchapter I, Parts 260–265 – Solid Waste Disposal Act/ Federal Resource Conservation and Recovery Act of 1976

The Solid Waste Disposal Act, as amended and revised by the Resource Conservation and Recovery Act (RCRA), establishes requirements for the management of solid wastes (including hazardous wastes), landfills, USTs, and certain medical wastes. The statute also addresses program administration; implementation and delegation to the states; enforcement provisions and responsibilities; and research, training, and grant funding. Provisions are established for the generation, storage, treatment, and disposal of hazardous waste, including requirements addressing generator record keeping, labeling, shipping paper management, placarding, emergency response information, training, and security plans.

Title 40 USC, Chapter 1, Subchapter I, Part 273 – Universal Waste

This regulation governs the collection and management of widely generated waste, including batteries, pesticides, mercury-containing equipment, and bulbs. This regulation streamlines the hazardous waste management standards and ensures that such waste is diverted to the appropriate treatment or recycling facility.

Title 40 USC, Chapter 1, Subchapter D, Part 112 – Oil Pollution Prevention

Oil Pollution Prevention regulations require the preparation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan if oil is stored in excess of 1,320 gallons in aboveground storage (or have a buried capacity of

[1] Local Responsibility Areas (LRA) are within the jurisdiction of the local fire protection agency (county, city, or region), whereas the State Responsibility Area (SRA) is under the jurisdiction of California Department of Forestry and Fire Protection (CAL FIRE).

42,000 gallons). SPCC regulations place restrictions on the management of petroleum materials and, therefore, have some bearing on hazardous materials management.

Title 40 USC, Chapter 1, Subchapter C, Part 61 – National Emission Standards for Hazardous Air Pollutants, Subpart M – National Emission Standard for Asbestos

This regulation established National Emission Standards for Hazardous Air Pollutants (NESHAP) and names asbestos-containing material (ACM) as one of these materials. ACM use, removal, and disposal are regulated by EPA under this law. In addition, notification of friable ACM removal prior to a proposed demolition project is required by this law.

Title 42 U.S. Code of Federal Regulations, Chapter 116 – Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA) provides for public access to information about chemical hazards. The EPCRA and its regulations included in Title 40 USC Parts 350–372 establish four types of reporting obligations for facilities storing or managing specified chemicals: emergency planning, emergency release notification, hazardous chemical storage reporting requirements, and toxic chemical release inventory. EPA maintains a database, termed the Toxic Release Inventory, which includes information on reportable releases to the environment.

Title 15 USC, Chapter 53, Subchapter I, Section 2601 et seq. – Toxic Substances Control Act of 1976

The Toxic Substances Control Act (TSCA) of 1976 empowers EPA to require reporting, record-keeping, and testing, as well as to place restrictions on the use and handling of chemical substances and mixtures. This regulation phased out the use of asbestos and ACM in new building materials and also sets requirements for the use, handling, and disposal of ACM as well as for lead-based paint (LBP) waste. As discussed above, EPA has also established NESHAP, which govern the use, removal, and disposal of ACM as a hazardous air pollutant and mandate the removal of friable ACM before a building is demolished and require notification before demolition. In addition to asbestos, ACM, and LBP requirements, this regulation also banned the manufacturing of polychlorinated biphenyls (PCBs) and sets standards for the use and disposal of existing PCB-containing equipment or materials.

Regional Screening Levels (RSLs)

The federal EPA provides regional screening levels for chemical contaminants to provide comparison values for residential and commercial/industrial exposures to soil, air, and tap water (drinking water). RSLs are available on the EPA's website and provide a screening level calculation tool to assist risk assessors, remediation project managers, and others involved with risk assessment and decision-making. RSLs are also used when a site is initially investigated to determine if potentially significant levels of contamination are present to warrant further investigation. In California, the Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) incorporated the EPA RSLs into the HERO human health risk assessment. HERO created Human Health Risk Assessment (HHRA) Note 3, which incorporates HERO recommendations and DTSC-modified screening levels (DTSC-SLs) based on review of the EPA RSLs. The DTSC-SL should be used in conjunction with the EPA RSLs to evaluate chemical concentrations in environmental media at California sites and facilities.

U.S. Department of Labor, Occupational Safety and Health Administration

Title 29 USC, Part 1926 et seq. – Safety and Health Regulations for Construction

These standards require employee training; personal protective equipment; safety equipment; and written procedures, programs, and plans for ensuring worker safety when working with hazardous materials or in hazardous work environments during construction activities, including renovations and demolition projects and the handling, storage, and use of explosives. These standards also provide rules for the removal and disposal of asbestos, lead, LBP, and other lead materials. Although intended primarily to protect worker health and safety, these requirements also guide general facility safety. This regulation also requires that an engineering survey is prepared prior to demolition.

Title 29 USC, Part 1910 et seq. – Occupational Safety and Health Standards

Under this regulation, facilities that use, store, manufacture, handle, process, or move hazardous materials are required to conduct employee safety training; inventory safety equipment relevant to potential hazards; have knowledge on safety equipment use; prepare an illness prevention program; provide hazardous substance exposure warnings; prepare an emergency response plan, and prepare a fire prevention plan.

U.S. Department of Transportation

Title 49 USC, Part 172, Subchapter C – Shipping Papers

The Department of Transportation established standards for the transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping hazardous materials and hazardous wastes, as well as training requirements for personnel completing shipping papers and manifests.

Federal Aviation Administration

Title 14 USC, Chapter 1, Subchapter E, Part 77 – Aeronautics and Space – Safe, Efficient Use, and Preservation of the Navigable Airspace

This regulation establishes requirements for notifying the Federal Aviation Administration (FAA) of certain construction activities and alterations to existing structures, in order to ensure there are no obstructions to navigable airspace. For example, projects that include construction or alteration exceeding 200 feet in height above ground level are required to notify the FAA.

Federal Response Plan

The Federal Response Plan of 1999, as amended in 2003 (OJP 1999) is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a presidential declaration of a major disaster or emergency.

International Fire Code

The International Fire Code (IFC), created by the International Code Council, is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what measures are required to protect against structural fires. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, IFC employs a permit system based on hazard classification. The IFC is updated every 3 years.

State

California Unified Program for Management of Hazardous Waste and Materials

California Health and Safety Code (HSC), Division 20, Chapter 6.11, Sections 25404–25404.9 – Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

Under the California Environmental Protection Agency (CalEPA), the Department of Toxic Substances Control (DTSC) and Enforcement and Emergency Response Program (EERP) administer the technical implementation of California's Unified Program, which consolidates the administration, permit, inspection, and enforcement activities of several environmental and emergency management programs at the local level (DTSC 2019). Certified Unified Program Agencies (CUPAs) implement the hazardous waste and materials standards. This program was established under the amendments to the California HSC made by SB 1082 in 1994. The programs that make up the Unified Program are:

- Aboveground Petroleum Storage Act (APSA) Program
- Area Plans for Hazardous Materials Emergencies
- California Accidental Release Prevention (CalARP) Program
- Hazardous Materials Release Response Plans and Inventories (Hazardous Materials Business Plans, or HMBPs)
- Hazardous Material Management Plan (HMMP) and Hazardous Material Inventory Statements (HMIS)
- Hazardous Waste Generator and On-site Hazardous Waste Treatment (Tiered Permitting) Program
- Underground Storage Tank Program

The CUPA for the Project site is Tulare County Environmental Health.

Title 19 CCR, Chapter 2, Subchapter 3, Sections 2729–2734/California HSC Division 20, Chapter 6.95, Sections 25500–25520

This regulation requires the preparation of an HMBP by facility operators. The HMBP identifies the hazards, storage locations, and storage quantities for each hazardous chemical stored on-site. The HMBP is submitted to the CUPA for emergency planning purposes. The Project site is currently subject to these requirements and there is an HMBP in place.

Hazardous Waste Management

Title 22 CCR, Division 4.5 – Environmental Health Standards for the Management of Hazardous Waste

In the State of California, the Department of Toxic Substances Control (DTSC) regulates hazardous wastes. These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers; prepare manifests before transporting waste off-site; and use only permitted treatment, storage, and disposal facilities. Standards also include requirements for record keeping, reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters.

In addition, Chapter 31 – Waste Minimization, Article 1 – Pollution Prevention and the Hazardous Waste Source Reduction and Management Review of these regulations require that generators of 12,000 kilograms/year of typical, operational hazardous waste evaluate their waste streams every 4 years and, as applicable, select and implement viable source reduction alternatives. This Act does not apply to non-typical hazardous waste, including ACM and PCBs, among others.

Title 22 California HSC, Division 20, Chapter 6.5 – California Hazardous Waste Control Act of 1972

This legislation created the framework under which hazardous wastes must be managed in California. It provides for the development of a state hazardous waste program (regulated by DTSC) that administers and implements the provisions of the federal RCRA program. It also provides for the designation of California-only hazardous wastes and development of standards that are equal to or, in some cases, more stringent than, federal requirements. The CUPA is responsible for implementing some elements of the law at the local level.

Human Health Risk Assessment Note 3 – DTSC-Modified Screening Levels (DTSC-SLs)

HHRA Note Number 3 presents recommended screening levels (derived from the EPA RSLs using DTSC-modified exposure and toxicity factors) for constituents in soil, tap water, and ambient air. The DTSC-SL should be used in conjunction with the EPA RSLs to evaluate chemical concentrations in environmental media at California sites and facilities.

Aboveground and Underground Petroleum Storage Tanks

Title 22 California HSC, Division 20, Chapter 6.67, Sections 25270–25270.13 – Aboveground Petroleum Storage Act

This law applies if a facility is subject to SPCC regulations under Title 40 U.S.C. Part 112, or if the facility has 10,000 gallons or more of petroleum in any or combination of ASTs and connecting pipes. If a facility exceeds these criteria, it must prepare a SPCC plan.

Low-Threat Underground Storage Tank (UST) Case Closure Policy

This policy applies to petroleum UST sites subject to Chapter 6.7 of the Health and Safety Code. This policy establishes both general and media-specific criteria. If both the general and applicable media-specific criteria are satisfied, then the leaking UST case is generally considered to present a low threat to human health, safety, and

the environment. This policy recognizes, however, that even if all of the specified criteria in the policy are met, there may be unique attributes of the case or site-specific conditions that increase the risk associated with the residual petroleum constituents. In these cases, the regulatory agency overseeing corrective action at the site must identify the conditions that make case closure under the policy inappropriate.

Regional Water Boards and local agencies have been directed to review all cases in the petroleum UST Cleanup Program using the framework provided in this policy. These case reviews shall, at a minimum, include the following for each UST case:

1. Determination of whether or not each UST case meets the criteria in this policy or is otherwise appropriate for closure based on a site-specific analysis.
2. If the case does not satisfy the criteria in this policy or does not present a low-risk based upon a site-specific analysis, impediments to closure shall be identified.
3. Each case review shall be made publicly available on the State Water Board's GeoTracker web site in a format acceptable to the Executive Director.

Environmental Cleanup Levels

Environmental Screening Levels

Environmental Screening Levels (ESLs) provide conservative screening levels for over 100 chemicals found at sites with contaminated soil and groundwater. They are intended to help expedite the identification and evaluation of potential environmental concerns at contaminated sites. The ESLs were developed by San Francisco Bay Regional Water Quality Control Board; however, they are used throughout the state. While ESLs are not intended to establish policy or regulation, they can be used as a conservative screening level for sites with contamination. Other agencies in California currently use the ESLs (as opposed to RSLs). In general, the ESLs could be used at any site in the State of California, provided all stakeholders agree (San Francisco Bay RWQCB 2019). In recent experience, regulatory agencies in various regions use ESLs as regulatory cleanup levels. The ESLs are not generally used at sites where the contamination is solely related to a leaking underground storage tank (LUST); those sites are instead subject to the Low-Threat Underground Storage Tank Closure Policy.

California Integrated Waste Management Board

Title 14 CCR, Division 7, Chapter 8.2 – Electronic Waste Recovery and Recycling Act of 2003

This regulation sets requirements regarding the use and disposal of hazardous substances in electronics. When discarded, the DTSC considers the following materials manufactured before 2006 to be hazardous waste: cathode ray tube devices, liquid crystal display (LCD) desktop monitors, laptop computers with LCD displays, LCD televisions, plasma televisions, and portable DVD Players with LCD screens.

California Department of Transportation/California Highway Patrol

Title 13 CCR, Division 2, Chapter 6

California regulates the transportation of hazardous waste originating or passing through the state. The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. CHP enforces materials and hazardous waste labeling and packing regulations that prevent leakage and spills of

material in transit and provides detailed information to cleanup crews in the event of an incident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of CHP. CHP conducts regular inspections of licensed transporters to ensure regulatory compliance. Caltrans has emergency chemical spill identification teams at locations throughout the state. Hazardous waste must be regularly removed from generating sites by licensed hazardous waste transporters. Transported materials must be accompanied by hazardous waste manifests.

Occupational Safety and Health

Title 8 CCR – Safety Orders

Under the California Occupational Safety and Health Act of 1973, the California Occupational Safety and Health Administration (CalOSHA) is responsible for ensuring safe and healthful working conditions for California workers. CalOSHA assumes primary responsibility for developing and enforcing workplace safety regulations in Title 8 of the CCR. CalOSHA hazardous substances regulations include requirements for safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. CalOSHA also enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances. The hazard communication program also requires that Material Safety Data Sheets be available to employees and that employee information and training programs be documented.

In Division 1, Chapter 4, Subchapter 4 – Construction Safety Orders of Title 8, construction safety orders are listed and include rules for demolition, excavation, explosives work, working around fumes and vapors, pile driving, vehicle and traffic control, crane operation, scaffolding, fall protection, and fire protection and prevention, among others.

Cal/OSHA Asbestos and Carcinogen Unit enforces asbestos standards in construction, shipyards, and general industry. This includes identification and removal requirements of asbestos in buildings, as well as health and safety requirements of employees performing work under the Asbestos-In-Construction regulations 8 CCR 1529. Only a Cal/OSHA-Certified Asbestos Consultant (CAC) can provide asbestos consulting (as defined by the Business and Professions Code, 7180–7189.7, and triggered by the same size and concentration triggers as for registered contractors). These services include building inspection, abatement project design, contract administration, supervision of site surveillance technicians, sample collection, preparation of asbestos management plans, and clearance air monitoring.

Asbestos and Air Quality

Enforcement of the NESHAP Regulation, HSC Section 39658(b)(1)

The California Air Resources Board (CARB) is responsible for overseeing compliance with the federal Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAPs) in Los Angeles County. The Asbestos NESHAP Program enforces compliance with the federal National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulation for asbestos and investigates all related complaints, as specified by HSC Section 39658(b)(1). Of the 35 air districts in California, 16 of these districts do not have an asbestos program in place. In these “non-delegated” districts, a demolition/renovation notification is required for compliance with the Asbestos NESHAP. (This notification is not equivalent to a permit.) CARB reviews and investigates the notifications. The program also administers two annual statewide asbestos NESHAP task force meetings for air districts and US EPA to facilitate communication and enforcement continuity, and assists US EPA in training district staff to enforce the asbestos NESHAP.

Contractors State License Board

The California Department of Consumer Affairs Contractors State License Board manages the licensing of asbestos abatement contractors.

Lead-Based Paint

The California Department of Public Health enforces lead laws and regulations related to the prevention of lead poisoning in children, prevention of lead poisoning in occupational workers, accreditation and training for construction-related activities, lead exposure screening and reporting, disclosures, and limitations on the amount of lead found in products. Accredited lead specialists are required to find and abate lead hazards in a construction project and to perform lead-related construction work in an effective and safe manner. The specific regulations are as follows:

California Health & Safety Code Sections 124125–124165

Declared childhood lead exposure as the most significant childhood environmental health problem in the state. Established the Childhood Lead Poisoning Prevention Program and instructed it to continue to take steps necessary to reduce the incidence of childhood lead exposure in California.

California Health & Safety Code Sections 105275–105310

Reaffirmed California's commitment to lead poisoning prevention activities; provided CDPH with broad mandates on blood lead screening protocols, laboratory quality assurance, identification and management of lead exposed children, and reducing lead exposures.

California Health & Safety Code Section 105250

Establishes a program to accredit lead-related construction training providers and certify individuals to conduct lead-related construction activities.

California Civil Code Section 1941.1; California Health & Safety Code Sections 17961, 17980, 124130, 17920.10, 105251–105257

Deems a building to be in violation of the State Housing Law if it contains lead hazards, and requires local enforcement agencies to enforce provisions related to lead hazards. Makes it a crime for a person to engage in specified acts related to lead hazard evaluation, abatement, and lead-related constructions courses, unless certified or accredited by the Department. Permits local enforcement agencies to order the abatement of lead hazards or issue a cease-and-desist order in response to lead hazards.

California Civil Code Sections 1102–1102.16

Requires the disclosure of known lead-based paint hazards upon sale of a property.

California Education Code Sections 32240–32245

Implemented a lead poisoning prevention and protection program for California schools for a survey to ascertain risk factors that predicted lead contamination in public schools. The survey was completed in 1998. Findings of the survey are under Materials and Products.

California Labor Code Sections 6716–6717

Provides for the establishment of standards that protect the health and safety of employees who engage in lead-related construction work, including construction, demolition, renovation, and repair.

California Health & Safety Code Sections 116875–116880

Requires the use of lead-free pipes and fixtures in any installation or repair of a public water system or in a facility where water is provided for human consumption.

California Health & Safety Code Sections 105185–105197

Establishes an occupational lead poisoning prevention program to register and monitor laboratory reports of adult lead toxicity cases, monitor reported cases of occupational lead poisoning to ascertain lead poisoning sources, conduct investigations of take-home exposure cases, train employees and health professionals regarding occupational lead poisoning prevention, and recommended means for lead poisoning prevention.

California Building Standards Commission

Title 24 of the CCR – California Building Standards Code

The California Building Standards Code is a compilation of three types of building standards from three different sources:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

Among other rules, the Code contains requirements regarding the storage and handling of hazardous materials. The Chief Building Official at the local government level (i.e., Tulare County) must inspect and verify compliance with these requirements prior to issuance of an occupancy permit.

California Building Code – Chapter 7A

This chapter of the California Building Code establishes minimum standards for buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flames or burning embers projected by a vegetation fire.

California Forestry and Fire Protection

2010 Strategic Fire Plan for California

Public Resources Code Sections 4114 and 4130 authorize the State Board of Forestry to establish a fire plan that establishes the levels of statewide fire protection services for State Responsibility Area (SRA) lands. These levels of service recognize other fire protection resources at the federal and local level that collectively provide a regional and statewide emergency response capability. In addition, California's integrated mutual aid fire protection system provides fire protection services through automatic and mutual aid agreements for fire incidents across all ownerships. The California Fire Plan is the state's road map for reducing the risk of wildfire through planning and prevention to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to ecosystem health.

California Emergency Services Act

Under the Emergency Services Act (California Government Code, Section 8550 et seq.), the State of California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an integral part of the plan, which is administered by the Governor's Office of Emergency Services. The Office of Emergency Services coordinates the responses of other agencies, including the EPA, California Highway Patrol, Regional Water Quality Control Boards, air quality management districts, and county disaster response offices.

California Accidental Release Prevention Program

Similar to the EPA Risk Management Program, the California Accidental Release Prevention (CalARP) Program (19 CCR 2735.1 et seq.) regulates facilities that use or store regulated substances, such as toxic or flammable chemicals, in quantities that exceed established thresholds. Under the regulations, industrial facilities that handle hazardous materials above threshold quantities are required to prepare and submit a hazardous materials business plan (HMBP) to the local CUPA via the California Environmental Reporting System. As part of the HMBP, a facility is further required to specify applicability of other state regulatory programs. The overall purpose of CalARP is to prevent accidental releases of regulated substances and reduce the severity of releases that may occur. The CalARP Program meets the requirements of the EPA Risk Management Program, which was established pursuant to the Clean Air Act Amendments.

California Dig Alert

CA Government Code 4216

In accordance with CA Government Code 4216.2, an excavator planning to conduct an excavation shall notify the appropriate regional notification center of the intent to excavate between 2 and 14 calendar days prior to excavation activities. When the excavation is proposed within 10 feet of a "high priority subsurface installation", which includes high pressure natural gas and petroleum pipelines, the operator of the high priority subsurface installation shall notify the excavator of the existing of the installation and set up an onsite meeting to determine actions required to verify location and prevent damage to the installation. The excavator shall not begin excavating until the onsite meeting is complete.

California School Regulations

California Education Code Sections 17210, 17210.1, 17213.1, and 17213.2

Proposed new school sites or school expansions wishing to receive state funding shall undergo a risk assessment to determine the presence or absence of hazardous materials which could pose a risk to children's health. The risk assessment will include a Preliminary Endangerment Assessment (PEA) under the guidance and oversight of DTSC. The school district shall also participate in public participation requirements described in Sections 25358.7 and 25358.7.1 of the California Health and Safety Code (HSC).

Title 22 CCR, Division 4.5, Chapter 51.5 – Assessment of School Sites

Phase I Environmental Site Assessments (ESAs) prepared for new school sites or expansion of school sites shall follow the procedures and guidelines provided by DTSC, which include sampling and submitting analytical results for lead, organochlorine pesticides, and polychlorinated biphenyls in soils to DTSC for review and approval of the school site.

Local

San Joaquin Valley Air Pollution Control District

The San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4002 is the adoption of the US EPA NESHAP rules, which limit toxic air pollutants, including ACM. SJVAPCD Rule 3050 requires asbestos removal fees for all demolitions or renovations over 260 linear feet, 160 square feet, or 35 cubic feet where ACM are present and will be disturbed.

SJVAPCD Regulation VIII, Rules 8011 through 8081, prohibit and limit particulate emissions (PM_{10}) in various types of activities that create fugitive dust. This includes construction, demolition, excavation, and other earthmoving activities (Rule 8021).

Tulare County Environmental Health Division

The Tulare County Environmental Health Division (Environmental Health) is the CUPA agency for the Project site. Tulare County Environmental Health is responsible for overseeing aboveground, underground, and petroleum storage tanks; the County's CalARP program; hazardous material emergency response; hazardous materials business plans (HMBPs); household hazardous waste handling and disposal; and the generation and treatment of hazardous wastes. Permitting and reporting required for each of these programs is completed through Tulare County Environmental Health.

Tulare County Resource Management Agency

The Project site is outside of the City of Tulare incorporation boundary, and therefore is within the jurisdiction of Tulare County. Tulare County Resource Management Agency (RMA) issues all permits and inspects all construction for industrial, commercial, and residential projects in the County. All permits and construction issued by and under the oversight of RMA must comply with the 2019 California Building Codes, which include Title 24 Parts 1, 2, 2,5, 6, 9, 11, and 12, Plumbing Code, Mechanical Code, and Electrical Code.

Tulare County General Plan

Chapter 10 of the Tulare County General Plan includes the Health and Safety Elements of the General Plan, including airport hazards, hazardous materials, fire hazards, and emergency response (County of Tulare 2012).

Airport Hazards

Policy HS-3.1 requires that development around airports is consistent with the safety policies and land use compatibility guidelines in the Tulare County Comprehensive Airport Land Use Plan.

Hazardous Materials

Policies HS-4.1 through HS-4.9 establish requirements within the County to protect residents, visitors, and property from hazardous materials through their safe use, storage, transport, and disposal. HS-4.4 states that the County will review new development proposals to protect soils, air quality, surface water, and groundwater from hazardous materials contamination, and HS-4.8 ensures proponents of new development address hazardous materials concerns through the preparation of a Phase I or Phase II hazardous materials studies for each site within the project. Any recommendations required to satisfy federal or state cleanup standards identified in the studies will be implemented as part of the construction phase for each project.

Urban and Wildland Fire Hazards

HS-6.1 requires all building permits in areas with potential for wildland fires be reviewed by the County Fire Chief. HS-6.1 and HS-6.2 establish minimum requirements for buildings constructed in various fire hazard zones. HS-6.7 requires that water supply systems be adequate to serve the size and configuration of any proposed new development, including fire flow requirements.

Emergency Response

The polices outlined in HS-7 are designed to provide effective emergency response to natural or human-made hazards and disasters. This includes coordination with government agencies and mutual aid. Emergency evacuation plans have been prepared as part of the County's Strategic Plan and Emergency Operations Plan. Evacuation routes are not pre-determined in the County's General Plan or Strategic Plan. The County's Emergency website (tularecounty.ca.gov/emergencies/) provides a digital wildfire evacuation map that is updates in the event of wildfire evacuation orders or warnings within the County.

City of Tulare General Plan

Airports

Policy LU-P3.1 requires abatement of significant noise into new residential developments from airports, among other noise sources. Additionally, policies LU-P10.1 through LU-P10.8 require compatibility to existing and future airport land use plans with surrounding communities; airspace protection and easements; and protect surrounding land uses.

Hazardous Materials

Policies SAF-P5.1 through SAF-P5.10 are designed to meet Goal SAF-5, which is to protect people from the harmful effects of exposure to hazardous materials. This includes designated routes for hazardous materials transport; new development is required to prepare a Phase I and Phase II and follow recommendations for cleanup, if any; identified transportation procedures; prevention of future contamination; only allowing compatible land uses near hazardous waste sites; and proper siting of future hazardous waste facilities.

Urban and Wildland Fire Hazards

Policies SAF-P6.1 through SAF-P6.10 outline procedures for fire protection within the City, including review of new buildings by the City Fire Chief; review for development in high fire hazard zones to ensure construction is protective from wildfires; allowance of the City Fire Chief to make recommendations for fire safety with new development; and maintenance by the City for protection from future fire risk.

Emergency Response

Policies SAF-P3.1 through SAF-P3.6 are designed to meet the City's goal SAF-3, which is to provide adequate emergency services. This includes maintenance of evacuation plans and routes, and providing emergency centers for disaster response.

Tulare Transit-Oriented Development Plan

The Project site is located within the COS North Transit Oriented Development Plan Area that is outlined in the Tulare TOD Plan for the City of Tulare. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD Plan are based on the City of Tulare's General Plan documents. There are no specific hazard-related policies and measures contained in TOD Plan applicable to the proposed Project. In the absence of applicable goals, policies, or implementation measures within the TOD Plan, refer to the applicable policies, goals, and implementation measures of the Tulare City General Plan above.

4.9.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts related to hazards and hazardous materials are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hazards and hazardous material would occur if the Project would:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as result, would it create a significant hazard to the public or the environment.

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

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.9.4 Impacts Analysis

Threshold a: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-than-significant impact with mitigation incorporated. Construction would require the use of heavy equipment and machinery. Hazardous materials that may be used during construction activities of the proposed Project include, but are not limited to, gasoline, diesel fuel, lubricants, grease, adhesives, welding gases, solvents, paints, and vehicle and equipment-maintenance related materials. These materials would be stored in designated construction staging areas within the boundaries of the Project site and the construction contractor must ensure that they would be transported, handled, used, stored, and disposed of in accordance with all applicable federal, state, and local laws and regulations. Proper use, handling, and storage of materials must be conducted in accordance with the manufacturer's specifications. The use of these hazardous materials for their intended purpose would not pose a significant risk to the public or environment. Many of the anticipated construction materials can be recycled. Hazardous wastes that cannot be recycled would be transported by a licensed hazardous waste hauler following manifest procedures disposed of at an appropriately permitted offsite facility. The use and handling of these substances are subject to applicable federal, state, and local health and safety laws and regulations, as summarized in Section 4.9.2, Relevant Plans, Policies, and Ordinances, which would minimize health risk to the public associated with hazardous materials.

As discussed in Section 4.9.1, the Hazardous Material Assessment completed on the Project site identified multiple potential sources of soil contamination, including historical agricultural use (pesticides and herbicides), evidence of former automotive junkyard and dismantling (automotive fluids and petroleum products), and evidence of petroleum releases (petroleum products). During construction, excavation, grading, and other routine soil movement activities could result in improper transport and disposal of hazardous material-contaminated soils. By implementing **MM-HAZ-1**, soils would be properly characterized, handled, and transported, and health-and-safety procedures would be put in place to protect both onsite workers and the nearby public from releases of hazardous materials. Contaminated soils would be removed during construction, thereby removing the hazard for Project operation.

Should fill material be required for grading of the Project site, imported fill materials will be screened to ensure the imported soil is free of contamination. Procedures for imported fill screening are also outlined in **MM-HAZ-1.**

In addition to potential soil contamination, the structures located in the northern portion of the Project site are scheduled for demolition as part of the proposed Project. Based on information provided in the Hazardous Material Assessment (Appendix F) hazardous building materials, including ACM and LBP, are potentially present in onsite buildings. There is also the potential for other hazardous building materials, such as fluorescent light ballasts and mercury switches (in thermostats). Demolition of the buildings, and removal and disposal of hazardous materials could present a hazard through the routine transport, handling, and disposal of these materials. A pre-demolition survey and abatement required

by **MM-HAZ-2** would identify and remove the hazardous building materials in onsite structures scheduled for demolition. As such, hazardous building materials would be properly identified and removed.

The operational phase of the proposed Project would not be expected to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Hazardous materials would be limited to use of commercially available cleaning products, chlorine for swimming pools, landscaping chemicals and fertilizers, and various other commercially available substances. Although the Project would introduce additional amounts of commercially available potentially hazardous materials, such as cleaning supplies and landscaping products, to the Project site, the routine transport, use, and/or disposal of these substances would be subject to applicable federal, state, and local health and safety laws and regulations, as summarized in Section 4.9.2, which would minimize health risk to the public associated with hazardous materials.

Proposed new school sites or school expansions wishing to receive state funding shall undergo a risk assessment to determine the presence or absence of hazardous materials which could pose a risk to children's health. This process requires sampling and assessment of the proposed school site with oversight by DTSC. The school site included in the proposed Project would follow these procedures to evaluate the site and verify there are no potential health and safety risks to future students. Rules and regulations outlining these requirements are outlined in Section 4.9.2.

With implementation of **MM-HAZ-1** and **MM-HAZ-2** during the construction phase of the proposed Project, impacts would be less than significant.

Threshold b: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less-than-significant impact with mitigation incorporated. As discussed in the previous impact section, previous use of the Project site may have resulted in contaminated soils, which could be released to the environment during earthwork activities. **MM-HAZ-1** requires a soil management plan (SMP) to be prepared which requires proper characterization, handling, and disposal of soils, reducing the potential impact due to potential accident or upset condition. As also discussed in the previous impact section, demolition of onsite structures could result in release of hazardous building materials. **MM-HAZ-2** would require identification, documentation, and abatement of hazardous building materials prior to demolition of onsite structures, again reducing the potential impact due to potential accident or upset condition.

During construction, the amount of hazardous materials stored onsite is not expected to be such that a reportable release would occur. As discussed in the previous impact section, all hazardous materials would be handled, storage, and disposed of in accordance with applicable local, state, and federal rules and regulations, which are written to provide spill prevention and response measures. Should the amount of onsite hazardous materials, including hazardous wastes, be greater than reporting thresholds (55 gallons of liquid, 500 pounds of solid, or 200 cubic feet of compressed gas), a Hazardous Materials Business Plan (HMBP) would be required under California HSC, Division 20, Chapter 6.11, Sections 25404–25404.9. The HMBP, which would be submitted to Tulare County Environmental Health (the local CUPA) via the California Environmental Reporting System, would include emergency and spill prevention and response measures, thereby reducing the potential for an upset or accident condition.

As discussed above, operation of the proposed Project would only require limited use of commercially available hazardous material products, including janitorial and landscaping products. Should any company that occupies the commercial spaces within the proposed Project handle an amount of hazardous materials greater than reporting thresholds (55 gallons of liquid, 500 pounds of solid, or 200 cubic feet of compressed gas), an HMBP would be

required for that company under California HSC, Division 20, Chapter 6.11, Sections 25404–25404.9. The HMBP, which would be submitted to Tulare County Environmental Health (the local CUPA) via the California Environmental Reporting System, would include emergency and spill prevention and response measures, thereby reducing the potential for an upset or accident condition.

The Phase I ESA identified the potential for contaminated groundwater to be present beneath the Project site, based on data from nearby water supply wells (Appendix G). A Water Supply Assessment was prepared for the proposed Project and is attached as Appendix G. The Water Supply Assessment discusses groundwater quality, and the potential for elevated concentrations of arsenic, nitrate, and 1,2,3-TCP. Water will be supplied to the Project site by the City of Tulare (Section 1.3.1 of Appendix G), and the City of Tulare is in the final stages of a wellhead treatment project to address contamination identified in groundwater wells (Section 4.2.5 of Appendix G). As such, the groundwater contamination is not anticipated to impact operation of the proposed Project.

With implementation of **MM-HAZ-1** and **MM-HAZ-2** during the construction phase of the proposed Project, impacts would be less than significant. Operation of the proposed Project would not likely create an upset or accident condition, and impacts would be less than significant with mitigation.

Threshold c: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less-than-significant impact with mitigation incorporated. The Project site adjoins Mission Oak High School and College of the Sequoias. As discussed in previous impact sections, hazardous materials required for construction and operation would be transported, handled, stored, and disposed of in accordance with federal, state, and local laws and regulations. Hazardous materials used during construction of the proposed Project would be stored within proposed Project boundaries, and quantities of hazardous materials are expected to be less than reportable quantities. However, if hazardous materials are stored above reportable quantities, the appropriate plans will be submitted (California HSC, Division 20, Chapter 6.11, Sections 25404–25404.9). Potential soil impacts would be mitigated by **MM-HAZ-1**, which would include measures for dust control, thereby reducing the potential for emissions of hazardous materials through fugitive dust. Contaminated soils would also be removed during construction, thereby removing any hazard for future schools on the Project site. Hazardous building materials will be properly identified and abated as described in **MM-HAZ-2**, thereby reducing the potential for emission of asbestos, lead, or other hazardous materials during building demolition.

As discussed above, operation of the proposed Project would only require limited use of commercially available hazardous materials, including janitorial and landscaping products. Should any company that occupies the commercial spaces within the proposed Project handle an amount of hazardous materials greater than reporting thresholds an HMBP would be required for that company. Use of extremely hazardous materials and accumulation of acutely hazardous wastes are not anticipated. The proposed Project also includes construction and operation of a school within the Project site. As such, the Project would be zoned accordingly for compatible uses surrounding the school as defined in the City of Tulare and County of Tulare zoning ordinances and General Plans.

With implementation of **MM-HAZ-1** and **MM-HAZ-2** during the construction phase of the proposed Project, impacts would be less than significant. Operation of the proposed Project would not likely create hazardous emissions within 0.25 miles of a proposed school, and therefore impacts would be less than significant.

Threshold d: Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65762.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact**.** The proposed Project is not located on a Cortese List site (pursuant to Government Code Section 65762.5). As such, it would not create a significant hazard to the public or environment. No impact would occur.

Threshold e: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.

No Impact**.** The proposed Project site is not within 2 miles of a public use airport, nor is it within the boundaries of an airport land use plan. As such, the proposed Project would not involve placing people or structures in proximity to aircraft operations. Therefore, no impacts would occur.

Threshold f: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Less-than-significant impact**.** As part of the proposed Project, the Project site will be incorporated into the City of Tulare jurisdiction. The City's General Plan includes policies that require the City to maintain adequate emergency response services. While the proposed Project would ultimately increase population in the area, both the City of Tulare and County of Tulare have emergency response capabilities for both fire and hazardous materials. Emergency evacuation routes would not be impacted, as construction would occur within the Project site boundaries and would not impact any nearby evacuations. As discussed further in Section 4.19.5, Threshold A (Wildfire), The Project site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plans. The proposed Project would include emergency vehicle access at multiple points on the Project site, providing evacuation ability to residents and emergency ingress for emergency responders. As such, the Project would not interfere with an adopted emergency response plan or evacuation plan, and impacts would be less than significant.

Threshold g: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

No Impact. The Project site is not located in or near a wildfire hazard safety zone, and is surrounded by areas zoned as urban-unzoned. As such, the Project would not expose people or structures to significant risk due to wildland fires. No impact would occur.

4.9.5 Mitigation Measures

The following mitigation measures are proposed to reduce identified impacts to a less than significant level.

MM-HAZ-1 Soil Management Plan. Prior to commencement of any earthwork or construction activities at the Project site, a Soil Management Plan (SMP) shall be developed that addresses potential impacts in soil associated with the prior uses of the Project site. The SMP shall outline procedures for characterization of soils in potentially impacted areas, including sampling procedures and screening levels for evaluation of current and future exposure scenarios (construction and residential, including future school site). Potential contaminants of concern may include, but are

not limited to, organochlorine pesticides due to historical agricultural use, petroleum hydrocarbons and volatile organic compounds due to former releases of automotive fluids and petroleum products, and metals associated with pesticide application and possible lead-based paints on structures. The SMP will outline which areas are above applicable regulatory screening levels, and outline procedures for removal and offsite disposal, or other disposition of impacted soils (burial under clean fill) during earthwork procedures. The SMP will include training procedures for identification of contamination, and shall describe procedures for assessment, characterization, management, and disposal of contaminated soils. Contaminated soils shall be managed and disposed of in accordance with local and state regulations. The SMP shall include health and safety measures, which may include but are not limited to periodic work breathing zone monitoring and monitoring for volatile organic compounds using a handheld organic vapor analyzer in the event impacted soils are encountered during excavation activities.

The SMP will include procedures for characterization of imported fill materials, which will generally follow the 2001 DTSC Information Advisory, Clean Imported Fill Material.

The applicant or its designee shall implement the SMP during excavation, grading, demolition, and construction activities for the proposed Project.

MM-HAZ-2 Hazardous Building Material Survey and Abatement. Prior to issuance of demolition permits, a survey shall be completed that identifies all hazardous building materials within the structures scheduled for demolition on the Project site. A California-licensed company will be contracted to conduct the survey; their report will include identification of all hazardous materials required for removal, and specifications for proper abatement. The Project applicant/developer shall ensure that the demolition contractor's contract specifications incorporate abatement procedures for the removal of materials containing asbestos, lead, polychlorinated biphenyls, hazardous material, hazardous wastes, and universal waste items. A California-licensed abatement contractor will be contracted to complete all abatement. A final report will be submitted following abatement that documents materials removed, disposal, permits, and licenses/certifications of contractors. Confirmation of adequate removal of such materials shall be provided prior to application of demolition permits. All abatement work shall be done in accordance with federal, state, and local regulations, including those of the U.S. Environmental Protection Agency (which regulates disposal), Occupational Safety and Health Administration, U.S. Department of Housing and Urban Development, California Occupational Safety and Health Administration (which regulates employee exposure), and the South Coast Air Quality Management District.

4.9.6 Level of Significance After Mitigation

Threshold-a Historical use of the Project Site may have impacted onsite soils, causing contamination due to elevated concentrations of pesticide-related, herbicide-related, and petroleum-related contamination. Movement of these soils during construction could expose people and the environment to contaminated soils. Imported fill could also contain contaminants, depending on the source of the imported fill. MM-HAZ-1 requires preparation and implementation of a soil management plan (SMP), which would identify, characterize, remove, and properly dispose of, or provide in-place remedy for contaminated soils prior to Project construction. The SMP will include

screening procedures for imported fill materials. With identification, characterization, and proper handling of contaminated soils, if any, the impact would be reduced to a **less than significant** level.

Threshold-b The onsite structures may contain hazardous building materials, including asbestos and lead-based paint. Demolition of these structures without proper abatement of hazardous materials could result in a release of hazardous materials to the environment. MM-HAZ-2 requires a hazardous materials survey be prepared for the Project site to identify hazardous materials and proper abatement prior to demolition. With identification and removal of hazardous building materials as outlined in the mitigation measure, the impact would be reduced to a **less than significant** level.

Threshold c The Project site adjoins Mission Oak High School and College of the Sequoias. Materials required for construction and operation would be transported, handled, stored, and disposed of in accordance with federal, state, and local laws and regulations. Hazardous materials used during construction of the proposed Project would be stored within proposed Project boundaries, and quantities of hazardous materials are expected to be less than reportable quantities. With implementation of MM-HAZ-1 and MM-HAZ-2 during the construction phase of the proposed Project, impacts would be less than significant. Operation of the proposed Project would not likely create hazardous emissions within 0.25 miles of a proposed school, and therefore impacts would be **less than significant**.

4.9.7 References Cited

Aries Consultants, Ltd. 2012. *Tulare County Comprehensive Airport Land Use Plan.* December 2012.

CAL FIRE (California Department of Forestry and Fire Protection). 2007. *Tulare County Draft Fire Hazards Severity Zones in Local Responsibility Area.* October 5, 2007.

CalGEM (California Geologic Energy Management Division). 2022. Well Finder. Accessed September 2022. https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx.

County of Tulare. 2012. *Tulare County General Plan.* August 2012.

DTSC (Department of Toxic Substances Control). 2001. *Information Advisory Clean Imported Fill Material Fact Sheet.* October 2001.

DTSC. 2019. California Health and Safety Code. Accessed September 2022. https://dtsc.ca.gov/wp-content/uploads/sites/31/2020/03/Linked-TOC-2019_a.pdf.

FAA (Federal Aviation Administration). 2022. *Obstruction Evaluation/Airports Airspace Analysis (OE/AAA).* Version August 1, 2022. Accessed September 28, 2022. https://oeaaa.faa.gov/oeaaa/oe3a/main/#/noticePrescreen

Google Earth. 2021. Street view image of subject property. March 2021.

GreenInfo Network. 2021. *California School Campus Database.* Updated 2021. Accessed September 27, 2022. https://www.californiaschoolcampusdatabase.org/

NPMS (National Pipeline Mapping System). 2022. *NPMS Public Viewer.* Accessed September 28, 2022. https://pvnpms.phmsa.dot.gov/PublicViewer/

OJP (U.S. Department of Justice Office of Justice Programs). 1999. Federal Response Plan, Second Edition. Accessed September 2022. https://www.ojp.gov/ncjrs/virtual-library/abstracts/federal-response-plan-second-edition#:~:text=The%20Federal%20Response%20Plan%20%28FRP%29%20outlines%20how%20the,health%2C%20safety%2C%20and%20property%3B%20and%20restore%20their%20communities.

San Francisco Bay RWQCB (Regional Water Quality Control Board). 2019. Environmental Screening Levels. Accessed September 2022. https://www.waterboards.ca.gov/rwqcb2/water_issues/programs/esl.html.

INTENTIONALLY LEFT BLANK

4.10 Hydrology and Water Quality

This section describes the existing hydrology and water quality conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This section assesses potential effects on hydrology and water quality that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information contained in this section is based on publicly available data as well as information from the Department of Water Resources (DWR), including the following:

- Appendix G, Water Supply Assessment, prepared by Dudek in September 2022

Other sources consulted are listed in Section 4.10.7, References, of this section.

No comments were received related to hydrology and water quality during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.10.1 Existing Conditions

4.10.1.1 Climate

The City of Tulare is located in the southern portion of the Central Valley of California, marked by rainy winters and dry summers that are characteristic of a Mediterranean climate. The Central Valley has greater temperature extremes than coastal areas because it is less affected by the moderating influence of the Pacific Ocean. The Western Regional Climate Center (WRCC) provides climate data derived from stationary weather sources throughout the Western United States. The WRCC has developed a data set for monthly climate for the Tulare area (1948 to 2016) based on readings taken from stationary weather stations in Corcoran (WRCC 2022). The annual average maximum and minimum temperatures range from 77.4 to 48.8 degrees Fahrenheit with the average maximum temperature in July is 98.9 degrees and the average minimum temperature of 35.8 degrees in December (WRCC 2022).

The average total annual precipitation for the area is 7.14 inches and typical of a hot semi-arid climate in California, most of the rainfall in the Tulare area occurs in the winter months (approximately November to March) as the Gulf Stream shifts southward from northern latitudes in the wintertime (WRCC 2022). This shift creates a quasi-permanent low-pressure zone over the area and feeds moisture originating over the Pacific Ocean into the region.

4.10.1.2 Regional Hydrology

The Project site is located in the Central Valley's broad alluvial valley that dominates central California. The Central Valley is divided into three hydrologic regions or surface water basins including the Sacramento River Basin in the north, the San Joaquin River Basin in the center, and the Tulare Lake Basin to the very south. The Project site is located within the Tulare Lake Basin, which is an enclosed basin with no drainage outlets to the ocean.

4.10.1.3 Tulare Lake Hydrologic Unit (No. 18030012)

The Tulare Lake Basin hydrologic unit includes valley floor alluvial fans of the Kings, Kaweah, Tule and Kern Rivers, several lesser streams from the Sierra foothills, the historic lake bed of the great Tulare Lake and other historic lakes, as well as the southwestern uplands. While most Sierra Nevada drainages flow into the San Joaquin Valley and ultimately out to the Pacific Ocean through the San Joaquin River, the four major southern Sierra rivers: the Kings, Kaweah, Tule, and Kern, as well as a number of lesser streams, including Deer Creek, White River, and Poso Creek, all flow west across the Central Valley into the Tulare-Buena Vista Lake Basin's terminal lakes.

These rivers and creeks historically formed broad deltaic fans as they emerged from the foothills and flowed, undammed, to the Tulare Basin in dozens of channels and sloughs that shifted periodically during flood events. Today, dams manage water flow on the Kings, Kaweah, Tule, and Kern rivers. The Tulare Basin originally contained five lakes: Tulare Lake, historically the largest freshwater lake in the contiguous United States west of the Mississippi River, Kern Lake, Buena Vista Lake, Goose Lake, and Summit Lake. These lakes were connected via a system of shallow, slow-moving, tule-lined sloughs. Historically, in years of higher precipitation and higher Tulare Lake elevations, excess flows would drain towards San Joaquin River. Today, diversions for agriculture and municipal uses have largely reduced nearly all of the drainage to Tulare Lake.

The Tulare Basin receives water from five sources: precipitation, runoff from local rivers and streams, groundwater, State Water Project delivery, and Central Valley Project delivery. During much of the time, irrigation and other water supply requirements determine the quantity and movement of water in the Tulare Basin. In years of high winter rainfall and spring snowmelt runoff, flood control concerns influence water movement. In average and drier years, surface water moves throughout the Basin primarily by gravity flow in natural stream channels and constructed canals or ditches. In some locations, pumping distributes irrigation water or drains water.

4.10.1.4 Project Site Surface Hydrology and Drainage

The Project site has a concrete-lined drainage ditch (Bates Slough Ditch) that transects the approximate center of the subject property. The ditch drains across the subject property to the south until reaching East Bardsley Avenue, where it changes course to the east along the southern property boundary, flowing through a culvert that crosses East Bardsley Avenue (Dudek 2022). The site also has an empty storage pond adjacent to two irrigation wells in the center of the property. As part of the Project, the irrigation ditch will be reconstructed as an underground pipe, and the storage pond will be removed. These water features consist of irrigation infrastructure and are not suitable as a source of water for municipal or potable uses.

4.10.1.5 Floodplains

The Federal Emergency Management Agency (FEMA) provides data on flood hazard areas as part of the National Flood Insurance Program through issuance of Flood Insurance Rate Maps (FIRMs). Flood hazards are indicated by the calculated chance of occurrence each year and defined as having a 1% annual chance of occurring otherwise known as the 100-year Special Flood Hazard Area (SFHA) flood zone. According to the FEMA FIRM map that includes the Project site, the site is located within Zone X, which is considered to be an area with a 0.2% annual chance of occurring, or an area with 1% chance of occurring but at flood depths of less than 1 foot or drainage areas of less than 1 square mile, or areas protected by levees from the 1% annual chance flood (although none are present in the vicinity of the Project site) (FEMA 2009).

Groundwater Resources

The Project site is located in the Tulare Lake Hydrologic Region, which has 12 distinct groundwater basins and 7 subbasins. The site is located in the San Joaquin Valley Groundwater Basin/Kaweah Groundwater Subbasin, California Department of Water Resources (DWR) Bulletin 118 Basin No. 5-22/Subbasin No. 5-22.11 (DWR 2022). The Kaweah Groundwater Subbasin (Subbasin) covers about 696 square miles (446,000 acres) in Tulare and Kings County. The Kaweah subbasin lies between the Kings Groundwater Subbasin on the north, the Tule Groundwater Subbasin on the south, crystalline bedrock of the Sierra Nevada foothills on the east, and the Kings River Conservation District on the west. The subbasin generally comprises lands in the Kaweah Delta Water Conservation District. Major rivers and streams in the subbasin include the Kaweah and St. Johns Rivers. The Kaweah River is the primary source of recharge to the area (DWR 2004). The subbasin has been designated by the Department of Water Resources (DWR) as a high-priority groundwater basin in a state of critical overdraft in accordance with the Sustainable Groundwater Management Act (SGMA).

The Kaweah Groundwater Subbasin is collectively managed by three Groundwater Sustainability Agencies (GSAs) consisting of the East Kaweah GSA, the Mid-Kaweah GSA (MKGSA), and the Greater Kaweah GSA (GKGSA). Although the Project site is currently within the boundaries of the GKGSA, once annexed by the City as proposed, it would be governed by the MKGSA. The MKGSA covers an area of approximately 104,320 acres in the central to southwestern side of the Kaweah Groundwater Subbasin. As part of the requirements of SGMA, each GSA must determine a sustainable yield of groundwater extraction and develop a Groundwater Sustainability Plan (GSP) to outline how the basin is to achieve sustainability within 20 years. Sustainable yield means “the maximum quantity of water, calculated over a base period representative of long-term conditions in a basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing undesirable results” (MKGSA 2018. The three GSAs within the subbasin determined a subbasin-wide sustainable yield of 660,000 AFY, which was further apportioned among the three GSAs in the Kaweah Subbasin Coordination Agreement (MKGSA 2018).

Groundwater Quality

Most of the groundwater quality data for the subbasin comes from the northern and central portions of the GKGSA and within the MKGSA. Several Constituents of Concern have been identified due to concentrations near Maximum Contaminant Levels (MCLs) or due to increasing trends in concentration that include arsenic, nitrate, certain volatile organics, and 1,2,3-trichloropropane (1,2,3 TCP) (GKGSA 2020). As part of the Water Supply Assessment for the Project, available water quality data from the Groundwater Ambient Monitoring and Assessment database was reviewed for the municipal groundwater wells on adjoining properties, one to the south and one to the east (Appendix G). Consistent detections of nitrate and 1,2,3-tricholoropropane were reported

above State Water Resources Control Board maximum contaminant levels and action levels respectively, for both groundwater wells (Appendix G).

4.10.2 Relevant Plans, Policies, and Ordinances

Federal

Clean Water Act

The Clean Water Act (CWA) (33 USC Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA required states to set standards to protect, maintain, and restore water quality through the regulation of point-source and certain nonpoint-source discharges to surface water. Those discharges are the regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The Project site is within the Central Valley RWQCB. Projects that disturb 1 or more acres, including the proposed Project, are required to obtain NPDES coverage under the Construction General Permits.

- **Section 401, Water Quality Certification.** Section 401 of the CWA requires that, prior to issuance of any federal permit or license, any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into waters of the U.S., must be certified by the state, as administered by the RWQCB. This certification ensures that the proposed activity does not violate state and/or federal water quality standards.
- **Section 402, National Pollutant Discharge Elimination System.** Section 402 of the CWA authorizes the State Water Resources Control Board (SWRCB) to issue a NPDES General Construction Storm Water Permit (Water Quality Order 2009-0009-DWQ), referred to as the "General Construction Permit." Construction activities can comply with and be covered under the General Construction Permit provided that they:
  - Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies best management practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.
  - Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
  - Perform inspections of all BMPs.

  NPDES regulations are administered by the Central Valley RWQCB. Projects that disturb 1 or more acres, including the proposed project, are required to obtain NPDES coverage under the Construction General Permit.
- **Section 404, Discharge of Dredged or Fill Materials.** Section 404 of the CWA establishes programs to regulate the discharge of dredged and fill material in waters of the U.S., including wetlands. For purposes of section 404 of the CWA, the limits of non-tidal waters extend to the ordinary high water line, defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. When an application for a Section 404 permit is made the applicant must show it has:
  - Taken steps to avoid impacts to wetlands or waters of the U.S. where practicable;
  - Minimized unavoidable impacts on waters of the U.S. and wetlands; and

- Provided mitigation for unavoidable impacts.

Section 404 of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. A water quality certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for water quality certification (or waiver thereof) from the Central Valley RWQCB. Project activities would adhere to state and federal water quality standards and would be in compliance with Sections 401 and 404 of the CWA.

- **Section 303, Water Quality Standards and Implementation Plans.** Section 303(d) of the CWA (33 U.S. Code 1250, et seq., at 1313(d)) requires states to identify "impaired" water bodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the U.S. Environmental Protection Agency for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of total maximum daily loads (TMDL) requirements. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

National Flood Insurance Act

FEMA is responsible for managing the National Flood Insurance Program (NFIP), which makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards.

To facilitate identifying areas with flood potential, FEMA has developed Flood Insurance Rate Maps (FIRMs) that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Tulare County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

Department of Water Resources

The major responsibilities of the California Department of Water Resources (DWR) 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; 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, 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.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.), passed in 1969, requires protection of water quality by appropriate designing, sizing, and construction of erosion and sediment controls. The Porter-Cologne Act established the SWRCB and divided California into nine regions, each overseen by a RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies and has delegated primary implementation authority to the nine RWQCBs. The Porter-Cologne Act assigns responsibility for implementing CWA Sections 401 through 402 and 303(d) to the SWRCB and the nine RWQCBs.

The Porter-Cologne Act requires the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters, provide the technical basis for determining waste discharge requirements, identify enforcement actions, and evaluate clean water grant proposals. The basin plans are updated every 3 years. Compliance with basin plans is primarily achieved through implementation of the NPDES, which regulates waste discharges as discussed above.

The Porter-Cologne Water Quality Control Act requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, which could affect the quality of the "waters of the State," file a report of waste discharge. Absent a potential effect on the quality of "waters of the State," no notification is required. However, the RWQCB encourages implementation of BMPs similar to those required for NPDES storm water permits to protect the water quality objectives and beneficial uses of local surface waters as provided in the Central Valley Region Water Quality Control Plan (Basin Plan) (RWQCB 2018).

Streambed Alteration Agreement (California Fish and Game Code)

Section 1602 of the California Fish and Game Code protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the California Department of Fish and Wildlife (CDFW) in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from 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.

During final engineering and design of a project, if it is determined that any project-related actions would have the potential to necessitate a streambed alteration agreement, such an agreement would be prepared and implemented prior to construction of the project, thus maintaining compliance with Section 1602 of the California Fish and Game Code. A streambed alteration agreement is required if the CDFW determines the activity could substantially adversely affect an existing fish and wildlife resource. The agreement includes measures to protect fish and wildlife resources while conducting the project. The CDFW must comply with CEQA before it may issue a final lake or streambed alteration agreement; therefore, the CDFW must wait for the lead agency to fully comply with CEQA before it may sign the draft lake or streambed alteration agreement, thereby making it final.

Sustainable Groundwater Management Act

In September 2014, the Sustainable Groundwater Management Act (SGMA) was passed as a three-bill legislative package composed of AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley). The legislation provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention when necessary to protect the resource. The legislation lays out a process and a timeline for local authorities to achieve sustainable management of groundwater basins. It also provides tools, authorities, and deadlines to take necessary steps to achieve the goal. In general, to comply and implement SGMA, agencies must:

1. Form local Groundwater Sustainability Agencies (GSA) (deadline by 6/30/2017);
2. GSAs must adopt Groundwater Sustainability Plans (GSPs) within five to seven years, depending on whether a basin is in critical overdraft (deadline 1/31/2020 for critically over drafted basins or 1/31/2022 for high and medium priority basins not currently in overdraft); and,
3. Once GSPs are in place, local agencies have 20 years to fully implement and achieve the sustainability goal.

The Kaweah Groundwater Subbasin is collectively managed by three GSAs consisting of the East Kaweah GSA, the Mid-Kaweah GSA (MKGSA), and the Greater Kaweah GSA (GKGSA). Although the Project site is currently within the boundaries of the GKGSA, once annexed by the City as proposed, it would be governed by the MKGSA. The MKGSA was formed September 14, 2015, through execution of a joint powers agreement between the City of Tulare, City of Visalia, and Tulare Irrigation District to establish the Mid-Kaweah Groundwater Subbasin Joint Powers Authority (MKGSA 2018). The GKGSA and the MKGSA GSPs were submitted to DWR on January 31, 2020.

Senate Bill 606 and Assembly Bill 1668

The Water Conservation legislation of 2018 (SB 606 and Assembly Bill 1668)— referred to as "Making Water Conservation a California Way of Life" or the "2018 Water Conservation Legislation"— established a new foundation for long-term improvements in urban water supplier conservation and drought planning in order to adapt to climate change and the longer more intense droughts in California. Together, Assembly Bill 1668 and SB 606 lay out a new long-term water conservation framework for California. This new framework is far-reaching for both the urban and agricultural sectors of California and represents a major shift in focus. Programs and initiatives are organized around four primary goals:

1. Use water more wisely
2. Eliminate water waste
3. Strengthen local drought resilience
4. Improve agricultural water use efficiency and drought planning

The legislation includes the adoption of long-term standards for the efficient use of water and performance measures for commercial, industrial, and institutional water use on or before June 30, 2022. The bill establishes a standard for indoor water use of 55 gallons per capita daily to be reached by 2025, 52.5 gallons per capita daily beginning in 2025, decreasing to 50 gallons per capita daily beginning in 2030, or an alternative to this standard as determined jointly by DWR and State Water Resources Control Board in accordance with necessary studies and investigations.

Local

City of Tulare Urban Water Management Plan

The California Water Code requires urban water suppliers within the state to prepare and adopt Urban Water Management Plans (UWMPs) for submission to the California Department of Water Resources (DWR). The UWMPs, which must be filed every 5 years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983 including amendments that have been made to the Act and other applicable regulations. The 2020 UWMP for the City of Tulare was prepared and adopted in October 2021 (City of Tulare 2021).

City of Tulare General Plan

The City of Tulare General Plan (City of Tulare 2014) sets forth the following goals and policies relevant to hydrology and water quality:

Land Use Element

GOAL

LU - 11 To provide optimal municipal facilities and services, consistent with available resources, that are adequate to meet the needs of desired future growth.

POLICIES

LU - P11.3 System Expansion. The City shall require new development be responsible for expansion of existing facilities such as water systems, sewer systems, storm drainage systems, parks and other capital facilities made necessary to serve the new development.

LU - P11.16 Detention Facilities. The City shall utilize stormwater detention facilities to mitigate drainage impacts and reduce storm drainage system costs. To the extent practical, stormwater detention facilities should be designed for multiple purposes, including recreational and/or stormwater quality improvement.

Conservation and Open Space Element

GOAL

COS - 1 To preserve and enhance surface waterways and aquifers.

POLICIES

COS - P1.1 Regional Groundwater Protection. The City shall work with Tulare County and special districts to help protect groundwater resources from overdraft by promoting water conservation and groundwater recharge efforts.

COS - P1.2 Groundwater Recharge Area Protection. When considering new development, the City shall protect existing open spaces, natural habitat, floodplains, and wetland areas that serve as groundwater recharge areas.

COS - P1.3 Continued Recharge of Groundwater Basin. In known or identified groundwater recharge areas, the predominant land use and resource activities should be designed to promote recharge of the groundwater basin and protection of groundwater quality at a level superior to standard development practices. When appropriate to the land use designation, clustered development should be encouraged to promote open space and continueinfiltration.

COS - P1.4 Groundwater Wells. The City shall protect and monitor its groundwater wells to ensure a sufficient groundwater supply.

COS - P1.11 Water for Irrigation. Whenever possible, the City shall require new development to use recycled or non-potable water for irrigation in landscapedareas.

COS - P1.13 Pollution from Runoff. New projects (excluding residential parcel maps) will be required to provide onsite detention facilities designed to retain the first inch of runoff from a site.

Goal

COS - 2 To preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the Urban Development Boundary (UDB).

Policies

COS - P2.2 Protection of Natural Areas. The City shall support preservation, maintenance, restoration, and enhancement of natural systems, waterways, and open space.

COS - P2.5 Open Space Buffers. The City shall require buffer areas between developmentprojects and significant watercourses, riparian vegetation, wetlands, and other sensitive habitats and natural communities.

COS - P2.8 Wetlands Dedication. The City shall require all preserved wetlands be dedicated to the City or a non-profit organization approved by the City and preserved through perpetual covenants enforceable by the City or other appropriate agencies.

COS - P2.9 Wetlands Management. The City shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats. Such communities shall be restored or expanded, where possible and as appropriate. Any project that proposes to restore or enhance riparian habitat shall require a Streambed Alteration Agreement in compliance with California Fish and Game Code, Sections 1600-1616. Any project that proposes to restore, enhance, or otherwise affect a jurisdictional wetland shall require consultation with the U.S. Army Corps of Engineers andcompliance with the Clean Water Act.

COS - P2.10 Stream Buffer. The City shall require a conservation easement or setback of a minimum of 100 feet from the edge of the Elk Bayou riparian zone to avoid the stream channel and the surrounding riparian vegetation. The riparian zone should encompass the edge of the bayou bank (minimally) to the edge of the riparian vegetation bordering the stream (maximally).

Safety Element

Goal

SAF - 2 Protect people and property from flood risk.

Policies

SAF - P2.1 Development in Floodplain Zones. The City shall regulate development in the 100-year floodplain zones, as designated on maps prepared by FEMA in accordance with the following:

- Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.
- Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.
- New development and divisions of land, especially residential subdivisions, shall be developed to minimize flood risk to structures, infrastructure, and ensure safe access and evacuation during flood conditions.

Goal

SAF - 5 To protect people from the harmful effects of exposure to hazardous materials.

Policies

SAF - P5.6 Contamination Prevention. The City shall review new development proposals to protect soils, air quality, surface water and groundwater from hazardous materials contamination.

City of Tulare Stormwater Management Plan

The purpose of the City's Storm Water Management Program (SWMP) is intended to outline and direct the City's stormwater related priorities and activities for new development in accordance with requirements for the Phase II NPDES small municipal separate storm sewer system (MS4) requirements. The 2009 NPDES Phase II Storm Water Management Plan is the most current version and has not been developed since this publication. The SWMP is subject to revision, however, and evolving over time as BMPs are monitored and adapted to accommodate more effective measures.

The BMPs are grouped under the following six "Minimum Control Measures," which are required under the Phase II regulations:

- Public Education and Outreach on Stormwater Impacts;
- Public Involvement/Participation;
- Illicit Discharge Detection and Elimination;
- Construction Site Stormwater Runoff Control;
- Post Construction Stormwater Management in New Development and Redevelopment; and
- Pollution Prevention /Good Housekeeping for Municipal Operations.

City of Tulare Technical Specifications and Public Improvement Standards

The City of Tulare has developed Technical Specifications and Public Improvement Standards that are used to provide guidance and consistency for all new development in Tulare. The Technical Specifications provide the City Engineer-approved engineering standards that set out an explicit set of requirements to be satisfied by a development's design. The standard drawings provide standardized drawings of common development components that have been approved by the City Engineer.

The standards applicable to hydrology and water quality include but are not necessarily limited to Sections D and E, Storm Drainage and Water, respectively.

Tulare Transit-Oriented Development Plan

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City of Tulare. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City of Tulare's General Plan documents.

Chapter 6, Infrastructure

Chapter 6, Infrastructure of the Tulare TOD Plan describes the new water, wastewater, and stormwater infrastructure that would be required for development of the TOD Plan areas, including the COS North Plan area that makes up the Project's Master Plan site.

Section A, Water evaluates the potential need for water-related infrastructure in the TOD Plan areas. Existing Conditions and Project Demand is described. However, a project-specific Water Supply Assessment was prepared for this Project and is included as Appendix G of this EIR. The WSA provides an updated environmental and regulatory setting was as used to evaluate the Project's potential impacts.

Section B, Wastewater describes the existing wastewater infrastructure and evaluates the potential need for wastewater service. It describes existing wastewater infrastructure and evaluates the potential need for wastewater service and sewer infrastructure.

Section C, Stormwater evaluates the stormwater infrastructure in the TOD Plan areas.

4.10.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to hydrology and water quality are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hydrology and water quality would occur if the Project would:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    i. result in substantial erosion or siltation on or off site;
    ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;
    iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    impede or redirect flood flows.
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

4.10.4 Impacts Analysis

Threshold a: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than Significant. Construction of the Project would include ground disturbing activities that have the potential to expose soils to the effects of erosion and siltation including during and immediately following excavation, grading, trenching, and soil stockpiling. Each of these construction-related activities would result in potential siltation or otherwise adversely affect water quality of nearby drainages if not managed appropriately. In addition, construction equipment and materials would include the use and storage of fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures. If not managed appropriately, accidental spill of hazardous materials could also adversely affect the water quality of stormwater and/or surface water bodies.

Construction activities would disturb more than 1 acre and therefore must be conducted in compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. Compliance with the NPDES permit requires preparation and implementation of a stormwater pollution prevention plan (SWPPP). The SWPPP must include BMPs to address the potential to transport sediment and protect properties from erosion, flooding, or the deposition of mud, debris, or construction-related pollutants. The SWPPP must include erosion control measures and proper handling of hazardous materials, such as proper petroleum product storage and spill response practices, to prevent pollution in stormwater discharge. The construction-phase BMPs would assure effective control of not only sediment discharge, but also of pollutants associated with sediments, such as nutrients, heavy metals, and pesticides. The SWPPP would also be required to be consistent with the construction control requirements found within the City's Stormwater Management Plan. Through compliance with these existing regulations, the Project would not result in any significant water quality impacts related to soil erosion or release of hazardous materials during the construction phase.

Operation

The Project includes replacement of existing agricultural land with new mixed land uses, and associated infrastructure. The primary sources of pollution in runoff from these land uses are expected to include oil, grease, petroleum products, and automobile-related pollutants, pathogens/bacteria from pets, pesticides/herbicides/insecticides and nitrogen and phosphorous from fertilizers for landscaping, and trash, lawn

clippings, and debris that can accumulate impervious surfaces, such as parking lots, driveways, and sidewalks. Other potential pollutants that may be generated by the Project include household-type cleaning products, maintenance products (e.g., paints, solvents, cleaning products), and refrigerants associated with building mechanical heating, ventilation, and air conditioning (HVAC) systems.

Excess fertilizers, nutrients, and pathogens/bacteria from pets can impact water quality by promoting excessive and/or rapid growth of aquatic vegetation, which reduces water clarity and results in oxygen depletion. Pesticides/herbicides/insecticides can also enter urban runoff after application on landscaped areas and can be toxic to aquatic organisms and can bioaccumulate in larger species, such as birds and fish. Oil, grease, and heavy metals can enter dry-weather and stormwater runoff from vehicle leaks, traffic, and vehicle maintenance activities, and metals can enter runoff as surfaces corrode, decay, or leach.

These anticipated pollutants would be addressed through adherence to existing water quality control measures included as part of the NPDES Phase II requirements for new development contained within the City's Stormwater Management Plan. During operations, the Project site would include design measures that meet post-construction requirements of the City's Stormwater Management Plan that include a combination of structural and/or non-structural BMPs. These BMPs could include use of bioswales, porous pavement, landscaping, and on-site detention ponds. The design measures would be required to meet the NPDES MS4 requirements and enforced through the site plan review process by the City. The implementation of these required water quality BMPs and storm drainage system design measures consistent with the City's Stormwater Management Plan would ensure that the potential for adverse effects related to water quality would be minimized.

In addition, any land uses on the Project site that would include hazardous materials would be required to prepare a Hazardous Materials Business Plan (HMBP), which requires any hazardous materials used for operations to be properly used and stored in appropriate containers, that spill prevention measures are implemented, and that spill response procedures are in place to respond to accidental releases. As discussed in Section 4.9, Hazards and Hazardous Materials, of this EIR, the designated CUPA responsible for implementing the HMBP program is the Tulare County Division of Environmental Health. The laws and regulations that established these programs require businesses that use or store certain quantities of hazardous materials to submit a HMBP that describes the hazardous materials usage, storage, and disposal to the local CUPA that demonstrates secure management. The California Fire Code would also require measures for the safe storage and handling of hazardous materials. Compliance with relevant regulations, primarily Hazardous Materials Release Response Plans and Inventory Act and the HMBP implemented to comply with this Act, would reduce the potential for the accidental release of these hazardous materials and have procedures in place to respond to spills.

The Project's implementation of water quality BMPs and compliance with applicable laws and regulations would ensure that operation of the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, and impacts would be less than significant with no mitigation required.

Threshold b: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant. The Project area is located within the Kaweah Subbasin of the San Joaquin Groundwater Basin. The Kaweah Subbasin is considered by DWR to be a high priority basin according to SGMA and in critical overdraft condition (Appendix G). The subbasin is collectively managed by three GSAs consisting of the East Kaweah GSA, the Mid-Kaweah GSA (MKGSA), and the Greater Kaweah GSA (GKGSA). The Project site is currently

within the boundaries of the GKGSA, however once annexed by the City as proposed, it would be governed by the MKGSA. Each of the GSAs within the subbasin have developed a Groundwater Sustainability Plan (GSP) but collectively have determined a subbasin-wide sustainable yield of 660,000 acre-feet per year (AFY) (Appendix G).

Water supply for the proposed Project would primarily be provided by the City although some irrigation of landscaping and the park may come from existing on-site wells. The City sources its water supply from groundwater through a network of 24 different wells widely distributed throughout the City. The estimated water demand for the proposed Project is 629 AFY. According to the WSA prepared for the Project, the existing use of the on-site wells for the orchard irrigation and domestic water use for the residential properties totals 699 AFY (Appendix G). Therefore, the proposed Project would represent a decline in the total groundwater demand for the Project site and would not decrease groundwater supplies or impede with sustainable groundwater management of the basin.

The proposed Project would create new impervious surfaces that would reduce the amount of on-site infiltration that occurs under existing conditions. However, as mentioned above, the proposed Project would be required to include post-construction BMPs in accordance with the City's Stormwater Management Plan. Post-construction BMPs would include stormwater drainage features that encourage on-site infiltration of stormwater runoff including vegetated swales, porous pavement, landscaped areas, detention basins and/or similar improvements. The proposed residential areas would include natural areas that would be graded to also serve for stormwater detention. As a result, the amount of runoff that is discharged offsite would be minimized.

Therefore, the proposed Project would require decreases in water demands from the subbasin and while there would be an increase in impervious surfaces compared to existing conditions, the adherence to drainage control requirements would minimize the effect on groundwater recharge. As such, the potential impacts related to groundwater supplies would be considered less than significant.

Threshold c: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Less than Significant. Construction of the proposed Project elements would occur in phases over a 9 to 10-year period. However, as construction occurs, new impervious surfaces would be created and would alter the existing drainage patterns of the site, which is currently entirely pervious. There would be no alteration of the course of a stream or river. During construction, all earthwork activities would be required to adhere to the NPDES Construction General Permit and the required SWPPP, which would include erosion and sedimentation control BMPs such as use of straw bales, silt fences, and protection of stockpiled soil. Implementation of these construction control BMPs would ensure that during construction and associated earthwork activities the potential for erosion or siltation on- or off-site is reduced to less than significant levels.

Once constructed, as noted above, all proposed improvements must include drainage control measures to effectively manage stormwater runoff that is consistent with the City's Stormwater Management Plan. These requirements include post-construction BMPs that would be designed to minimize the potential for erosion or siltation. Use of landscaped areas for detention basins and other control features such as vegetated swales and permeable paving, which are designed to increase on-site infiltration and reduce runoff volumes are effective in minimizing the potential for erosion and siltation.

Therefore, with adherence to the existing regulatory requirements for stormwater controls both during construction and operation, the proposed Project would have a less than significant impact related to erosion and siltation from the proposed changes in drainage patterns.

i. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?

Less than Significant. As previously described, the proposed improvements would increase the amount of impervious surfaces on the Project site, but would not alter the course of a stream or river. The proposed improvements would be required to include stormwater management features that include meeting stormwater runoff volume minimum standards in accordance with the City's Stormwater Management Plan. Typically, use of detention basins such as those that would be included in the Project design plans for some of the natural open space areas, can be sized to ensure that peak storm flows do not create adverse flooding effects either on- or off-site. Adherence to these existing drainage control requirements would ensure that stormwater is managed in a manner that meets City requirements and reduces the potential for flooding on- or off-site to less than significant levels.

ii. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would 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?

Less than Significant. As described above, the Project's water quality BMPs and compliance with applicable laws and regulations would ensure that operation of the Project would not substantially degrade surface or groundwater quality, and impacts would be less than significant.

The proposed Project would include construction of drainage control features such as detention basins, that would meet City requirements in accordance with their Stormwater Management Plan. Therefore, the Project would not contribute runoff that would exceed the capacity of any existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The impact would be less than significant.

iii. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Less than Significant. The Project site is not within a 100-year flood hazard area and is in an area that FEMA has identified as having minimal potential for flood risks (FEMA 2009). Adherence to existing regulatory requirements regarding stormwater drainage control such as the use of on-site detention basins, sized to meet City standards, would ensure that the potential for flooding or impeding or redirecting flood flows would be minimized. Therefore, the potential for the proposed changes to drainage patterns at the Project site would have a less than significant impact on impeding or redirecting flood flows.

Threshold d: In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation ?

Less than Significant. As noted above, the Project site is not located within a flood hazard area. The Project site is also located well inland where the threat of tsunami inundation is not present. There are also no nearby enclosed or semi-enclosed bodies of water where potential seiche hazards could occur. Therefore, due to the Project site characteristics the potential for risk of release of pollutants due to inundation is considered less than significant.

Threshold e: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant. The Project would be required to comply with the NPDES Construction General Permit requiring preparation and implementation of a SWPPP to control runoff from construction work sites, which is consistent with the Central Valley RWQCB Basin Plan policies and goals. Implementation of BMPs including physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures would substantially reduce the potential for impacts to surface water quality from occurring during construction. Construction activities would also require water supplies for activities such as dust suppression and grading, however the quantities required would be relatively low compared to existing operational water demands. Therefore, the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and impacts from construction would be less than significant.

Once constructed, the Project is subject to the City's drainage control requirements, which is consistent with NPDES requirements and meets the water quality policies and objectives of the Central Valley RWQCB Basin Plan. The Basin Plan outlines water quality objectives for all surface water resources within the basin. Compliance with the Basin Plan is ensured through Waste Discharge Requirements for all surface water discharges including stormwater. The proposed Project would have no other discharges outside of stormwater. Compliance with the existing drainage control requirements would ensure that the Project is consistent with the Basin Plan's water quality objectives.

As noted above, the proposed water demand for the Project would primarily come from groundwater sources however the Project's demand (629 AFY) would be reduced from the existing demands (699 AFY) and therefore would benefit the subbasin's goal to reach a sustainable yield in accordance with SGMA. Therefore, operation of the proposed Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, and impacts would be less than significant.

4.10.5 Mitigation Measures

No mitigation would be required.

4.10.6 Level of Significance After Mitigation

As detailed above, the potential impacts of the proposed Project were found to be less than significant with no mitigation required.

4.10.7 References

City of Tulare. 2014. City of Tulare 2035 General Plan. The Planning Center, DC&E. October 7, 2014.

City of Tulare. 2021. 2020 Urban Water Management Plan for the City of Tulare California. October 2021.

Dudek. 2022. *Hazardous Materials Assessment for APNs 184-050-007, 184-050-034, 184-050-035, and 184-050-010 (Draft).* Tulare, California: Dudek. August 2022.

DWR (California Department of Water Resources). 2004. San Joaquin Valley Groundwater Basin Kaweah Subbasin. Accessed September 2022. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_022_11_KaweahSubbasin.pdf.

DWR. 2022. California Groundwater Bulletin 118, Groundwater Basin Lookup, https://dwr.maps.arcgis.com/apps/Styler/index.html?appid=740d10eefd6148579321a3abcd065a36, accessed September 12, 2022.

FEMA (Federal Emergency Management Agency). 2009. FIRM Map Number 06107C1275E, June 16, 2009.

GKGSA (Greater Kaweah Groundwater Sustainability Agency). 2020. *Groundwater Sustainability Plan*. Prepared by GEI Consultants and GSI Water Solutions, Inc. January 2020.

MKGSA (Mid-Kaweah Groundwater Sustainability Agency). 2018. Kaweah Subbasin Coordination Agreement. Accessed September 2022. https://www.midkaweah.org/_files/ugd/55be79_291f369b0c93452c9b3a3ac77f14a9ea.pdf.

RWQCB (Regional Water Quality Control Board). 2018. Water Quality Control Plan for the Tulare Lake Basin Third Edition. Accessed September 2022. https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tularelakebp_201805.pdf.

WRCC (Western Regional Climate Center). 2022. Corcoran Irrig Dist, California (042012). Period of Record Monthly Climate Summary, Period of Record: 07/01/1948 to 06/08/2016. Accessed September 2022. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2012.

INTENTIONALLY LEFT BLANK

4.11 Land Use and Planning

This section describes the existing and planned land uses within and adjacent to the Chandler Grove Master Plan and Annexation Project (proposed Project or Project) along with land use designations and zoning. This section also includes an analysis of the Project's consistency with existing land use plans and policies, and identifies any potential conflicts with applicable plans, policies or regulations adopted for the purpose of avoiding or mitigating an environmental effect.

CEQA Guidelines Section 15125(d) provides that the environmental setting of an EIR must discuss "any inconsistencies between the proposed project and applicable general plans and regional plans. Such regional plans include, but are not limited to, the applicable air quality attainment or maintenance plan or State Implementation Plan, area-wide waste treatment and water quality control plans, regional transportation plans, regional housing allocation plans." Potential inconsistencies between the proposed Project and planning documents specific to a particular environmental issue area, such as air quality or greenhouse gases, are addressed in that section of this EIR. The reader is referred to the various technical sections in Chapter 4 for a discussion of any potential physical/environmental effects and potential incompatibilities that may be considered in the determination of physical environmental impacts. This chapter addresses potential land use inconsistencies with the City of Tulare 2035 General Plan, Tulare County Local Agency Formation Commission or LAFCO polices and other applicable plans.

As noted in Chapter 3, Project Description, the Project consists of a mixed-use development on approximately 231 acres of active agricultural land as part of the Chandler Grove Master Plan (Master Plan). The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. The Project is requesting approval of a zone amendment (pre-zoning for anticipated annexation), general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925, and annexation to the City. If the Project is approved and the land annexed to the City, a parcel map detailing site development per the approved land use and zoning designations would be submitted to the City for review and approval prior to the start of construction. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time.

While an increase in population resulting from new development does not necessarily cause direct adverse physical environmental effects, indirect physical environmental effects such as increased vehicle trips and associated increases in air pollutant emissions and noise could occur. The indirect effects are evaluated in the other technical sections contained in Chapter 4 of this Draft EIR.

No comments were received related to Land Use and Planning during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.11.1 Existing Conditions

The City and County of Tulare are located in the San Joaquin Valley, part of California's Central Valley, one of the most important and productive agricultural regions in the United States. The City is in the central western portion of Tulare County (County), approximately 45 miles southeast of the City of Fresno and about 60 miles northwest of the City of Bakersfield (City of Tulare 2023). While surrounded by agriculture, Tulare is a growing city, home to

regional shopping destinations, employment centers, and a growing College of Sequoias (COS) campus. Tulare benefits from easy access to Highway 99 which runs north-south through the city and is served by local and regional transit. Additionally, Tulare has a central downtown area, the Tulare Outlet Center, a major regional shopping destination to the northeast, a large dairy manufacturing industry, and a mix of housing options.

Existing Project Site Conditions

The 231-acre Master Plan Project site is currently located within unincorporated Tulare County (County) but is planned to be annexed to the City) as part of the Project along with 632 acres. The Master Plan Project site is comprised of four separate parcels and includes Assessor's Parcel Numbers (APNs) 184-050-007, 184-050-034, 184-050-035, and 184-050-010.

The Project site is bound by S. Oakmore Street (Road 124) to the west, the East Tulare Villa community to the east, Avenue 228 to the north, and E. Bardsley Ave to the south (see Figure 3-2, in Chapter 3). The site includes a walnut orchard and three residences and associated outbuildings in the north and one abandoned equipment paddock in the eastern portion of the site, as well as a ditch that traverses a portion of the site. There are also two mature Valley oak trees located in the northwest portion of the site.

In addition to the 231-acre Master Plan Project site, the Project is proposing to annex into the City approximately 489.26 acres of land (APNs 184-080-005, 184-080-006, 184-080-007, 184-090-011, 184-090-012) owned by the College of Sequoias (COS) which comprises the existing COS Tulare Campus. The Project would also annex approximately 142.41 acres located south of E. Bardsley Avenue which is currently being utilized as a groundwater recharge basin and is owned by the Kaweah-Delta Water Conservation District (see Figure 3-6, in Chapter 3). No changes in land use or zoning are proposed to this land as part of this Project. The entire 863 acres are located within the City's Sphere of Influence (SOI) and within the City's Urban Development Boundary (UDB).

The Project site is also located within the COS North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City. Table 4.11-1 shows the conceptual land uses and zoning proposed as part of the Project.

Table 4.11-1. Chandler Grove Master Plan Land Use and Zoning

Land Use	Total Land Use Acreage	Total Units	Density (DU/Acre)	Zoning	Zoning Acreage
Residential Development					
Low Density Residential	100.3	364	3.6	R-1-5 (Single Family 5,000 SF Min. Lot Size)	108.7
Medium Density Residential	32.9	281	8.5	RM2 (Multiple Family 3,000 SF Min. Lot Size)	45.5
High Density Residential	29.9	552	18.5	RM4 (Multiple Family 1,500 SF Min. Lot Size	33.4
Residential Total	***163.1***	***1,197***			***187.6***
Other Development					
Parks and Recreation	14.1			PL (Public Lands)	21.4*

Table 4.11-1. Chandler Grove Master Plan Land Use and Zoning

Land Use	Total Land Use Acreage	Total Units	Density (DU/Acre)	Zoning	Zoning Acreage
(Central Park)					
Natural Areas	12.3			Included in the R-1-5 and RM2 Areas	
Neighborhood Commercial Center	10.8			C-3 (Retail Commercial)	11.9
Perimeter Right-of-Way	10.3			Not Applicable	
Public/Quasi-Public (School)	4.9			PL (Public Lands)	
Public/Quasi- Public (Community Center)	0.78			PL (Public Lands)	
Other Development Total	**53.18**				**33.3**

Source: City of Tulare 2015.

Surrounding Land Uses

Figure 3-7, Existing Land Use, and Figure 3-8, Existing Zoning, detail the Project's existing land use designation and zoning as well as land surrounding the Project site. Specific land uses located in the immediate vicinity of the Project site include the following:

- **North:** Avenue 228 is an east-west extending road that borders the northern boundary of the Project site. Agricultural land with scattered rural residences is located to the north of the site.
- **South:** E. Bardsley Avenue is an east-west extending road that borders the southern boundary of the Project site. The COS Tulare Campus, including the Campus' agricultural lands and a groundwater recharge basin owned by the Kaweah-Delta Water Conservation District are located immediately south of the proposed Master Plan area.
- **East:** A residential development (East Tulare Villas) and a small market are directly east of the Project site. A dairy, a fabricating facility, and agricultural lands are also located east of the proposed Master Plan area.
- **West:** S. Oakmore Street (Road 124) is a north-south extending road that borders the western boundary of the Project site. Scattered residences and Mission Oak High School are located to the west of the Master Plan area.

City of Tulare 2035 General Plan Land Use Designations

The City's 2035 General Plan land use map designates the Master Plan portion for rural residential, the COS portion is designated COS North Transit-Oriented Development, while the remaining land south of S. Bardsley Avenue is designated mixed use of neighborhood commercial, medium density residential, low density residential, and public/quasi-public (City of Tulare 2015).

Existing Zoning

The Master Plan area is currently within the County's Exclusive Agricultural Zone – 40 Acre Minimum (AE-40), Ag Preserve Number 0002326, and under Ag Preserve Contract Number 06925 and is zoned Exclusive Agricultural. If the Project is approved and the Tulare County LAFCO approves the request to annex the site into the City, the City will assign zoning consistent with the land use designations for the Master Plan.

4.11.2 Relevant Regulations, Plans, Policies, and Ordinances

Federal

There are no federal plans, policies, or ordinances pertaining to topics addressed under CEQA that are applicable to local land use and planning concerns.

State

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganizations Act encourages the orderly formation of Local Government Formation Commissions (LAFCOs) and protects agricultural land resources by discouraging urban sprawl and coordinating logically and timed changes in local government boundaries. Tulare LAFCO regulates boundary changes, annexations, and spheres of influence for cities, agencies, and special districts within the county. Tulare LAFCO has discretionary approval over the City's request to annex the Project site into the city limits and is a responsible agency under CEQA. Tulare LAFCO will review reorganization of services currently provided by Tulare County and other districts.

Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. The purpose of SB 743 is to streamline the review under the California Environmental Quality Act (CEQA) to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions. An in-depth discussion of SB 743 is provided in Section 4.17, Transportation. In summary, SB 743 changes the focus of environmental review of transportation impacts. In the past, environmental review of transportation impacts focused on the delay that vehicles experience at intersections and on roadway segments, which is often measured using levels of service (LOS). Under SB 743, LOS can no longer be used to determine significant transportation impacts under CEQA. The State CEQA Guidelines were updated in 2018 to require use of the vehicle miles traveled (VMT) methodology for assessing transportation impacts.

Regional

Regional Transportation Plan/Sustainable Communities Strategy

The Tulare County Association of Governments (TCAG) is the designated Metropolitan Planning Organization (MPO) for the County of Tulare, and is federally mandated to develop plans for its forecasting future growth, identifying regional priorities, and planning for infrastructure improvements (TCAG 2022).

The 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is to be adopted in 2023, and presents the land use and transportation vision for the region through the year 2046, providing a long-term investment framework for addressing the region's challenges (TCAG 2022). The RTP/SCS explicitly lays out goals related to housing, transportation, equity, and resilience in order to adequately reflect the increasing importance of these topics in the region, and where possible the goals have been developed to link to potential performance measures and targets. The RTP/SCS development process involved working closely with local governments throughout the region to collect and compile data on land use and growth trends. The core vision of the RTP/SCS is to build upon and expand land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern.

Local

Tulare County General Plan 2030 Update

The Project site is currently under the jurisdiction of Tulare County; however, as noted earlier, the Project site is within the City's SOI and UDB and future development of the area was contemplated in the City's 2035 General Plan and evaluated in the General Plan EIR. Because development of the Master Plan is dependent upon the site being annexed into the City, the City is serving as lead agency. Therefore, an analysis of consistency with the Tulare County General Plan is not provided (County of Tulare 2012).

Tulare County Local Agency Formulation Commission

The Tulare County Local Agency Formulation Commission (LAFCO) is an independent agency with countywide jurisdiction over changes in organization and boundaries of cities and special districts including annexations, detachments, incorporations, and formations. Tulare County LAFCO has responsibility to minimize adverse impacts of the social, economic, and environmental results of growth; to promote orderly development to provide for planned, well-ordered, efficient urban development with consideration of preserving agricultural and open space lands.

Tulare County LAFCO is charged with ensuring the following concerns are addressed when evaluating property annexation:

Tulare County LAFCO's Policies

Policy C-1 Factors and standard to be considered in review of proposals: The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 sets a number of factors that are to be considered when reviewing proposals for changes of organization, reorganization, incorporations, dissolution and other proposals processed by LAFCO

Policy C-2 Change of Organization/Reorganization: It is the policy of Tulare County LAFCO to conform to the requirements outlined in the Cortese-Knox-Hertzberg Reorganization Act of 2000 (C-K-H Act of 2000) when processing proposals for a change in organization or reorganization

Policy C-4 Protest Hearings: The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 delegates LAFCO as the conducting authority for protest proceedings after the adoption of a resolution making determinations.

Policy C-10 To encourage orderly growth and development by discouraging creation of new county islands and further envelopment of existing county islands; and to promote the efficient extension and delivery of government services

City of Tulare 2035 General Plan

The goals and policies in the City's General Plan for land use applicable to the Project are provided below. The General Plan contains additional goals and policies that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below, but as stated in Chapter 2, Introduction, all goals and policies in the City's General Plan are incorporated by reference (City of Tulare 2014).

Land Use Element Goals and Policies

Goal LU-1 To ensure that Tulare's future growth will proceed in an orderly manner, provide for an appropriate mix of land use opportunities, encourage and provide incentives for infill development, prevent urban sprawl, and promote the efficient and equitable provision of public services to all neighborhoods.

Policy LU-P1.2 Land Use Designations. The City will utilize the land use designations presented on the following pages for regulating future growth within the UDB.

Residential Designations

- Low Density Residential (LDR). This designation establishes areas for single-family residences in a suburban configuration. Uses typically allowed include detached single-family homes, secondary dwellings, and residential support uses such as churches, schools, and other necessary public utilities and safety facilities. Density Range 3.1-7.0 DU/A Minimum Lot Size
- Medium Density Residential (MDR). This land designation establishes areas for single-family and low-density multi-family dwellings located near neighborhood serving uses such as, grocery stores, schools, parks, and other public services. Uses typically allowed include single-family dwellings, second units, town homes, duplexes, triplexes, and mobile home parks. Density Range 7.1-14.0 DU/A Minimum Lot Size 6,000 Square Feet
- High Density Residential (HDR). This designation established areas for multi-family dwellings in urbanized areas with access to public transportation and residential-serving uses (i.e. grocers and drug stores). Uses typically allowed include duplexes, triplexes, townhomes, and apartments near schools, parks, and other public services. Density Range 14.1-29.0 DU/A Minimum Lot Size 1,500 Square Feet

Commercial Designations

- Neighborhood Commercial (NC). This designation establishes areas for daily convenience shopping services adjacent to residential neighborhoods. Uses typically allowed include supermarkets, drug stores, and other residential-serving uses that are convenient to vehicular access and highly accessible for pedestrians and bicyclists. These centers typically contain 30,000 to 100,000 square feet of floor area on approximately 2 to 5 acres. Neighborhood centers usually include a grocery store as a leading tenant, and generally require a support population or 3,000 to 40,000 people. Maximum Intensity 0.6 FAR Minimum Development Size 2 Acres

Other Designations

- Public/Quasi-Public (PUB). This designation establishes areas for public and institutional uses that serve the local community. Uses typically allowed include government facilities, schools, libraries, municipal corporation yards, sewer and water facilities, police and fire stations, and hospitals located throughout the community to serve neighborhoods and businesses and promote public safety. Maximum Intensity 0.6 FAR Minimum Lot Size N/A
- Parks and Recreation (PR). This designation establishes areas for outdoor recreation facilities that serve local and regional users. Uses typically allowed in this designation include pocket, neighborhood, community, regional, natural parks, and other outdoor recreation facilities, such as, golf courses, trails, and open space/habitat preserves. Recreation facilities should be connected with accessibility to pedestrians and bicyclists. Maximum Intensity None Minimum Lot Size None

Goal LU-2 To grow in an orderly pattern consistent with the economic, social, and environmental needs of Tulare and taking regional impacts into account.

Policy LU-P2.2 Compact Development. The City shall promote development patterns that are compact and use space in an efficient but aesthetic manner to promote more walking, biking, and use of public transit.

Policy LU-P2.4 Self-Sufficient Community. The City shall establish a growth pattern that reduces reliance on areas outside of the city for shopping needs, and furthers the City's desire to be a self-sufficient, full service community.

Policy LU-P2.14 Development Impact Fees. The City shall keep and maintain current development impact fee categories for new construction so that new construction adequately mitigates potential impacts to existing levels of service of infrastructure and public services.

Goal LU-3 To designate, protect, and provide land to ensure sufficient residential development capacity and variety to meet community needs and projected population growth.

Policy LU-P3.1 Neighborhood Housing Mix. The City shall encourage mixed use neighborhoods to have a variety of housing types and densities to help create an overall healthy, balanced community

Policy LU-P3.5 Future Residential Development. The City shall direct future residential development to areas adjacent or in close proximity to existing and future neighborhoods and neighborhood commercial areas to further Tulare as a self-sufficient, full-service city.

Policy LU-P3.6 High Density Residential Locations. The City shall encourage the development of higher density housing including near commercial services, employment centers, principal arterial routes, and public transportation.

Policy LU-P3.9 Planned Development. The City shall encourage the use of planned development provisions in residential developments to provide flexibility, to meet various socio-economic needs, and to address environmental and site design constraints.

Goal LU-7 To promote the development of mixed-use projects to promote the efficient use of land, reduce reliance on the automobile, and provide a variety of housing options.

Policy LU-P13.3 Innovative Development. The City shall promote flexibility and innovation in residential, commercial, industrial, mixed-use and other land uses through the use of planned unit developments, developer agreements, specific plans, mixed-use projects, and other innovative development and planning techniques.

Policy LU-P13.11 Quality Multi-Family Housing. The City shall promote quality design and appearance of all new multi-family units so that they complement the existing fabric of the community, add value to the community's built environment, and reduce potential for community objection.

Policy LU-P14.1 General Plan Consistency. The City shall review and amend, as necessary, applicable ordinances and regulations (e.g., Zoning Ordinance and Subdivision Ordinance) to ensure consistency with the General Plan.

Transit-Oriented Development (TOD). This designation provides for a mix of land uses centered on access to public transit (City of Tulare 2013). Key features of a TOD include a mix of housing types, businesses, and public uses at medium to high densities. The Transit-Oriented Development (TOD) designation is intended to create walkable and bikeable neighborhood with easy access to bus service (City of Tulare 2013). Each of the TOD areas has a particular existing context and tailored future vision, as identified in the Transit-Oriented Development Plan, which helps shape the general parameters for future development. The TOD designation, like the TOD Overlay and Village designations below, is considered a “holding” category. The TOD designation promotes the development of a detailed specific or area plan that will provide the details needed to ensure a comprehensive TOD area is developed. A specific or area plan is required to be submitted and approved to ensure a TOD concept and compliance with the TOD Plan’s design guidelines, and an approved specific or area plan is required prior to approval of an annexation request. The specific plan or area plan will establish the range of allowable densities within the plan area. As part of the specific or area plan, a land use diagram will be prepared that delineates the land uses and facilities to be developed within the TOD. On this diagram, land uses will utilize the designations shown on Table 2-1. This diagram will be used as the basis of the General Plan Amendment to update the Land Use Diagram

City of Tulare Transit-Oriented Development Plan

The Project site is located within the COS North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development Plan (TOD Plan) for the City. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD Plan are based on the City’s General Plan documents (City of Tulare 2014). The specific land use-related policies and measures contained in the TOD Plan applicable to the Project are provided below.

Transit Oriented Development Plan Policies

LU-2.2 The City shall promote development patterns that are compact and use space in an efficient but aesthetic manner to promote more walking, biking and use of public transit.

TC-4.8 The City shall encourage the clustering of land uses that generate high trip volumes and other transit-oriented designs to foster the demand needed to support transit activity. Transit-oriented designs should include: provision of sheltered bus stops to be provided with new development; location of medium and high-density development shall be located near transit services; linking of residential uses to transit stops via continuous sidewalks or pedestrian paths; and incorporation of park-and-ride lots to accommodate not only motorists, but also other users of public transit and van or carpooling.

City of Tulare Zoning Ordinance

Title 10 (Ordinance) of the City of Tulare's Municipal Code is enacted to preserve and promote the public health, safety and welfare of persons living in the City of Tulare, and to facilitate the development of the city in a precise and orderly manner consistent with the Tulare General Plan.

4.11.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to land use and planning are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to land use and planning would occur if the Project would:

a. Physically divide an established community.
b. Conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.11.4 Methodology

To evaluate the proposed Project's impacts related to land use and planning, this analysis examines the Project's consistency with both regional and local plans, policies, and regulations that regulate uses within the Project area.

CEQA Guidelines Section 15125(d) requires that an EIR include a discussion of any inconsistencies with applicable land use policies and ordinances that were adopted to mitigate or avoid an environmental effect. Additionally, a conflict between a project and an applicable plan is not necessarily a significant impact under CEQA unless the inconsistency would result in an adverse physical change to the environment that is a "significant environmental effect" as defined by CEQA Guidelines Section 15382.

Under State Planning and Zoning law (Government Code Section 65000 et seq.) strict conformity with all aspects of a plan is not required. Generally, plans reflect a range of competing interests and agencies are given great deference to determine consistency with their own plans. A project should be considered consistent with a general plan or elements of a general plan if it furthers one or more policies and does not obstruct other policies according to the Office of Planning and Research, State of California General Plan Guidelines (OPR 2017). Generally, given that land use plans reflect a range of competing interests, a project should be compatible with a plan's overall goals and objectives but need not be in perfect conformity with every plan policy.

As stated, the following analysis examines the proposed Project's consistency with both regional and local plans, policies, and regulations governing uses within the Project area.

4.11.5 Impacts Analysis

Threshold a: Would the project physically divide an established community?

No Impact. The proposed Project consists of a mixed-use development on approximately 231 acres of active agricultural land in the County which, if approved, would be annexed to the City . The Project includes approximately 1,197 total units of low, medium, and high-density housing, a neighborhood commercial center, a community center, and a Kindergarten through 8th grade public school, and a park. Since the Project site is currently used for agricultural activities and does not contain any established communities, the proposed Project would not physically divide any existing communities. Therefore, the proposed Project would not physically divide an established community and there would be **no impact**.

Threshold b: Would the project conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less-than-Significant Impact. Project implementation would require entitlements, approvals, and permits in compliance with applicable land use plans. These include approval of a zone amendment (pre-zoning for anticipated annexation), general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925, and annexation of the property from the County to the City.

The City of Tulare General Plan 2035 serves as the comprehensive land use plan for development within the City and therefore, the Project site. As described previously, the Project would also be subject to the policies listed in the Transit Oriented Development Plan, which provides for the City's planning and urban design concept that calls for a mix of land uses centered on access to public transit (City of Tulare 2014). The proposed Project's consistency with these plans is discussed below (Table 4.11-2 through Table 4.11-4).

Table 4.11-2. Consistency with Applicable Goals and Policies

Tulare County 2022 Regional Transportation Plan/Sustainable Communities Strategy 2023-2046	
Goals	**Consistency**
Environmental Justice	
Ensure that transportation investments do not discriminate based on race, color, national origin, sex, age, or disability.	**Consistent.** The Project will provide low, medium, and high-density housing and services to those living and working within the Project area. Transportation developed as part of the Project would be designed to serve all who are living and commuting to the Project area.
Air Quality and Greenhouse Gases	
Promote the improvement of air quality and greenhouse gas reductions through congestion management coordination of land use, housing, and transportation systems; provision of alternative modes of transportation; and provision of incentives that reduce vehicle miles traveled.	**Consistent.** Proposed Project promotes improvement of air quality and GHG through providing connecting sidewalks, transit transportation, and by having a neighborhood commercial center, school, community center, and park within the Project area.
Public Health	
Promote public health in the region by providing opportunities for residents to bicycle and walk to	**Consistent.** Proposed Project proposes low, medium, and high-density residential with a central park, a school, a

Table 4.11-2. Consistency with Applicable Goals and Policies

Tulare County 2022 Regional Transportation Plan/Sustainable Communities Strategy 2023-2046	
destinations such as home, work, school, medical facilities, and commercial and service businesses.	neighborhood commercial center, and a community center all within connecting sidewalks and trails that can be used for walking or biking.
Comprehensive	
Provide an efficient, integrated, multi-modal transportation system for the movement of people and goods that enhances the physical, economic, and social environment in the Tulare County region.	**Consistent.** Enhances the physical movements of goods and people by providing a robust transit network, sidewalks and pedestrian and bicycle facilities throughout the Project site. Economic enhances provided by the Project include the development of a neighborhood commercial center and school and social environment with the development of a community center and a central park.
Reliability and Congestion	
Maintain or improve reliability of the transportation network and maintain or reduce congestion.	**Consistent.** Project would provide a robust transit network, sidewalks, as well as pedestrian and bicycle facilities so individuals and families living within the Project area can easily access services without driving. Also, a number of transit stops would be developed throughout the Project site for ease of access to public transportation.
Achieve a safe transportation system for all motorized and non-motorized users on all public roads in Tulare County.	**Consistent.** Two transit stops will be located at each corner of the commercial development and perimeter of the Project boundary. The Project site would develop main thoroughfares with access throughout and would be pedestrian and bicycle friendly.
Support more efficient use of the transportation system through the implementation of Intelligent Transportation Systems (ITS) technology.	**Not Applicable.**
Transit	
Provide a safe, secure, coordinated, and efficient public transit system that can reasonably meet the needs of the residents.	**Consistent.** Project would provide residents with two nearby transit stops at each corner of the commercial development and perimeter of the Project boundary to provide safe and efficient use of the public transit system.
Active Transportation	
Improve, enhance, and expand the region's bicycle and pedestrian systems and connectivity to those systems, while keeping them safe and convenient.	**Consistent.** Pedestrian and bicycle trails would be developed throughout the Project site would connect the schools, parks, community center, and the commercial center to the residential areas.
Goods Movement	
Provide a transportation system that efficiently and effectively transports good to, from, within, and throughout Tulare County	**Consistent.** Project would utilize the existing main roadways adjacent to the Project site to transport goods to, from, within and throughout Tulare County
Improve goods movement within the region to increase economic vitality, meet the growing needs of freight and passenger services, and improve traffic safety, air quality, and overall mobility.	**Consistent.** Project would improve the good movements by providing a neighborhood commercial center and improve traffic safety, air quality, and overall mobility by providing connecting sidewalks and bicycle trails throughout the Project site as well as the development of multiple transit stops.

Table 4.11-2. Consistency with Applicable Goals and Policies

Tulare County 2022 Regional Transportation Plan/Sustainable Communities Strategy 2023-2046	
Rail	
Promote safe, economical, convenient rail systems and schedules that meet the needs of passenger and freight services in the region.	**Not Applicable.**
Aviation	
Support development of regional system of airports that meets the air commerce and general aviation needs of the county.	**Not Applicable.**
Emerging Technologies	
Support the development and implementation of emerging technologies in the Surface Transportation System.	**Not Applicable.**

Table 4.11-3 Tulare County LAFCO's Policies

Tulare County LAFCO's Policies	
Policy C-1 Factors and standard to be considered in review of proposals: The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 sets a number of factors that are to be considered when reviewing proposals for changes of organization, reorganization, incorporations, dissolution and other proposals processed by LAFCO	**Consistent.** The annexation of the Project site and adjacent parcels of the COS Tulare College Center campus site and the Kaweah Delta Water Conservation District into the City of Tulare would assist in the orderly formation of the City's boundaries by including areas already in the City's Sphere of Influence and would discourage in urban sprawl.
Policy C-2 Change of Organization/Reorganization: It is the policy of Tulare County LAFCO to conform to the requirements outlined in the Cortese-Knox-Hertzberg Reorganization Act of 2000 (C-K-H Act of 2000) when processing proposals for a change in organization or reorganization	**Consistent.** The annexation of the Project site and adjacent parcels of the COS Tulare College Center campus site and the Kaweah Delta Water Conservation District into the City of Tulare would assist in the orderly formation of the City's boundaries by including areas already in the City's Sphere of Influence and would discourage in urban sprawl.
Policy C-4 Protest Hearings: The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 delegates LAFCO as the conducting authority for protest proceedings after the adoption of a resolution making determinations.	**Consistent.** The annexation of the Project site and adjacent parcels would be done in accordance with the policies and procedures established by LAFCO.
Policy C-10 To encourage orderly growth and development by discouraging creation of new county islands and further envelopment of existing county islands; and to promote the efficient extension and delivery of government services	**Consistent.** The annexation of the Project site and adjacent parcels of the COS Tulare College Center campus site and the Kaweah Delta Water Conservation District into the City of Tulare would assist in the orderly formation of the City's boundaries by including areas already in the City's Sphere of Influence and would discourage in urban sprawl. No County islands would be created as part of the annexation.

Table 4.11-4. Land Use Element

Land Use Element Goal and Policy	
Goal LU-1 To ensure that Tulare's future growth will proceed in an orderly manner, provide for an appropriate mix of land use opportunities, encourage and provide incentives for infill development, prevent urban sprawl, and promote the efficient and equitable provision of public services to all neighborhoods.	**Consistent.** The Project provides a mixed-use of high, medium, and low-density residential development, a park and natural areas, a school, a community center, a neighborhood commercial center, and pedestrian and vehicular transit systems.
Policy LU-P1.2 Land Use Designations. The City will utilize the land use designations presented on the following pages for regulating future growth within the UDB. **Residential Designations** ▪ Low Density Residential (LDR). This designation establishes areas for single-family residences in a suburban configuration. Uses typically allowed include detached single-family homes, secondary dwellings, and residential support uses such as churches, schools, and other necessary public utilities and safety facilities. Density Range 3.1-7.0 DU/A Minimum Lot Size ▪ Medium Density Residential (MDR). This land designation establishes areas for single-family and low-density multi-family dwellings located near neighborhood serving uses such as, grocery stores, schools, parks, and other public services. Uses typically allowed include single-family dwellings, second units, town homes, duplexes, triplexes, and mobile home parks. Density Range 7.1-14.0 DU/A Minimum Lot Size 6,000 Square Feet ▪ High Density Residential (HDR). This designation established areas for multi-family dwellings in urbanized areas with access to public transportation and residential-serving uses (i.e. grocers and drug stores). Uses typically allowed include duplexes, triplexes, townhomes, and apartments near schools, parks, and other public services. Density Range 14.1-29.0 DU/A Minimum Lot Size 1,500 Square Feet **Commercial Designations** ▪ Neighborhood Commercial (NC). This designation establishes areas for daily convenience shopping services adjacent to residential neighborhoods. Uses typically allowed include supermarkets, drug stores, and other residential-serving uses that are convenient to vehicular access and highly accessible for pedestrians and bicyclists. These centers typically contain 30,000 to 100,000 square feet of floor area on approximately 2 to 5 acres. Neighborhood centers usually include a grocery store as a leading tenant, and generally require a support population or 3,000 to 40,000 people. Maximum Intensity 0.6 FAR Minimum Development Size 2 Acres **Other Designations** ▪ Public/Quasi-Public (PUB). This designation establishes areas for public and institutional uses that serve the local	**Consistent.** The Project would be developed in accordance with the land use designations applicable for low, medium, and high-density residential developments, neighborhood commercial centers, and public/quasi-public areas proposed by the Project. The Project is within the Tulare Transit-Oriented Development Plan and would be providing transit bus stops for safer and more convenient access to transit.

Table 4.11-4. Land Use Element

Land Use Element Goal and Policy	
community. Uses typically allowed include government facilities, schools, libraries, municipal corporation yards, sewer and water facilities, police and fire stations, and hospitals located throughout the community to serve neighborhoods and businesses and promote public safety. Maximum Intensity 0.6 FAR Minimum Lot Size N/A ▪ Parks and Recreation (PR). This designation establishes areas for outdoor recreation facilities that serve local and regional users. Uses typically allowed in this designation include pocket, neighborhood, community, regional, natural parks, and other outdoor recreation facilities, such as, golf courses, trails, and open space/habitat preserves. Recreation facilities should be connected with accessibility to pedestrians and bicyclists. Maximum Intensity None Minimum Lot Size None ▪ Transit-Oriented Development (TOD). This designation provides for a mix of land uses centered on access to public transit. Key features of a TOD include a mix of housing types, businesses, and public uses at medium to high densities. The Transit-Oriented Development (TOD) designation is intended to create walkable and bikeable neighborhoods with easy access to bus service. Each of the TOD areas has a particular existing context and tailored future vision, as identified in the Transit-Oriented Development Plan, which helps shape the general parameters for future development. The TOD designation, like the TOD Overlay and Village designations below, is considered a "holding" category. The TOD designation promotes the development of a detailed specific or area plan that will provide the details needed to ensure a comprehensive TOD area is developed. A specific or area plan is required to be submitted and approved to ensure a TOD concept and compliance with the TOD Plan's design guidelines, and an approved specific or area plan is required prior to approval of an annexation request. The specific plan or area plan will establish the range of allowable densities within the plan area. As part of the specific or area plan, a land use diagram will be prepared that delineates the land uses and facilities to be developed within the TOD. On this diagram, land uses will utilize the designations shown on Table 2-1. This diagram will be used as the basis of the General Plan Amendment to update the Land Use Diagram	
Goal LU-2 To grow in an orderly pattern consistent with the economic, social, and environmental needs of Tulare and taking regional impacts into account.	**Consistent.** The Project would provide housing opportunities that are consistent with the City's Housing Element and the COS North Transit Oriented Development Plan Area, including having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available

Table 4.11-4. Land Use Element

Land Use Element Goal and Policy	
	pedestrian and bicycle facilities, while minimizing environmental effects. In addition, the Project would create a new community to serve existing and future Tulare residents as well as the COS community, by providing a plan that includes child- and family-oriented neighborhood amenities in a central location within the development where residents can access many of their basic activities and needs via walking or biking.
Policy LU-P2.2 Compact Development. The City shall promote development patterns that are compact and use space in an efficient but aesthetic manner to promote more walking, biking, and use of public transit.	**Consistent.** The Project provides a mixed-use of high-, medium-, and low-density residential development, a park and natural areas, a school, a community center, a neighborhood commercial center, and pedestrian and vehicular transit systems.
Policy LU-P2.4 Self-Sufficient Community. The City shall establish a growth pattern that reduces reliance on areas outside of the city for shopping needs, and furthers the City's desire to be a self-sufficient, full-service community.	**Consistent.** The Project would be self-sufficient and would provide a mixed-use of high-, medium-, and low-density residential development, a park and natural areas, a school, a community center, a neighborhood commercial center, and pedestrian and vehicular transit systems to develop a full-service community.
Policy LU-P2.14 Development Impact Fees. The City shall keep and maintain current development impact fee categories for new construction so that new construction adequately mitigates potential impacts to existing levels of service of infrastructure and public services.	**Consistent.** The Project would be required to pay any applicable established City fees due to development impacts.
Goal LU-3 To designate, protect, and provide land to ensure sufficient residential development capacity and variety to meet community needs and projected population growth.	**Consistent.** The Project would adhere to density requirements as shown on Table 3-1 in Chapter 3.
Policy LU-P3.1 Neighborhood Housing Mix. The City shall encourage mixed use neighborhoods to have a variety of housing types and densities to help create an overall healthy, balanced community	**Consistent.** The Project would provide low, medium, and high residentials, promoting an overall healthy and balanced community.
Policy LU-P3.5 Future Residential Development. The City shall direct future residential development to areas adjacent or in close proximity to existing and future neighborhoods and neighborhood commercial areas to further Tulare as a self-sufficient, full-service city.	**Consistent.** The Project itself would develop services and amenities to meet the needs of the residential development proposed by the Project
Policy LU-P3.6 High Density Residential Locations. The City shall encourage the development of higher density housing including near commercial services, employment centers, principal arterial routes, and public transportation.	**Consistent.** The Project proposed to develop high-density residential within the close proximity of a park, community center, neighborhood commercial center, and the COS campus.
Policy LU-P3.9 Planned Development. The City shall encourage the use of planned development provisions in residential developments to provide flexibility, to meet various	**Consistent.** The Project proposes high, medium, and low residential development to serve a variety of individuals and families of various

Table 4.11-4. Land Use Element

Land Use Element Goal and Policy	
socio-economic needs, and to address environmental and site design constraints.	socioeconomic needs and would provide the services and amenities required to meet a majority of their anticipated needs.
Goal LU-7 To promote the development of mixed-use projects to promote the efficient use of land, reduce reliance on the automobile, and provide a variety of housing options.	**Consistent.** The Project itself is a mixed used development that would efficiently provide a variety of housing options and would reduce reliance on automobiles by developing pedestrian and bike trails within the Project site and incorporate transit stops near the neighborhood commercial area and around the perimeter of the Project site.
Policy LU-P13.3 Innovative Development. The City shall promote flexibility and innovation in residential, commercial, industrial, mixed-use and other land uses through the use of planned unit developments, developer agreements, specific plans, mixed-use projects, and other innovative development and planning techniques.	**Consistent.** The Project itself is a mixed used development that would efficiently provide a variety of housing options and would reduce reliance on automobiles by developing pedestrian and bike trails within the Project site and incorporate transit stops near the neighborhood commercial area and around the perimeter of the Project site.
Policy LU-P13.11 Quality Multi-Family Housing. The City shall promote quality design and appearance of all new multi-family units so that they complement the existing fabric of the community, add value to the community's built environment, and reduce potential for community objection.	**Consistent.** The multi-family development proposed by the Project would be developed in accordance with the standards set forth in the zoning ordinance, General Plan, and TOD Plan and would complement the overall design of the proposed Project.
Policy LU-P14.1 General Plan Consistency. The City shall review and amend, as necessary, applicable ordinances and regulations (e.g., Zoning Ordinance and Subdivision Ordinance) to ensure consistency with the General Plan.	**Consistent.** The Project would be developed to be consistent with the City's Zoning Ordinance, General Plan, and TOD Plan.
Transit Oriented Development Plan Policies	
LU-2.2 The City shall promote development patterns that are compact and use space in an efficient but aesthetic manner to promote more walking, biking and use of public transit.	**Consistent.** The Project itself is a mixed used development that would efficiently provide a variety of housing options and would reduce reliance on automobiles by developing pedestrian and bike trails within the Project site and incorporate transit stops near the neighborhood commercial area and around the perimeter of the Project site.
TC-4.8 The City shall encourage the clustering of land uses that generate high trip volumes and other transit-oriented designs to foster the demand needed to support transit activity. Transit-oriented designs should include: provision of sheltered bus stops to be provided with new development; location of medium and high-density development shall be located near transit services; linking of residential uses to transit stops via continuous sidewalks or pedestrian paths; and incorporation of park-and-ride lots to accommodate not only motorists, but also other users of public transit and van or carpooling.	Consistent. The Project would provide bus stops, bicycle trails, and sidewalks to reduce the high volume of vehicle trips made. In addition, the Project proposes a mixed-use development that including low, medium, and high residential units close to bus stops near the Project's proposed neighborhood commercial center and perimeter boundary.

4.11.6 Mitigation Measures

No mitigation measures are required.

4.11.7 Level of Significance After Mitigation

No significant impacts have been identified, and no significant and unavoidable impacts would occur.

4.11.8 References

City of Tulare. 2013. Tulare Transit-Oriented Development Plan. Accessed August 2022.

City of Tulare. 2014. 2035 General Plan. Accessed August 2022.
https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000.
https://www.tulare.ca.gov/home/showpublisheddocument/731/635713493595600000

City of Tulare. 2015. 2035 General Plan Map. Accessed August 2022.
https://www.tulare.ca.gov/home/showpublisheddocument/604/635702261116100000

City of Tulare. 2023. Residents. About Tulare. Accessed August 2022.
https://www.tulare.ca.gov/community/about-tulare.

County of Tulare. 2012. Tulare County General Plan 2030 Update. Accessed August 2022.
http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/000General%20Plan%202030%20Part%20I%20and%20Part%20II/GENERAL%20PLAN%202012.pdf.

OPR (Governor's Office of Planning and Research). 2017. State of California General Plans Guidelines 2017.
https://www.opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf

TCAG (Tulare County Association of Governments). 2022. Draft Regional Transportation Plan/Sustainable Communities Strategy. https://tularecog.org/tcag/planning/rtp/rtp-2022/.

INTENTIONALLY LEFT BLANK

4.12 Mineral Resources

This section describes the existing mineral resources conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. Analysis of the Project site is based on available data and the City of Tulare's General Plan EIR. This section assesses potential effects on mineral resources that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

One comment letter was received from the California Department of Conservation – Geologic Energy Management Division (CalGEM) in response to the Notice of Preparation, which stated the Department's records confirmed the Project site is not within an oil, gas, or production field, and no wells are known within the Project boundary and provided recommendations for what should be done if any unknown wells are encountered during Project development. The Notice of Preparation and comments received are provided in Appendix A.

4.12.1 Existing Conditions

Minerals are defined as any naturally occurring chemical elements or compounds formed from inorganic processes and organic substances. Minable minerals or an "ore deposit" is defined as a deposit of ore or mineral having a value materially in excess of the cost of developing, mining, and processing the mineral and reclaiming the area.

Tulare County has important mineral resources. Economically, the most important minerals that are extracted in Tulare County are sand, gravel, crushed rock, and natural gas. Other minerals that could be mined commercially include tungsten and relatively small amounts of chromite, copper, gold, lead, manganese, silver, zinc, barite, feldspar, limestone, and silica. Aggregate resources are the most valuable mineral resource in the County because it is a major component of the Portland Cement Concrete (PCC) and Asphaltic Concrete (AC). PCC and AC are essential to constructing roads, buildings, and providing for other infrastructure needs. There are three streams that have provided the main source of high-quality sand and gravel in Tulare County to make PCC and AC. They include the Kaweah River, Lewis Creek, and the Tule River. The highest quality deposits are located at the Kaweah and Tule Rivers. Other sources of construction material are also mined in the hard rock deposits of the foothills. The County's General Plan indicates that mineral deposits are significantly limited within Tulare County (County of Tulare 2012).

Mineral resources areas are defined as one of the four Mineral Resources Zones (MRZs), Scientific Resource Zones (SZ), or Identified Resource Areas (IRAs), described below.

- **MRZ-1:** A Mineral Resource Zone where adequate information indicates that no significant mineral deposits are present or likely to be present.

- **MRZ-2:** A Mineral Resource Zone where adequate information indicates that significant mineral deposits are present or a likelihood of their presence and development should be controlled.
- **MRZ-3:** A Mineral Resource Zone where the significance of mineral deposits cannot be determined from the available data.
- **MRZ-4:** A Mineral Resource Zone where there is insufficient data to assign any other MRZ designation.
- **SZ Areas:** Containing unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance shall be classified in this zone.
- **IRA Areas:** County or State Division of Mines and Geology Identified Areas where adequate production and information indicates that significant minerals are present.

The County has the following mineral resource zones: MRZ-2a, MRZ-2b and MRZ-3a zones within its boundaries. The City of Tulare does not have any mineral resource zones within or near its boundaries. As such, the Project site is not within or in the vicinity of any mineral resource zones. The closest mineral resource zone to the Project site is an MRZ-3a that is located approximately 12 miles northeast near Farmersville, California.

In addition, the Project site does not contain any oil or gas extraction wells on site. The nearest well to the Project site is a plugged Dry Hole that is located approximately 3,000 square feet to the east of the Project site (DOC 2022).

4.12.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Program

There are no applicable federal regulations pertaining to the proposed Project on this issue area.

State

The following state regulations pertaining to mineral resources would apply to the Proposed Project.

Surface Mining and Reclamation Act: California Public Resources Code Section 2710 et seq.

The Surface Mining and Reclamation Act of 1975 (SMARA) is the primary regulator of onshore surface mining in the State. It delegates specific regulatory authority to local jurisdictions. The act requires the State geologist (California Geological Survey) to identify all mineral deposits within the State and to classify them as: (1) containing little or no mineral deposits; (2) significant deposits; or (3) deposits identified, but further evaluation is needed. Lands where such deposits are identified are designated MRZ 1, 2, 3, or 4, respectively. Local jurisdictions are required to enact specific procedures to guide mineral conservation and extraction at particular sites and to incorporate mineral resource management policies into their general plans. A particular concern of state legislators in enacting SMARA was the premature loss of minerals and protection of sites threatened by development practices that might preclude future mineral extraction.

Mineral Resource Classification

The California Geological (CGS) Survey Mineral Resources Project provides information about California's nonfuel mineral resources. The Mineral Resources Project classifies lands throughout the State that contain regionally

significant mineral resources as mandated by the Surface Mining and Reclamation Act (SMARA) of 1975. Nonfuel mineral resources include metals such as gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate including sand, gravel, and crushed stone. Development generally results in a demand for minerals, especially construction aggregate. Urban preemption of prime deposits and conflicts between mining and other uses throughout California led to passage of the SMARA, which requires all cities and counties to incorporate in their general plans the mapped designations approved by the State Mining and Geology Board.

The classification process involves the determination of P-C Region boundaries, based on identification of active aggregate operations (Production) and the market area served (Consumption). The P-C regional boundaries are modified to include only those portions of the region that are urbanized or urbanizing and are classified for their aggregate content. An aggregate appraisal further evaluates the presence or absence of significant sand, gravel, or stone deposits that are suitable sources of aggregate. As previously noted, the classification of these mineral resources is a joint effort of the State and local governments and requires that the State Geologist classify the mineral resources area as one of the four MRZs SZs, or IRAs,

As part of the classification process, an analysis of site-specific conditions is utilized to calculate the total volume of aggregates within individually identified Resource Sectors. Resource Sectors are those MRZ-2 areas identified as having regional or statewide significance. Anticipated aggregate demand in the P-C Regions for the next 50 years is then estimated and compared to the total volume of aggregate reserves identified within the P-C Region.

Department of Conservation, Division of Oil, Gas, and Geothermal Resources

The Geologic Energy Management Division (CalGEM), formerly the Division of Oil, Gas, and Geothermal Resources oversees the drilling, operation, maintenance, and plugging and abandonment of oil, natural gas, and geothermal wells, while working to help California achieve its climate change and clean energy goals. CalGEM publishes regular GIS data which includes updates to well locations and status, oil field boundaries, lease boundaries, and district boundaries. CalGEM also regulates the drilling, operation, and permanent closure of energy resource wells (DOC 2019).

Local

City of Tulare General Plan

Mineral resources are protected through policies in the City of Tulare's General Plan Conservation and Open Space Element. The goals and policies in the City's General Plan for mineral resources applicable to the Project are provided below. The General Plan contains additional goals and policies that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below, but as stated in Chapter 2, Introduction, all goals and policies in the City's General Plan are incorporated by reference (City of Tulare 2014).

Conservation and Open Space Element

Goal:

Goal COS-8 To protect the current and future extraction of mineral resources that are important to the City's economy while minimizing impacts of this use on the public and the environment.

Policies:

COS - P8.1 Compatibility. Develop mineral deposits in a manner compatible with surrounding land uses.

COS-P8.2 Conserve Mineral Deposits. Emphasize the conservation of identified and/or potential mineral deposits, recognizing the need for identifying, permitting, and maintaining a 50-year supply of locally available Portland cement.

COS-P8.3 Future Resource Development. Provide for the conservation of identified and/or potential mineral deposits within the UDB as areas for future resource development.

COS-P8.4 Identify New Resources. Encourage exploration, evaluation, identification, and development of previously unrecognized but potentially significant hard rock resources for production of crushed stone aggregate.

COS-P8.5 Incompatible Development. Proposed incompatible land uses shall not be on lands containing, or adjacent to, identified mineral deposits or along key access roads, unless adequate mitigation measures are adopted or a statement of overriding considerations stating public benefits and overriding reasons for permitting the proposed use are adopted.

COS-P8.6 Limited In-City Mining. Within the Urban Development Boundary (UDB), new commercial mining operations should be limited due to environmental and compatibility concerns.

COS-P8.7 Minimize Adverse Impacts. Minimize the adverse effects on environmental features such as water quality and quantity, air quality, flood plains, geophysical characteristics, biotic, archaeological and aesthetic factors.

COS-P8.8 Minimize Hazards and Nuisances. Minimize the hazards and nuisances to persons and properties in the area during extraction, processing, and reclamation operations.

COS-P8.9 Recognize Mineral Deposits. Recognize as a part of the General Plan those areas which have identified and/or potential mineral deposits.

COS-P8.10 Resources Development. The City will promote the responsible development of identified and/or potential mineral deposits.

COS-P8.11 Surface Mining and Reclamation Act (SMARA) Requirements. All surface mines, unless otherwise exempted, shall be subject to reclamation plans that meet SMARA requirements. Reclamation procedures shall restore the site for future beneficial use of the land. Mine reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures.

Transit-Oriented Development Plan (TOD)

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City of Tulare. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing

types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City of Tulare's General Plan documents (City of Tulare 2014). There are no specific mineral resource-related policies and measures contained in TOD. In the absence of applicable goals, policies, or implementation measures within the TOD, refer to the applicable policies, goals, and implementation measures of the Tulare City General Plan above.

4.12.3 Methodology

Information regarding the existing mineral resources within the Proposed Project area is based on County of Tulare General Plan documents and available data and reports from the California Department of Conservation.

4.12.4 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to mineral resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to mineral resources would occur if the Project would:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

4.12.5 Impacts Analysis

Threshold a: ***Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?***

And

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

Less-than-significant impact with mitigation incorporated**.** The Project site does not contain MRZ-2a, MRZ-2b and MRZ-3a zones. The nearest MRZ is located approximately 12 miles northeast from the Project site. There are no oil or gas extraction wells or geothermal wells on the Project site (DOC 2019). Implementation of the Project would not result in the loss of availability of aggregate resources including sand, gravel, crushed rock, or minerals such as tungsten, chromite, copper, gold, lead, manganese, silver, zinc, barite, feldspar, limestone, and silica. The Project site is not designated as a mineral recovery site within the City's General Plan or within the TOD Plan.

In addition, as noted in CalGEM's NOP comment letter (Appendix A), the Project site is not within the boundaries of an oil or gas field and there are no known oil, gas, or geothermal wells on site. However, in the unlikely event that unknown wells are discovered during Project development, Mitigation Measure (MM) MIN-1, which requires immediate notification to CalGEM, would be implemented. With the implementation of MM-MIN-1, impacts would be less than significant.

4.12.6 Mitigation Measures

MM-MIN-1 If during development activities, any unknown oil, gas, or geothermal wells are encountered, CalGEM's construction site well review engineer in the Inland District Office will be immediately notified, and file for review of an amended site plan with well casing diagrams for review and approval by the District office.

4.12.7 Level of Significance After Mitigation

Threshold a and b: The Project site does not contain MRZ-2a, MRZ-2b and MRZ-3a zones and there are no oil, gas, or geothermal wells on site. However, in the unlikely event that unknown wells are discovered during Project development, MM-MIN-1 would be implemented. Impacts would be **less than significant** with mitigation.

4.12.8 References

City of Tulare. 2014. Tulare General Plan. Conservation and Open Space Element. Accessed July 2022. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000.

County of Tulare. 2012. 2035 Tulare General Plan. Part 1: Goals and Policies Report. Accessed July 2022. http://generalplan.co.tulare.ca.us/documents/GP/001.

DOC (California Department of Conservation). 2019. Geologic Energy Management Division. Accessed July 2022. https://www.conservation.ca.gov/calgem/Pages/Index.aspx

DOC. 2022. WellSTAR. Accessed September 2022. https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/118.94276/37.12009/6.

4.13 Noise

This section describes the existing noise conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Chandler Grove Master Plan Project (Project). This section assesses potential noise impacts that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Information in this section is based on the Noise Technical Report for the Chandler Grove Master Plan Project, prepared for the applicant by Dudek in December 2022 (included as Appendix H). The Noise Technical Report evaluates the development proposed by the Project; the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) and the FHWA Traffic Noise Model (TNM) were used to estimate Project noise emissions, with consideration of the California Department of Transportation (Caltrans) Technical Noise Supplement to the Traffic Noise Analysis Protocol (Caltrans 2020a), and Federal Transit Authority (FTA) Transit Noise and Vibration Impact Assessment (FTA 2018). Other sources consulted are listed in Section 4.13.7, References Cited.

The Noise and Vibration Impact Study describes the ambient noise on the basis of 15-minute measurements completed in vicinity of the Project site; analysis and findings are based on noise and vibration modeling, which can be found in Appendix B and Appendix C of the Noise Technical Report for Chandler Grove Master Plan Project.

No comments were received related to Noise during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.13.1 Existing Conditions

This section provides background information on acoustics and vibration to assist the reader with the analysis presented, describes the existing conditions in the Project area and identifies the resources that could be affected by the Project.

Noise Background and Terminology

Fundamentals of Environmental Noise

Vibrations, traveling as waves through air from a source, exert a force perceived by the human ear as sound. Sound pressure level (referred to as sound level) is measured on a logarithmic scale in dB that represents the fluctuation of air pressure above and below atmospheric pressure. Frequency, or pitch, is a physical characteristic of sound and is expressed in units of cycles per second or hertz. The normal frequency range of hearing for most people extends from about 20 to 20,000 hertz. The human ear is more sensitive to middle and high frequencies, especially when the noise levels are quieter. As noise levels get louder, the human ear starts to hear the frequency spectrum more evenly. To accommodate for this phenomenon, a weighting system to evaluate how loud a noise level is to a

human was developed. The frequency weighting, called "A" weighting, is typically used for quieter noise levels, which de-emphasizes the low-frequency components of the sound in a manner similar to the response of a human ear. This A-weighted sound level is called the "noise level" and is referenced in units of dBA. Table 4.13-1 presents typical noise levels for common outdoor and indoor activities.

Since sound is measured on a logarithmic scale, a doubling of sound energy results in a 3-dBA increase in the noise level. Changes in a community noise level of less than 3 dBA are not typically noticed by the human ear (Caltrans 2020a). Changes from 3 to 5 dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A 5-dBA increase is readily noticeable (EPA 1974). The human ear perceives a 10-dBA increase in sound level as a doubling of the sound level (i.e., 65 dBA sounds twice as loud as 55 dBA to a human ear).

An individual's noise exposure occurs over a period of time; however, noise level is a measure of noise at a given instant in time. Community noise sources vary continuously, being the product of many noise sources at various distances, all of which constitute a relatively stable background or ambient noise environment. The background, or ambient, noise level gradually changes throughout a typical day, corresponding to distant noise sources such as traffic volume and changes in atmospheric conditions. The time-varying character of environmental noise is often described with use of statistical or percentile noise descriptors including L_{10}, L_{50}, and L_{90}. These are the noise levels equaled or exceeded during 10%, 50%, and 90% of the measured time interval. Sound levels associated with L_{10} typically describe transient or short-term events, such as the noise from distinct passing cars and trucks, measured from a position near a roadway. L_{50} represents the median sound level during the measurement interval. Levels will be above and below this value exactly one-half of the accumulated measurement time. L_{90} is the sound level exceeded 90% of the time, and often is used to describe background noise conditions or sources that are continuous or "steady-state" in character.

Table 4.13-1. Typical Noise Levels Associated with Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 1,000 feet	105	
	100	
Gas Lawn Mower at three feet	95	
	90	
Diesel Truck at 50 feet, 50 miles per hour	85	Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime	75	
	70	Vacuum Cleaner at 10 feet
Commercial Area	65	Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
	55	Large Business Office
Quiet Urban Daytime	50	Dishwasher (in next room)
	45	
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime	35	
	30	Library
Quiet Rural Nighttime	25	Bedroom at Night, Concert Hall (background)
	20	

Table 4.13-1. Typical Noise Levels Associated with Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	15	Broadcast/Recording Studio
	10	
	5	
	0	Lowest Threshold of Human Hearing (Healthy)

Source: Caltrans 2020a.
Notes: dBA = A-weighted decibel.

Noise levels are generally higher during the daytime and early evening when traffic (including airplanes), commercial, and industrial activity is the greatest. However, noise sources experienced during nighttime hours when background levels are generally lower can be potentially more conspicuous and irritating to the receiver. To evaluate noise in a way that considers periodic fluctuations experienced throughout the day and night, a concept termed "community noise equivalent level" (CNEL) was developed, wherein noise measurements are weighted, added, and averaged over a 24-hour period to reflect magnitude, duration, frequency, and time of occurrence.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}, respectively), percentile-exceeded sound level (L_{xx}), the day-night sound level (L_{dn}), and the CNEL. The following list provides brief definitions of noise terminology used in this report.

- **Decibel** (dB) is a unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.
- **A-weighted decibel** (dBA) is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent sound level** (L_{eq}) is the constant level that, over a given time period, transmits the same amount of acoustic energy as the actual time-varying sound. Equivalent sound levels are the basis for both the L_{dn} and CNEL scales.
- **Maximum sound level** (L_{max}) is the maximum sound level measured during the measurement period.
- **Minimum sound level** (L_{min}) is the minimum sound level measured during the measurement period.
- **Percentile-exceeded sound level** (L_{xx}) is the sound level exceeded X% of a specific time period. L_{10} is the sound level exceeded 10% of the time.
- **Day-Night Average Sound Level** (L_{dn}) is a 24-hour average A-weighted sound level with a 10 dB penalty added each of the hourly average noise levels occurring in the nighttime hours from 10:00 p.m. to 7:00 a.m. The 10 dB penalty is applied to account for increased noise sensitivity during the nighttime hours.
- **Community Noise Equivalent Level** (CNEL) is the average equivalent A-weighted sound level during a 24-hour day. CNEL accounts for the increased noise sensitivity during the evening hours (7:00 p.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.) by adding 5 dB to the recorded hourly average sound levels in the evening and 10 dB to the hourly average sound levels at night.

Exterior Noise Distance Attenuation

Noise sources are classified in two forms: (1) point sources, such as stationary equipment or a group of construction vehicles and equipment working within a spatially limited area at a given time; and (2) line sources, such as a roadway with a large number of pass-by sources (motor vehicles). Sound generated by a point source typically

diminishes (attenuates) at a rate of 6.0 dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites and at a rate of 7.5 dBA for each doubling of distance from source to receptor at acoustically "soft" sites (Caltrans 2020a). Sound generated by a line source (i.e., a roadway) typically attenuates at a rate of 3 dBA and 4.5 dBA per doubling distance, for hard and soft sites, respectively (Caltrans 2020b). Sound levels can also be attenuated by human-made or natural barriers. For the purpose of a sound attenuation discussion, a hard or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt or concrete ground surfaces, as well as very hard-packed soils. An acoustically soft or absorptive site is characteristic of unpaved loose soil or vegetated ground.

With respect to examples of this distance-attenuation relationship for exterior noise, a 60-dBA noise level measured at 50 feet from a tractor installing fenceposts within a packed earth barn-yard site would diminish to 54 dBA at 100 feet from the source, and to 48 dBA at 200 feet from the source. This scenario is addressed by the point source attenuation for a hard site (6 dBA with each doubling of the distance). For the scenario where soft-site conditions exist between the point source and receptor, represented by natural vegetation, planted row crop, or plowed furrows adjacent to the work area, an attenuation rate of 7.5 dBA per doubling of distance would apply; the tractor noise measured as 60 dBA at 50 feet would diminish to 52.5 dBA at 100 feet from the source and to 45 dBA at 200 feet from the source, where soft ground exists between the sound source and the receptor location.

Structural Noise Attenuation

Sound levels can also be attenuated by human-made or natural barriers. Solid walls, berms, or elevation differences typically reduce noise levels in the range of approximately 5 to 15 dBA (Caltrans 2020a). Structures can also provide noise reduction by insulating interior spaces from outdoor noise. The outside-to-inside noise attenuation provided by typical structures in California ranges between 17 to 30 dBA with open and closed windows, respectively, as shown in Table 4.13-2.

Table 4.13-2. Outside-to-Inside Noise Attenuation (dBA)

Building Type	Open Windows	Closed Windows
Residences	17	25
Schools	17	25
Churches	20	30
Hospitals/offices/hotels	17	25
Theaters	17	25

Source: Transportation Research Board, National Research Council 1971.
Notes: dBA = A-weighted decibel.
As shown, structures with closed windows can attenuate exterior noise by a minimum of 25 to 30 dBA.

Fundamentals of Vibration

Vibration is an oscillatory motion that can be described in terms of displacement, velocity, or acceleration. Heavy equipment operation, including stationary equipment that produces substantial oscillation or construction equipment that causes percussive action against the ground surface, may be experienced by building occupants as perceptible vibration. It is also common for groundborne vibration to cause windows, pictures on walls, or items on shelves to rattle. Although the perceived vibration from such equipment operation can be intrusive to building occupants, the vibration is seldom of sufficient magnitude to cause even minor cosmetic damage to buildings.

Peak particle velocity (PPV) that describes particle movement over time (in terms of physical displacement of mass, expressed as inches/second or in/sec or simply ips) is generally employed for the discussion of vibration impacts

on people and structures. Groundborne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities. Next to pile driving and soil compacting, grading activity has the greatest potential for vibration impacts when earthwork involves large bulldozers, large trucks, or other heavy equipment.

Health Effects of Noise

Excessively noisy conditions can affect an individual's quality of life, health, and well-being. The effects of noise can be organized into six broad categories: sleep disturbance, permanent hearing loss, human performance and behavior, social interaction or communication, extra-auditory health effects, and general annoyance. An individual's reaction to noise and its level of disturbance depends on many factors such as the source of the noise, its loudness relative to the background noise level, time of day, whether the noise is temporary or permanent, and subjective sensitivity. Based upon these recognized adverse effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities.

Existing Noise Conditions

The proposed Project consists of a mixed-use development on approximately 210 acres on active agricultural land. The Project site is currently located within unincorporated Tulare County (County) but is planned to be annexed to the City of Tulare (City) as part of the Project. The Project site is bound by South Oakmore Street (Road 124) to the west, Road 130 and Munson Rd to the east, Avenue 228 to the north, and E Bardsley Ave to the south. The proposed Project includes approximately 1,197 total units of low, medium, and high-density housing, a neighborhood commercial center, a community center, and a Kindergarten through 8th grade public school, and a central park.

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound or vibration could adversely affect the use of the land. Residences, hospitals, nursing care or assisted living facilities, guest lodging, and churches would be considered noise- and vibration-sensitive. In addition, vibration-sensitive land uses also include institutional uses such as laboratories where the activities within the building are particularly sensitive to vibration.

Sensitive receptors in the Project vicinity are represented by existing residences. A single-family residential neighborhood is located adjacent to the eastern Project boundary, with homes as close as approximately 45 feet from the Project eastern boundary. Several residences are located to the north of the Project site, on the opposite side of Avenue 228, at distances ranging from 165 to 175 feet; four residences are located west of the Project site, across South Oakmore Street, at distances ranging from 100 to 330 feet. The closest residences to the south/southwest of the Project site are in a residential neighborhood along the west side of South Oakmore Street, approximately 1,500 feet from the Project site boundary.

Ambient Noise Survey

Sound pressure level (SPL) measurements were conducted near the proposed Project site on February 15, 2022, to quantify and characterize the existing outdoor ambient sound levels. Table 4.13-3 provides the location, date, and time period at which these baseline noise level measurements were performed by an attending Dudek field investigator using a SoftDB branded Piccolo II sound level meter (SLM) equipped with a 0.5-inch, pre-polarized condenser microphone with pre-amplifier. The SLM meets the current American National Standards Institute standard for a Type 2 (General Purpose) sound level meter. The accuracy of the SLM was verified using a field

calibrator before and after the measurements, and the measurements were conducted with the microphone positioned approximately five feet above the ground.

Five short-term (ST) noise level measurement locations (ST1 – ST5) intended to be representative of the outdoor ambient sound environment for existing or potential future noise-sensitive receivers in the vicinity of the proposed Project were selected near the proposed Project site. Note that several of the locations are adjacent to roadways to which the Project would contribute trips (ST1 and ST5), since the Project would have the potential to increase roadway traffic levels along such roadways. The short-term measurement locations are depicted as receivers ST1 – ST5 on Figure 4.13-1, Ambient Sound Measurements and Modeled Receivers Locations. The measured L_{eq} and L_{max} noise levels at these surveyed locations are provided in Table 4.13-3. The primary noise sources at the sites identified in Table 4.13-3 consisted of traffic along adjacent or nearby roadways, the sounds of leaves rustling, and birdsong. As shown in Table 4.13-3, the measured SPL ranged from 52.3 dBA L_{eq} at ST3 to 74.6 dBA L_{eq} at ST5.

Table 4.13-3. Measured Baseline Outdoor Ambient Noise Levels

Site	Location/Address	Date/Time	L_{eq}	L_{max}
ST1	East side of South Oakmore Street. West of Project Site, adjacent to residence.	2022-02-15, 01:45 p.m. to 02:00 p.m.	65.1	82.1
ST2	Adjacent to Project side of back yard fence for a residence immediately east of Project Site.	2022-02-15, 02:15 p.m. to 02:30 p.m.	55.3	71.2
ST3	At western terminus of paved section of Avenue 226, adjacent to east side of Project Site and existing residence.	2022-02-15, 02:35 p.m. to 02:50 p.m.	52.3	70.3
ST4	North side of Avenue 228, North of Project site, adjacent to a residence.	2022-02-15, 03:00 p.m. to 03:15 p.m.	64.2	86.6
ST5	South side of East Bardsley Avenue, South of Project Site	2022-02-15, 03:50 p.m. to 04:15 p.m.	74.6	87.3

Source: Appendix H.
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibels; ST = short-term noise measurement locations.

Generally, the measured samples of daytime L_{eq} agree with expectations: ST1 is 74.6 dBA L_{eq} due largely to its proximity to East Bardsley Avenue, a major roadway and thus fairly continuous acoustical contributor to the measured outdoor ambient sound environment. Likewise, ST1 and ST4 are located adjacent to somewhat busy roadways, with daytime L_{eq} values of approximately 65 and 64 dBA, respectively; these roadways would also produce fairly continuous contributions to the ambient noise environment. Surrounding land uses include agriculture to the north and south, residences to the east, and a high school and residences to the west. ST2 measured sound levels are representative of the existing ambient sound level for residences located closest to the Project site (to the east), while ST1 and ST4 should be representative of ambient noise levels for the low-density residences found to the north and west of the Project Site, respectively.

4.13.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Transit Administration

In its Transit Noise and Vibration Impact Assessment guidance manual, the FTA recommends a daytime construction noise level threshold of 80 dBA L_{eq} over an eight-hour period when detailed construction noise assessments are performed to evaluate potential impacts to community residences surrounding a project (FTA 2018). Although this FTA guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the state and local jurisdictional levels. The FTA identifies a construction-related vibration damage threshold of 0.3 ips PPV for typical residential structures (0.12 ips PPV for fragile historic structures).

Federal Interagency Committee on Noise

For the assessment of transportation noise impacts, significance thresholds developed by the Federal Interagency Committee On Noise (FICON) are typically employed. FICON specifies a maximum allowable increase in noise level (using CNEL), which is dependent upon the starting ambient noise level. Under FICON recommended criteria (FICON 1992), as existing ambient noise increases, the threshold for increase in noise exposure due to a project is reduced. Table 4.13-4 illustrates the FICON criteria considered when evaluating traffic noise generated by a project. If sensitive receptors (i.e., residences) would be exposed to long-term traffic noise increases exceeding these criteria, impacts may be considered significant.

Table 4.13-4. Significance of Changes in Roadway Noise Exposure

Existing Noise Exposure (dBA CNEL)	Allowable Noise Exposure Increase / Significance Threshold (dBA CNEL)
Less than 60	5
60 - 65	3
Greater than 65	1

Source: FICON 1992.
Notes: dBA = A-weighted decibel. CNEL = Community Noise Equivalent Level.

State

California Department of Transportation Vibration Standards

The California Department of Transportation (Caltrans) conducted extensive research on human annoyance and damage to structures caused by vibration from short term construction activities and from long term highway operations. These criteria established by Caltrans are commonly used to assess vibration impacts from all types of projects and activities. Caltrans uses a threshold of 0.2 ips PPV for annoyance to persons, where a continuous vibration source is involved; for transient sources (represented by construction activities), Caltrans uses a threshold of 0.24 PPV ips (which equates to a distinctly perceptible level). For commercial buildings constructed of concrete and steel, Caltrans identifies a damage threshold of 0.5 ips PPV. For residential structures employing concrete foundation and wood frame construction, Caltrans identifies a conservative damage threshold vibration level standard of 0.3 ips PPV (Caltrans 2020b).

California Code of Regulations – Title 24

Title 24 of the California Code of Regulations sets standards that new development in California must meet. According to Title 24, interior noise levels are not to exceed 45 dBA CNEL in any habitable room of a residential structure.

California Department of Health Services

DHS has developed guidelines of community noise acceptability for use by local agencies, which have been published by the Governor's Office of Planning and Research (2003) as the Land Use Compatibility for Community Noise Environments Matrix. Selected relevant levels are listed here:

- Below 60 dBA CNEL: normally acceptable for low-density residential use
- 50 to 70 dBA: conditionally acceptable for low-density residential use
- Below 65 dBA CNEL: normally acceptable for high-density residential use and transient lodging
- 60 to 70 dBA CNEL: conditionally acceptable for high-density residential, transient lodging, churches, educational, and medical facilities.

Local

City of Tulare General Plan

The City of Tulare General Plan 2035 incorporates the Noise Element of the Tulare County General Plan, which identifies noise-sensitive land uses and noise sources, defines areas of noise impact, and establishes goals, policies, and programs to ensure that County residents are protected from excessive noise, and to develop an implementation program that could effectively mitigate potential noise problems. The implementation measures have been designed so that they will not subject residential or other sensitive noise land uses to exterior noise levels in excess of 65 dBA Ldn, and interior noise levels in excess of 45 dBA Ldn. Applicable goals, policies, and implementation measures from the Noise Elements of the City's General Plan, relevant to the proposed Project, are summarized below (City of Tulare 2014).

Chapter 3. Noise Element

Goals

Goal 1: Protect the citizens of Tulare County from the harmful effects of exposure to excessive noise.

Goal 2: Protect the economic base of Tulare County by preventing the encroachment of incompatible land uses near known noise producing industries, railroads, airports, and other sources.

Policies

NOI-P1.1: Sound Attenuation Features. The City shall require sound attenuation features such as walls, berming, heavy landscaping, and setbacks between commercial, industrial, and residential uses to reduce noise and vibration impacts.

NOI-P1.3: Noise Buffering. The City shall require noise buffering or insulation in new development along major streets, highways, and railroad tracks.

NOI-P1.5: Construction Noise. Reduce noise associated with construction activities by requiring properly maintained mufflers on construction vehicles, requiring the placement of stationary construction equipment as far as possible from developed areas, and requiring temporary acoustical barriers/shielding to minimize construction noise impacts at adjacent receptors. Special attention should be paid to noise-sensitive receptors (including residential, hospital, school, and religious land uses).

NOI-P1.6: Limiting Construction Activities. The City shall limit construction activities to the hours of 6 am to 10 pm, Monday through Saturday.

NOI-P1.18: Construction-related Vibration. Evaluate individual projects that use vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, near sensitive receptors for potential vibration impacts. If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as use of less-vibration-intensive equipment or construction techniques, should be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver).

NOI-P2.1: New development of residential or other noise-sensitive land uses which require discretionary approval under the Tulare County Zoning Ordinance or the Tulare County Subdivision Ordinance (e.g. use permits, zone changes, subdivision maps, parcel maps) will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the specific design of such projects to reduce noise levels to 60 dB Ldn (or CNEL) or less within outdoor activity areas and 45 dB Ldn (or CNEL) or less within interior living spaces. No noise-sensitive land uses which require approval under the Tulare County Zoning Ordinance or the Tulare County Subdivision Ordinance shall be permitted within the 60 CNEL contour of the public use airports identified in this Plan. Where it is not possible to reduce exterior noise levels within outdoor activity areas to 60 dB Ldn (or CNEL) or less after the practical application of the best available noise reduction technology, an exterior noise level of up to 65 dB Ldn (or CNEL) will be allowed. Under. no circumstances will an interior noise level exceeding 45 dB Ldn be allowed with the windows and doors closed. It should be noted that in instances where the windows and doors must remain closed to achieve the required acoustical isolation, mechanical ventilation or air conditioning must be provided.

NOI-P2.2: Land Use Planning and Noise Compatibility. Use the noise compatibility guidelines in Figure 7-3 and the future-conditions noise contour map in Figure 7-4 to plan for appropriate land uses near existing uses that generate noise. Noise mitigation should be included to ensure that new residential areas and other noise-sensitive uses are appropriately buffered from significant noise sources.

NOI-P2.3: Noise Compatibility Strategies. Where land use noise compatibility conflicts currently exist, explore the need for mitigation measures on noise sources that may be adjacent to sensitive receptors. In planning for future developments, promote the use of buffer zones, barrier/shielding measures, and/or sound insulation building techniques to preclude noise impacts to noise-sensitive land uses.

NOI-P2.4: Reducing Exposure to Operational Noise. In new residential and mixed-use developments, require that stationary equipment (such as air conditioning units and condensers) be placed in separate spaces, rooftops, or other areas such that noise impacts to interior living areas will be

reduced. Similarly, potentially noisy common spaces, such as trash collection areas and loading zones, should be located away from residential units or other noise-sensitive spaces.

NOI-P3.2: New development of residential or other noise-sensitive land uses may not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the specific design of such projects to reduce noise levels to 60 dB Ldn (or CNEL) or less within outdoor activity areas and 45 dB Ldn (or CNEL) or less within indoor living areas. Where it is not possible to reduce exterior noise levels within outdoor activity areas to 60 dB Ldn (or CNEL) or less after the practical application of the best available noise reduction technology, an exterior noise level of up to 65 dB Ldn (or CNEL) may be allowed.

NOI-P3.3 New development of industrial, commercial, or other noise- generating land uses (including roadways, railroads, and airports) may not be permitted if resulting noise levels will exceed 60 dB Ldn (or CNEL) at the boundary of areas containing or planned and zoned for residential or other noise- sensitive land uses, unless it can be shown through acoustical analysis that the noise generated would be mitigated to levels compatible with the adjacent sensitive uses.

NOI-P3.6 Acoustical Study Requirement. Require acoustical studies for new developments in areas where the noise levels exceed the 'normally acceptable' levels for the proposed land use; based on [Figure 7-3] For residential uses, the analysis should include mitigation measures to limit the noise exposure in interior living spaces to 45 dB Ldn, consistent with California Title 24.

NOI-P3.10 Noise level criteria applied to land uses other than residential or other noise sensitive uses shall be consistent with the recommendations of the California Office of Noise Control (Figure 7-3).

City of Tulare Municipal Code

The City of Tulare Municipal Code, Chapter 6.40 (Noise), includes restrictions governing the generation of noise that could cause an annoyance, including noise from construction equipment and activities.

Section 6.40.030 – Special Restrictions

Between the hours of 10:00 p.m. of one day and 6:00 a.m. of the following day, it shall be unlawful for any person to create, cause to be created or maintained sources of noise which shall cause annoyance or discomfort to a reasonable person of normal sensitivity in the neighborhood. The sources shall include, but not be limited to, the following:

(A) Excessively loud noises caused by the use or operation of radios, musical instruments and drums, phonographs, television sets or other machines or devices for the production, reproduction or amplification of sound;

(B) Operation of equipment or performance of any outside construction or repair work on buildings, structures or projects, or operation of construction type devices, except that contractors may apply for a permit from the Planning and Building Department to allow construction where extreme heat requires work to occur between 10:00 p.m. and 6:00 a.m.;

C) Excessively loud sounds, cries or behavioral noise caused by the keeping or maintenance of animals or fowls;

(D) Excessively loud noise caused by the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus or similar mechanical device;

(E) Operation of chimes, bells or other devices for the purpose of advertising or inviting the patronage of any person or persons to any business enterprise;

(F) Repairing, rebuilding or testing of motor vehicles or operating of any motor driven vehicle off public streets or highways; and

(G) Excessively loud noise caused by calling, shouting, laughing or crying.

Section 6.40.040 – Schools, Hospitals and Churches.

It shall be unlawful for any person to create any noise on any street, sidewalk or public place adjacent to any school, institution of learning or church while the same is in the use or adjacent to any hospital, which noise unreasonably interferes with the workings of the institutions or which disturbs or unduly annoys patients in the hospital, providing conspicuous signs are displayed in such streets, sidewalk or any public place indicating the presence of a school, church or hospital.

Section 6.40.071 – Amplified Sound Noise Standards.

(A) It is unlawful for any person at any location within the city to create any amplified sound on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured at the property line of any affected area, to exceed the decibel level of 70 during the hours of 6:00 a.m. and 10:00 p.m.

(B) Parades/community events. Activities pursuant to Municipal Code Chapter 8.70 shall not exceed 85 decibels.

(C) Public park/city facilities.

(1) Sound or noise produced by sound amplification equipment used at all city parks and other city facilities shall be measured at points not greater than 100 feet from the sound source within city parks or facilities and shall not exceed 85 decibels.

(2) Failure of the event sponsor to enforce the sound limits may result in any or all of the following:

(a) The forced curtailment of activities as ordered by the Police Department.

(b) Citation issued by the Police Department pursuant to § 6.40.090.

(c) Forfeiture of deposits placed with the city by the sponsor for use of the facility.

Section 6.40.073 – Noise Source Exemptions.

The following activities shall be exempted from the decibel limits of this chapter:

(A) Activities conducted on public or private athletic fields;

(B) Events held at the Tulare County Fairgrounds;

(C) Events held at the International Agri-Center;

(D) Noise sources associated with the collection of waste or garbage from commercially zoned, industrially zoned, or residentially zoned property by the city or its authorized franchisee;

(E) Any activity to the extent regulation thereof has been preempted by state or federal law.

Section 6.40.080 – Emergency Equipment.

The provisions of this chapter shall have no application to the sounding of a siren or the making of other usual signals by any police or other peace officers in the performance of their duties, nor to the sounding of any siren upon any ambulance or firefighting equipment in the usual and customary manner.

Local Vibration Standards

Evaluate individual projects that use vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, near sensitive receptors for potential vibration impacts. If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as use of less-vibration-intensive equipment or construction techniques, should be implemented during construction (e.g., drilled piles to eliminate use of vibration-intensive pile driver). Vibration standards have not been adopted by the City of Tulare. For this study, the vibration criteria adopted by the FTA and Caltrans are employed for assessment of vibration impacts. For transient sources (represented by construction activities), Caltrans uses a human annoyance threshold of 0.24 in/sec PPV (which equates to a distinctly perceptible level). For residential structures employing concrete foundation and wood frame construction, Caltrans and FTA identify a conservative damage threshold vibration level standard of 0.3 in/sec PPV to avoid potential damage to historic or fragile buildings (Caltrans 2020b; FTA 2018).

Tulare Transit-Oriented Development Plan

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City. Characteristics of TODs consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City's General Plan documents. There is one specific noise-related policy and measure contained in the TOD Plan (City of Tulare 2013a).

TR-P4.3 The City shall ensure pedestrian access to transit along arterials and collectors is available where security walls, noise barriers, or fences are proposed adjacent to residential development.

4.13.3 Thresholds of Significance

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains analysis guidelines related to noise and vibration impacts. These guidelines have been used as thresholds of significance for this analysis. A project would create a significant environmental impact if it would:

Threshold 4.13a: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

Threshold 4.13b: Generate excessive groundborne vibration or groundborne noise levels; and

Threshold 4.13c: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

Criteria Not Applicable to the Proposed Project

According to the Tulare County Comprehensive Airport Land Use Plan (County of Tulare 2012) the Project site is located immediately east (outside) of the Airport Influence Area for Tulare Municipal Airport (Medford Field). Medford Field is located approximately 3 miles to the southwest of the Project site, the 55 dBA CNEL contour associated with the airport extends no closer than approximately 2.75 miles from the Project site. Given the Project is not located within the airport influence zone of the closest airport, and in that even the 55 dBA CNEL contour for that airport does not extend to the Project vicinity, future residents would not be exposed to elevated noise levels from aircraft operations. Airport noise impacts are not addressed further in the analysis.

In light of these above significance criteria, this analysis uses the following standards to evaluate potential noise and vibration impacts.

- Construction noise – The City of Tulare General Plan and municipal code address construction noise. Erection and demolition of buildings is exempt between 6:00 a.m. and 10:00 p.m. Monday through Saturday. Neither the General Plan nor Municipal Code does set noise limits on construction activities. Through adherence to the limitation of allowable construction times provided in the City of Tulare General Plan and Municipal Code, the construction-related noise levels would not exceed local standards. However, the FTA recommends a guideline noise limit of 80 dBA (8-hour Leq) for construction activities, therefore for information purposes this assessment will compare predicted construction noise against the FTA's 80 dBA 8-hour Leq threshold. The analysis assumes that the 8-hour period over which the FTA's 80 dBA Leq could apply would be within the exempt hours as allowed by the City of Tulare.
- Off-site project-attributed transportation noise – For purposes for this analysis, a direct roadway noise impact would be considered significant if increases in roadway traffic noise levels as a result of the proposed Project were greater than the FICON recommended criterion at an existing noise-sensitive land use. In areas with ambient noise level less than 60 dBA CNEL, a traffic noise increase of greater than 5 dBA CNEL would be significant; for areas with ambient noise level between 60 - 65 dBA CNEL, a traffic noise increase of greater than 3 dBA CNEL would be significant; for areas with ambient noise level greater than 65 dBA CNEL, a traffic noise increase of greater than 1.5 dBA CNEL would be significant.
- Off-site project-attributed stationary noise – For purposes for this analysis, a noise impact would be considered significant if noise from typical operation of heating, ventilation, and air conditioning and other electro-mechanical systems associated with future commercial development as a result of the proposed Project exceeded 60 dBA CNEL at any existing residential properties in the Project vicinity.
- Construction vibration – Guidance from Caltrans indicates that a vibration velocity level of 0.2 ips PPV received at a structure would be considered annoying by occupants within (Caltrans 2020b). As for the receiving structure itself, Caltrans and FTA set a vibration level of 0.3 ips PPV as the threshold for building damage risk to typical residential structures (Caltrans 2020b; FTA 2018)

For purposes of disclosure, since current CEQA noise criteria listed above do not consider it, this analysis also evaluates compatibility of on-site traffic noise exposure levels with the City of Tulare residential exterior and interior noise standards of 60 dBA CNEL and 45 dBA CNEL, respectively.

4.13.4 Impacts Analysis

Threshold 4.13a Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the County General Plan or noise ordinance (City of Tulare Municipal Code, Title 6, Chapter 6.40), or applicable standards of other agencies?

Construction Noise

Construction noise and vibration are temporary phenomena. Construction noise and vibration levels vary from hour to hour and day to day, depending on the equipment in use, the operations performed, and the distance between the source and receptor.

Construction assumptions, including timing, phasing, and equipment type and quantity, as well as worker and vendor truck trips, were based on information provided by the applicant, along with default values from the California Emissions Estimator Model (CalEEMod) where necessary to address Project site-specific information that is not currently available. Equipment that could be in use during construction would include, in part, graders, backhoes, concrete saws, excavators, dump trucks, loaders, cranes, forklifts, cement mixers, pavers, rollers, welders, and air compressors. The typical maximum noise levels for various pieces of construction equipment at a distance of 50 feet are presented in Table 4.13-5. Usually, construction equipment operates in alternating cycles of full power and low power, producing average noise levels over time that are less than the listed maximum noise level. The average sound level of construction activity also depends on the amount of time that the equipment operates and the intensity of construction activities during that time.

Table 4.13-5. Selected Powered Equipment Noise Emission Levels from RCNM

Equipment	Maximum Sound Level (dBA L_{max}) – 50 feet from Source
Air Compressor	78
Backhoe	80
Blasting (Gunshot)	94
Chain Saw	84
Compressor	78
Concrete mixer	85
Concrete Saw	90
Crane	81
Dozer	82
Dump Truck	76
Excavator	81
Forklift (Gradall)	83
Generator	72
Grader	85
Paver	77
Pick-up Truck	55
Roller	80
Saw	76
Scraper	84

Table 4.13-5. Selected Powered Equipment Noise Emission Levels from RCNM

Equipment	Maximum Sound Level (dBA L_{max}) – 50 feet from Source
Welder	73

Source: FHWA 2006a, 2006b.
Notes: dBA = decibel (A-weighted).

Aggregate noise emission from assumed construction activities, broken down by sequential phase, was predicted for the two closest noise-sensitive receivers to the Project site at two distances: 1) from the nearest position of the construction site boundary and 2) from the geographic center of the given construction phase, which serves as the time-averaged location or geographic *acoustical centroid* of active construction equipment for the phase under study. The intent of the former distance is to help evaluate anticipated construction noise from a limited quantity of equipment or vehicle activity expected to be at the boundary for some period of time, which would be most appropriate for phases such as site preparation, grading, and paving. The latter distance is used in a manner similar to the general assessment technique as described in Federal Transit Administration (FTA) guidance for construction noise assessment (FTA 2018), when the location of individual equipment for a given construction phase is uncertain over some extent of (or the entirety of) the construction site area. Because of this uncertainty, all the equipment for a construction phase is assumed to operate—on average—from the acoustical centroid. Table 4.13-6 summarizes these two distances to the two closest noise-sensitive receptors for each of the construction phases. Residences east of the Project site are located immediately adjacent to the site boundary, and therefore represent the receivers with worst-case noise exposure during construction, The next closest residences are located to the north of the Project site, across Avenue 228. These two representative noise-sensitive receiver locations are addressed in Table 4.13-6.

Table 4.13-6. Estimated Distances between Construction Activities and the Nearest Noise-Sensitive Receptors

Construction Phase	Distance from Closest East Res.to Construction Phase Boundary (Feet)	Distance from Closest East Res.to Acoustical Centroid of Phase (Feet)	Distance from Closest North Res.to Construction Phase Boundary (Feet)	Distance from Closest North Res.to Acoustical Centroid of Phase (Feet)
Demolition	45	2472	330	2040
Site Preparation	45	2472	330	2040
Grading	45	2472	330	2040
Building Construction – Low Density Residential (SFR)	150	950	330	1165
Building Construction – Medium Density Residential (Townhome)	45	645	2165	2612
Building Construction – High Density Residential (Apartment)	1070	2035	2600	3162
Building Construction - Commercial	3950	4550	3175	3762
Architectural Finishes	45	2472	330	2040
Paving	45	2472	330	2040

Source: Appendix H.

A Microsoft Excel–based noise prediction model emulating and using reference data from the Federal Highway Administration Roadway Construction Noise Model (RCNM) (FHWA 2006b) was used to estimate construction noise

levels at the nearest residences identified in Table 4.13-6. (Although the RCNM was funded and promulgated by the Federal Highway Administration, it is often used for non-roadway projects, because the same types of construction equipment used for roadway projects are often used for other types of construction.) Input variables for the predictive modeling consist of the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of time within a specific time period, such as an hour, when the equipment is expected to operate at full power or capacity and thus make noise at a level comparable to what is presented in Table 4.13-5 Selected Powered Equipment Noise Emission Levels from RCNM), and the distance from the noise-sensitive receiver. The predictive model also considers how many hours that equipment may be on site and operating (or idling) within an established work shift. Conservatively, no topographical or structural shielding was assumed in the modeling. The RCNM has default duty-cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty-cycle values were used for this noise analysis and produce the predicted results displayed in Table 4.13-6. With respect to the FTA recommended 8-hour average noise level limit, this analysis assumes that the equipment may be operating up to all of 8 hours per day (i.e., comparable to a typical on-site work shift).

One additional aspect of the envisioned construction approach for the entire Project site is important to consider. The construction noise analysis assumes that demolition, site preparation and grading would occur in distinct sequential phases, and would each involve the entire Project site; No overlap is assumed between these phases. With respect to building construction, work could occur simultaneously within any or all of the different land use/development zones (i.e., single-family, townhome, apartment, commercial). Therefore, while the construction noise analysis evaluates the noise levels from each distinct phase at the nearest residential receivers, it also quantifies the worst-case noise level resulting from simultaneous construction activity within all of the building type zones. The construction noise level summary is presented in Table 4.13-7.

Table 4.13-7. Predicted Construction Noise Levels per Construction Phase

Construction Phase	8-Hour L_{eq} at Closest East Res.to Construction Phase Boundary (dBA)	8-Hour L_{eq} at Closest East Res.to Acoustical Centroid of Phase (dBA)	8-Hour L_{eq} at Closest North Res.to Construction Phase Boundary (dBA)	8-Hour L_{eq} at Closest North Res.to Acoustical Centroid of Phase (dBA
Demolition	**88**	53	70	55
Site Preparation	**86**	51	68	52
Grading	**88**	54	71	55
Building Construction – Low Density Residential (SFR)	79	63	72	61
Building Construction – Medium Density Residential (Townhome)	**86**	63	53	51
Building Construction – High Density Residential (Apartment)	59	53	51	49
Building Construction - Commercial	48	46	49	48
Composite Noise Level All Building Construction Phases Combined	**87**	66	72	62
Architectural Finishes	45	43	61	45
Paving	45	47	65	49

Source: Appendix H.
Notes: L_{eq} = equivalent noise level; dBA = A-weighted decibels.

As presented in Table 4.13-7, the estimated construction noise levels at the closest residences to the east are predicted to be greater than 80 dBA L_{eq} even averaged over an 8-hour period, when activities take place along the closest boundary of the construction zone for demolition, site preparation, grading, and medium density residential building construction. In addition, with the potential for simultaneous building construction across multiple building types, the construction noise level from combined building activities at the closes construction zone boundaries would exceed 80 dBA $L_{eq\ 8\text{-}hr}$ at the closest residences to the east. Note that these estimated noise levels at a source-to-receiver distance of 45 feet occur when identified pieces of heavy equipment would each operate for a cumulative period of 8 hours a day. Since construction noise at the closest off-site noise-sensitive receiver would exceed the FTA recommended daytime threshold, **construction noise impacts could be potentially significant**, thereby requiring mitigation. Refer to the mitigation section below.

With respect to construction noise exposure for the closest residences to the north of the Project, Table 4.13-7 indicates that noise would reach levels no greater than 72 dBA $L_{eq\ 8\text{-}hr}$ for equipment operating along the closest edge of the construction zone for each phase, and for the worst-case with simultaneous building construction across multiple building types. Consequently, construction noise levels at existing residences north of the Project site, as well as west and southwest of the Project site, would be **less than significant.**

Finally, Table 4.13-7 provides the results of the construction noise analysis based upon the distance from the acoustical centroid to the closest existing residences east and north of the Project site. This scenario is meant to address construction activities distributed across the site, rather than those occurring along the closest site boundary to the sensitive receptor. The values based on the acoustical centroid are considered to be more representative of average construction noise exposure levels at adjacent properties across the entire construction period. As indicated in Table 4.13-7, the analysis performed on the basis of the acoustic centroid for construction concluded that noise levels would range from 43 to 66 dBA $L_{eq\ 8\text{-}hr}$ for the closest residences east and from 45 to 62 dBA $L_{eq\ 8\text{-}hr}$ for the closest residences to the north. Consequently, with typical construction activities distributed across the site (rather than along the closest boundaries to adjacent residences), overall construction noise levels at adjacent residences would generally not be expected to reach annoyance levels.

Compared to measurements of the daytime outdoor ambient sound level at representative sample locations as shown in Table 4.13-3, predicted construction noise levels at the existing residences east of the Project site ranging from 86-88 dBA $L_{eq\ 8\text{-}hr}$ for construction along the closest construction zone boundaries as appearing in Table 4.13-6 are considerably higher and would be clearly perceptible to an average listener having healthy human hearing. Likewise, when construction is occurring along the closest boundary of each construction phase to the adjacent northern residences, with construction noise levels ranging up to 68 to 72 dBA $L_{eq\ 8\text{-}hr}$ the construction noise would also be clearly audible above ambient noise levels as reported in Table 4.13-3. However, using the acoustic centroid evaluation method, which should be more representative of the overall construction levels experienced by a given off-site receiver over the course of the entire Project construction, the average construction noise levels would in most cases be very similar to ambient noise levels, and therefore not as noticeable or annoying, In addition, because it is anticipated that construction activities associated with future development as a result of the proposed Project would take place within the hours of 6:00 a.m. and 10:00 p.m. Monday through Saturday, the noise-producing activity would thus be in compliance with the City's Municipal Code with respect to allowable hours and construction (City of Tulare 1995).

Off-Site Traffic Noise

Dudek's transportation team evaluated Project-related traffic levels along roadways to which the Project would principally contribute vehicle trips, including East Bardsley Avenue and South Oakmore Street (Transportation Impact

Analysis for Chandler Grove Master Plan, Dudek, January 2023). Project-related traffic noise levels were examined along these same roadways using the results of the traffic analysis. Acoustical calculations using standard noise modeling equations adapted from the FHWA noise prediction model were performed for the following scenarios: Existing, Existing Plus Project, Opening Year (2032), Opening Year Plus Project, Future Buildout Year (2040), and Future Buildout Year Plus Project.

The modeling calculations take into account the posted vehicle speed, average daily traffic volumes for each scenario, and the estimated vehicle mix (i.e., automobiles, medium and heavy trucks). The model assumed hard-site propagation conditions (worst-case, which accounts for pavement or hard-packed dirt adjacent to roadway travel lanes). Noise levels were modeled at a distance representing the closest existing residences to the roadway centerline. Noise levels at greater distances from the roadway centerline would be lower due to attenuation provided by increased distance from the noise source. Generally, noise from heavily traveled roadways would experience a decrease of approximately 3 dBA for every doubling of distance from the roadway. The noise model does not take into account the sound-attenuating effect of intervening structures, barriers, vegetation, or topography. Therefore, the noise levels predicted by the model are conservative with respect to traffic noise exposure levels along these roadways. Table 4.13-8 presents the results of the traffic noise modeling; detailed information is provided in Appendix H.

Table 4.13-8. Project Related Off-site Traffic Noise Levels (dBA CNEL)

Roadway	Significance Thresh-hold	Existing	Existing + Project	Change	Year 2032	Year 2032 + Project	Change	Year 2040	Year 2040 + Project	Change
Oakmore Street Bardsley to Avenue 228	> 5	54.9	61.7	**+ 6.8**	58.4	62.7	+ 4.3	58.3	62.7	+ 4.4
Oakmore Street Avenue 228 to Tulare Street	> 5	55.6	62.6	**+ 7.0**	59.2	64.2	+ 5.0	59.5	64.3	+ 4.8
Bardsley Avenue East of Morrison Street	> 3	64.7	68.7	**+ 4.0**	67.3	69.9	+ 2.6	67.3	69.9	+ 2.6
Bardsley Avenue West of Morrison Street	> 3	64.5	66.8	+ 2.3	65.8	67.6	+ 1.8	65.6	67.5	+ 1.9

Source: Appendix H.
Notes: dBA = A-weighted decibels; CNEL = community noise equivalent level.

Based on the FICON significance thresholds (indicated in Column 2 of the table) for Project-added traffic noise, the **bolded** Project traffic noise increases in Table 4.13-8 represent a theoretical significant traffic noise impact**.** The impact is theoretical because the comparison of existing traffic noise levels to existing traffic noise levels with the Project is normally provided only for full disclosure purposes, but typically does not reasonably represent direct Project impacts because of the time lapse for construction of a substantial amount of the Project development to occur that would introduce new traffic to area roadways. However, under the opening year (2032) and future build-out (2040) scenarios the Project would not result in traffic noise level increases greater than FICON significance thresholds. Consequently, traffic noise impacts of the Project would be **less than significant.**

Exterior Noise Exposure for Future Project Occupants

CEQA does not require the evaluation of the noise environment on proposed noise-sensitive uses. The following discussion is therefore provided for informational purposes, and to assist the City in determining if the proposal would be consistent with noise element polices (City of Tulare 2013b). The traffic noise modeling in the preceding section was completed using a setback distance from each roadway that represents the setback for the closest existing residences from those roadways. To determine worst-case traffic noise exposure for future Project residents, traffic noise modeling was performed at the setback distance for proposed residential uses within the Project. The future buildout year (2040) with Project traffic contributions was used for this analysis, to address the worst-case traffic along the roadways adjacent to the Project. Table 4.13-9 presents the modeled traffic noise exposure for future residential uses of the Project.

Table 4.13-9. Roadway Traffic Noise Exposure Levels at Project Residences

For Building Facades Facing	Year 2040 With Project Traffic Noise Exposure Level (dBA CNEL)
South Oakmore Street.	56
East Bardsley Avenue.	67

Source: Appendix H.
Notes: dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level; dB = decibel.

The predicted exterior sound level along South Oakmore Street is calculated at the fence-line of the rear yards adjacent to South Oakmore Street (the residences would be at greater distances, with a lower traffic noise exposure level). According to the data in Table 4.13-9, traffic noise exposure for lots along South Oakmore Street would fall within the recommended maximum of 60 dBA CNEL for residences. These lots would therefore not be exposed to elevated traffic noise levels, and no noise control measures would be required. With similar setback distances to the rear yard lot line for residences along Avenue 228, future traffic noise exposure levels for residential lots along Avenue 228 would also be anticipated to experience traffic noise exposure levels that fall below the 60 dBA CNEL recommended maximum. No special construction techniques or materials would be required for residences on lots fronting South Oakmore Street or Avenue 228 in order to achieve compliance with the State interior criterion of 45 dBA CNEL maximum.

Exterior sound levels presented in Table 4.13-9 that are higher than 65 dBA CNEL indicate potential locations where an exterior-to-interior noise analysis should be performed for residences that include an exterior wall on the indicated building façade. As can be seen from Table 4.13-9, such analyses should be performed for residences in the first (closest) row to East Bardsley Avenue.

Based on the Year 2040 with Project results of the above traffic noise analysis, the first row of structures adjacent to East Bardsley Avenue could have traffic noise levels at the façade facing East Bardsley Avenue. of approximately

67 dBA CNEL. The California Department of Health Services guidelines consider an exterior noise exposure of 60 to 70 dBA CNEL for high density residences to be "conditionally acceptable" while CCR Title 24 requires that an interior noise analysis be performed where exterior noise exposure would exceed 60 dBA CNEL. CCR Title 24 also requires that interior noise levels due to exterior noise sources not exceed 45 dBA CNEL for multi-family residences. An interior noise analysis is not currently required under CEQA, but a preliminary discussion for informational purposes is provided below.

No exterior wall assembly has been provided yet, but it is assumed the exterior wall for the Project structures will be of standard construction and consist of 3-coat stucco or exterior paneling over sheathing, on wood studs with a single layer of gypsum board on the interior and batt insulation in the cavity. This assembly has an attenuation capacity of typically 40-45 (identified by a Sound Transmission Classification [STC] rating), which means the exterior solid wall could reduce exterior noise levels by at least 40 dBA in interior spaces. However, windows and doors are not as effective in reducing noise levels from exterior to interior spaces. Therefore, for residences in the first row of structures adjacent to East Bardsley Avenue., to achieve the interior criterion of 45 dBA CNEL, exterior doors and windows located on the building façade facing Bardsley Avenue should have a minimum STC rating of 33.

On-Site Stationary Noise (Commercial)

The Neighborhood Commercial Center component of the Project would have the greatest potential for noise generation associated with stationary noise sources, most notably heating, ventilation and air conditioning (HVAC) equipment for climate control within the larger commercial structures. This component is also located at the southern and western property boundary, with the shortest distance to adjacent property boundaries. The frontage of the Neighborhood Commercial Center is approximately 975 feet along East Bardsley Avenue and 850 feet along South Oakmore Street. With the potential for several rows of buildings to occupy the commercial center, analysis of stationary noise sources can be limited to the building row immediately along the street frontages (because the building closest to the street would act as a barrier for noise from interior buildings). Based on the scale of the apartment buildings within the high density residential adjacent to the east side of this component, the assumption is made that up to three commercial buildings with a total of 30,000 SF could be in the first situated along Bardsley Avenue. The first building row along South Oakmore Street is assumed to be composed of no more than two buildings, with combined total of approximately 20,000 SF.

Rooftop HVAC mechanical equipment noise was modelled as a set of point sources located on the rooftops of the. first row of buildings along East Bardsley Street and South Oakmore Street. The equipment used for sound level reference is the York Series ZE-060 package HVAC unit, 5-ton capacity. The York ZE-060 has a sound power level of 82 dBA Lw. It was assumed that one 5-ton HVAC unit would be required for each 5,000 SF of building floor area. Based on the assumptions described above, up to six HVAC units could be installed on the roof-top of the first row of buildings fronting East Bardsley Avenue; up to four units could be on the rooftops of the first row of buildings along South Oakmore Street. The combined sound level for six units would be 82 dBA L_{eq} at 1 meter (3.28 feet); the combined sound level for four units would be 80 dBA L_{eq} at 1 meter.

Using a building setback from East Bardsley Avenue for commercial center buildings not closer than the depicted adjacent apartment buildings, the distance to the property line across East Bardsley Avenue is approximately 140 feet. At a minimum separation distance of 140 feet, the sound pressure level of the six HVAC units for the building row along East Bardsley Avenue would be reduced to 49 dBA L_{eq}. This expected mechanical equipment noise level would be below the daytime ambient noise level of 64 dBA L_{eq} along East Bardsley Avenue. In addition, the land across East Bardsley is currently used for agriculture, which is not considered a noise-sensitive receiver. However, the predicted sound level of 49 dBA L_{eq} would equate to 56 dBA CNEL (assuming equipment is operated

continuously 24 hours per day). HVAC sound levels across East Bardsley Avenue would therefore also fall below the recommended maximum exterior noise level of 60 dBA CNEL for residences.

Using a building setback from South Oakmore Street for commercial center buildings not closer than the depicted setback from East Bardsley Avenue for apartment buildings, the distance to the property line across South Oakmore Avenue is approximately 180 feet. At a minimum separation distance of 180 feet, the sound pressure level of the four HVAC units for the building row along South Oakmore Street would be reduced to 45 dBA L_{eq}. This expected mechanical equipment noise level would be below the daytime ambient noise level of 58 dBA L_{eq} along South Oakmore Street. The land across East Oakmore Street is developed with a high school; classrooms are sometimes considered a noise-sensitive use, with a recommended exterior noise exposure the same as for residences (60 dBA CNEL). The predicted sound level of 45 dBA L_{eq} would equate to 52 dBA CNEL (assuming equipment is operated continuously 24 hours per day). HVAC sound levels across South Oakmore Street would therefore also fall below the recommended maximum exterior noise level of 60 dBA CNEL for residences (which is sometime applied to classrooms). Therefore, impacts from on-site stationary mechanical equipment noise are **less than significant**.

Threshold 4.13b Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Vibration Generation

Construction Vibration

California Department of Transportation (Caltrans) has been assembling data for vibration levels generated by heavy construction equipment operation during the building of transportation projects for many years. The vibration levels from use of such equipment are representative for other types of construction efforts, not just transportation projects, and are therefore widely employed to assess vibration levels from heavy equipment use for any effort. According to Caltrans (2020b) the most important equipment relative to generation of vibration, and the vibration levels produced by such equipment, is illustrated in Table 4.13-10.

Table 4.13-10. Vibration Velocities for Typical Construction Equipment

Equipment	PPV at 25 Feet (Inches Per Second)
Vibratory Roller	0.210
Large Bulldozer	0.089
Loaded Trucks	0.076
Drill Rig / Auger	0.089
Jackhammer	0.035
Small Bulldozer	0.003

Source: Caltrans 2020b.

Caltrans uses a threshold of 0.2 ips PPV for annoyance to persons to address construction, or 0.24 ips PPV for long-term vibration sources. Since it is more stringent, the construction threshold of 0.2 ips PPV for human annoyance is used in this analysis. For residential structures employing concrete foundation and wood frame construction, Caltrans and FTA identify a conservative damage threshold vibration level standard of 0.3 ips PPV (Caltrans 2020b; FTA 2018). Using the human annoyance threshold of 0.2 ips PPV in the analysis also conservatively avoids potential for damage to existing residential structures in the vicinity of the Project site.

Vibration levels at 25 feet from various construction equipment is reported in Table 4.13-10. In order to determine the vibration levels at distances other than 25 feet, the following formula is used.

Peak particle velocity at distance (d) = peak particle velocity(d_{ref}) * (d_{ref}/d)1.5

In the above equation, "d" is the distance between the receiver and a vibration source, "d_{ref}" is the reference distance that applies for the indicated vibration magnitude. The calculated distance to a vibration level of 0.20 ips PPV represents the radius from each equipment type within which potentially significant vibration impacts from Project construction could occur. Table 4.13-11 presents the results of applying the above equation to the equipment in Table 4.13-10.

Table 4.13-11. Distance Radius From Construction Equipment to Vibration Level of 0.2 ips PPV

Equipment	Distance From Equipment Where Vibration Level is Reduced to 0.2 in/sec PPV (Feet)
Vibratory Roller	26
Large Bulldozer	15
Loaded Trucks	13
Drill Rig / Auger	15
Jackhammer	11
Small Bulldozer	3

Source: Caltrans 2020b.

As illustrated in Table 4.13-11, ground borne vibration levels for the most common heavy construction equipment would attenuate to less than 0.2 in/sec PPV within 26 feet from the equipment. The closest existing residences to the boundaries of the Project site are no closer than 45 feet. Therefore, construction vibration impacts of the Project would be **less than significant.**

Operational Vibration

Vibration impacts associated with industrial and commercial facility operations are limited to large scale equipment with rotational components or involving repeated impact or "striking" movements (e.g., industrial grade compressors, stamping machines, printing presses), or with the maneuvering of heavy trucks or similar large-scale materials-transport equipment. The ongoing operation of the proposed Chandler Grove Annexation Project would not involve rotational equipment, impact equipment, with truck activities limited to medium weight trucks for supply deliveries to the commercial component of the Project. Consequently, long-term operation of the Project would not be anticipated to generated perceptible vibration levels; operational vibration levels are therefore **less than significant**.

4.13.5 Mitigation Measures

Results of construction noise modeling indicate that the FTA recommended noise limit of 80 dBA L_{eq} averaged over an 8-hour period would be exceeded at the closest noise-sensitive receptor to the east of the Project site (residences), thereby resulting in a potentially significant short-term noise impact at these receptors. The following mitigation measure is therefore required to address this impact.

MM-NOI-1 A temporary noise barrier of a minimum 12-foot height (as measured from the ground surface) shall be erected along any portions of the east boundary of the Project site for construction activities that would take place within 300 feet of a given section of this boundary, and maintained in place for the duration of construction activities taking place within 300 feet of a given portion of the boundary.

The above mitigation would reduce construction noise exposure levels at the residences to be compliant with the construction noise limit of 80 dBA L_{eq} averaged over an 8-hour period thus resulting in a **residual impact level that is less than significant.**

4.13.6 Level of Significance After Mitigation

With adherence to the above mitigation, Project-related noise impacts would be reduced to less than significant.

Threshold a: The Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies with the incorporation of MM-NOI-1. Therefore, impacts would be **less than significant** with mitigation for construction impacts and **less than significant** for operations.

4.13.7 References

Caltrans. 2020a. Technical Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects. California Department of Transportation Division of Environmental Analysis. April 2020.

Caltrans. 2020b. Transportation- and Construction Vibration Guidance Manual. California Department of Transportation Division of Environmental Analysis. April 2020.

City of Tulare. 1995. City of Tulare Municipal Code. Chapter 6.40: Noise

City of Tulare. 2013a. 2035 Tulare General Plan. Tulare Transit-Oriented Development Plan. Accessed November 2022. https://www.tulare.ca.gov/home/showpublisheddocument/731/635713493595600000

City of Tulare. 2013b. City of Tulare General Plan Noise Element (Chapter 7).

City of Tulare. 2014. City of Tulare 2035 General Plan. The Planning Center, DC&E. October 7, 2014.

County of Tulare. 2012. 2030 Update Tulare County General Plan. http://generalplan.co.tulare.ca.us/.

EPA (U.S. Environmental Protection Agency). 1974. Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety. Report No. 550/9-74-004. Washington, DC.

FHWA (Federal Highway Administration). 2006a. Construction Noise Handbook. August 2006.

FHWA. 2006b. Roadway Construction Noise Model, Version 1.1. February 2006. https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/.

FICON (Federal Interagency Committee On Noise). 1992. Review of Selected Airport Noise Analysis Issues, Washington, DC. August 1992.

FTA (Federal Transit Administration). 2018. Transit Noise and Vibration Impact Assessment Manual. September 2018.

OPR (Governor's Office of Planning and Research). 2003. General Plan Guidelines. October 2003.

Transportation Research Board, National Research Council. 1971. Highway Noise: A Design Guide for Highway Engineers (1971), National Cooperative Highway Research Program Report 117.

INTENTIONALLY LEFT BLANK



SOURCE: NAIP 2020

DUDEK

0 250 500 Feet

FIGURE 4.13-1

Ambient Sound Measurements and Modeled Receivers Locations

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK

4.14 Population and Housing

This section describes the existing population and housing conditions within the Chandler Grove Master Plan and Annexation Project (Project or proposed Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This section assesses potential effects on population and housing that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

In addition to the documents incorporated by reference (see Section 2.7 of Chapter 2 of this EIR), the following analysis is based, in part, on information from the California Department of Finance (DOF), the California Department of Housing and Community Development (HCD), the U.S. Census Bureau, the Tulare County Association of Governments (TCAG), and other sources.

No comments were received related to Population and Housing during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.14.1 Existing Conditions

Statewide Setting

Population

With 39.9 million residents as of July 2021, California is the most populous state in the United States (DOF 2021). Between the years 2010 and 2020, California's population grew by approximately 6.46% (DOF 2021). California is estimated to grow at a rate of approximately 200,000 to 400,000 persons annually as a result of strong migration from other states and nations, high birth rates among segments of California's population, and longer life spans resulting from the advances of research and medicine. The strong growth rate is expected to continue to increase over the next several decades, although at a slower rate than in previous years. The population of California is expected to increase approximately 5.2% between 2022 and 2032, from 40.1 million to 42.2 million (DOF 2021). Based on DOF projections, the state population is anticipated to reach 44.2 million people in 2060 (DOF 2021).

Employment

According to the California Employment Development Department (EDD), California's civilian labor force totaled 19,364,000 as of June 2022. Of those people, 18,544,500 are employed and 819,500 are unemployed (EDD 2022a). The statewide unemployment rate was 4.2% as of June 2022, which is the same as the 4.2% nationwide (BLS 2022). Compared to the other states, California holds the forty first position for highest unemployment rate in the nation (BLS 2022). Approximately 18.7 million job openings are forecasted to be available in the state by 2022. No future unemployment projection is available; however, population growth is expected to outpace job growth in the state.

Housing

The DOF estimates that, as of April 1, 2022, there were approximately 153,389 housing units in Tulare County. Of these, approximately 43,307 existing housing units are located in the unincorporated area of the County. Approximately 78.4% of these homes are single-family residences, 14.7% are multifamily residences, and 6.84% are mobile homes (DOF 2022a).

Approximately 1.8 million new housing units need to be constructed between 2015 and 2025 in order to meet projected statewide population and household growth; this equates to 180,000 new homes annually. However, between 2006 and 2015, the state averaged less than 80,000 new homes annually (California Department of Housing and Community Development 2018).

Regional Setting

Tulare County

The Project site is located within an unincorporated area of the County and if the Project is approved it would be annexed into the City. Therefore, this section presents population, housing, and employment data at the regional level for the entire County, the unincorporated portions of the County, and the incorporated cities within the County. Unless otherwise noted, the information in this section is based on the Tulare County Housing Element 2015 Update (County of Tulare 2015).

Population

According to DOF population estimates, the population of Tulare County was 475,014 as of January 2022 (DOF 2022b). Between 2010 and 2020, the County witnessed an exponential growth of 8.6%. (DOF 2021). Most of the recent growth occurred in the incorporated cities of the County: between 2021 and 2022, the population in the incorporated cities grew approximately 0.2%, while the population in the unincorporated County decreased by 0.1% (DOF 2022b). The projected growth rate for the County between 2020 and 2060 is an average of approximately 23% as shown in Table 4.14-1, below.

Table 4.14-1. 2030 Total County Population Forecast for Tulare County

County Area	Existing Population 2020	Projected Population 2023	Projected Population 2060	2020-2060 Change	
				Number of Persons	Growth Rate (%)
Tulare County Total	480,788	488,748	591,539	110,751	23%

Source: DOF 2021.

Table 4.14-2 shows population projections countywide from 2010 through 2060.The total population countywide is expected to increase to 779,772 by 2060, an increase of 336,285 over 50 years. TCAG also projects that the City's population will grow from 59,278in 2010 to 97,097 in 2040. This represents an average annual growth rate of 1.7% (County of Tulare 2015).

Table 4.14-2 Population Projections (Tulare County 2010-2060)

Year	Population	Percent Change	Average Annual Growth Rate
2010	443,487	—	—
2015	467,170	5.3	1.0
2020	498,559	6.7	1.3
2025	537,015	7.7	1.5
2030	578,858	7.8	1.5
2035	616,547	6.5	1.3
2040	650,819	5.6	1.1
2045	683,533	5.0	1.0
2050	715,722	4.7	0.9
2055	747,912	4.5	0.9
2060	336,285	4.3	0.8
Change/Average	336,285	5.8	1.1

Source: City of Tulare 2016.

Employment

According to the California EDD June 2022 California Labor Force Report, the civilian labor force in the County totaled approximately 207,200 (EDD 2022a). Tulare County has one of the highest rates of unemployment in California and the nation, due in large part to the seasonal nature of agricultural employment. According to the California EDD, the total unemployment rate for the County as of June 2022 is 7.3%. This unemployment rate is higher than both the state (5.7%) and national (5.9%) averages. Compared to the County's unemployment rate of 19.1.% in January 2010, the unemployment rate in Tulare County decreased by 11.3% (EDD 2022b).

While agricultural employment is expected to decrease as a percentage of total employment, growth within the agriculture and services industries is expected to continue in future years. The County has made efforts to promote jobs in other industries including recreation and tourism, computer products and software, electronics, apparel, insurance, agricultural equipment, food processing, transportation and logistics (warehousing, transportation, and call centers), and commercial retail establishments (County of Tulare 2015).

Housing

According to the 2014 Regional Housing Needs Assessment (RHNA) prepared by TCAG, the County is projected to need a total of 168,606 housing units by 2023 (TCAG 2014). This represents an 18.9% increase in housing units than in 2014. The need for housing is higher in the incorporated cities (20.4% growth rate) and lower in the unincorporated area (15.9% growth rate). Specific to incorporated areas, the RHNA recommends that the County provide land use and zoning to accommodate 19,829 housing units by 2023, which averages 2,203 new units per year in the incorporated County between 2014 and 2023. Table 4.14-3, 2023 County Housing Needs Forecast, identifies the projected housing needs in the County by 2023 (County of Tulare 2014).

Table 4.14-3. 2023 County Housing Needs Forecast

Area of County	Existing Housing Units (2014)	Projected Needed Housing Units (2023)	2014–2023 Change	
			Number of Units	Growth Rate (%)
Incorporated Cities	97,248	117,077	19,829	20.4
Unincorporated Area	44,448	51,529	7,081	15.9
Tulare County Total	**141,696**	**168,606**	**26,910**	**18.9**

Sources: Tulare County 2015; TCAG 2014.

Local Setting

City of Tulare

This section presents population, housing, and employment data at the local level for the City. The Project site includes an orchard along with three occupied residences and associated outbuildings.

Population

The City of Tulare is a moderately-sized, agriculture-based community located along State Route 99 at the southern end of the San Joaquin Valley. Table 4.14-4 shows population growth from 2010 to 2020 for the City. The City grew by approximately 9,600 people from 2010 to 2020. The City experienced growth rate of 2.7% from 2010 to 2020.

Table 4.14-4. City of Tulare Population

City	2010	2020	Growth Rate from 2010 to 2020
Tulare	59,278	68,875	2.7%

Source: United States Census Bureau 2022.

Employment

Table 4.14-5 identifies the number of residents in the civilian labor force. Of the 26,822 residents in the City who fall within this category 23,411 (87%) are employed, which is generally consistent with employment rates in the nearby Cities of Hanford (83%), Visalia (88%), and Porterville (86%). Some of the major employers in the City, including the Land O' Lakes, Saputo Cheese USA, Inc, and Haagen Dazs, which represent 2.46%, 3.92%, and 1.62% of the City's total employment, respectively (City of Tulare 2015).

TCAG projects that the City's employment will grow from 19,103 in 2010 to 28,133 in 2040, an average annual increase of 1.3%.

Table 4.14-5. Employment (Cities of Tulare, Porterville, Hanford, Visalia, and Tulare County)

City	Civilian Labor Force	Employed	Percent Employed
City of Tulare	26,822	23,411	87
Hanford	25,408	21,127	83
Visalia	60,861	53,441	88

Table 4.14-5. Employment (Cities of Tulare, Porterville, Hanford, Visalia, and Tulare County)

City	Civilian Labor Force	Employed	Percent Employed
Porterville	22,536	19,387	86
Tulare County	190,836	165,958	87

Source: City of Tulare 2016.

Housing

The U.S. Census defines a household as persons occupying a housing unit for their residence. Similar to population, there has been steady growth in the number of households citywide. The number of households in Tulare grew, on average, by 2.2% per year from 1990 to 2000 and 2.7% per year from 2000 to 2010. As of 2014, the City had 19,380 households, a net increase of 8,521 during this 24-year period (Table 4.14-6).

Table 4.14-6. Household Growth Trends (City of Tulare 1990-2014)

Year	Number	Percent Change	Average Annual Growth Rate (percent)
1990	10,859	n/a	--
2000	13,543	2,684	2.2
2010	17,720	4,177	2.7
2014	19,380	1,660	2.3

Source: City of Tulare 2016.

4.14.2 Relevant Regulations, Plans, Policies, and Ordinances

Federal

There are no federal regulations that are applicable to the proposed Project.

State

California Planning and Zoning Law

The legal framework in which California cities and counties exercise local planning and land use functions is provided in the California Planning and Zoning Law (Sections 65000 through 66499.58 of the California Government Code). Under state planning law, each city and county must adopt a comprehensive, long-term general plan. State law gives cities and counties wide latitude in how a jurisdiction may create a general plan, but there are fundamental requirements that must be met. These requirements include eight mandatory elements described in the Government Code. Each of the elements must contain text and descriptions setting forth objectives, principles, standards, policies, and plan proposals; diagrams and maps that incorporate data and analysis; and implementation measures.

State Housing Element Law

Pursuant to Section 65583 of the Government Code, the housing element of a general plan must contain local commitments to:

- Provide sites with appropriate zoning and development standards and with services and facilities to accommodate the jurisdiction's Regional Housing Needs Allocation for each income level;
- Assist in the development of adequate housing to meet the needs of lower and moderate income households;
- Address, and where appropriate and legally possible, remove governmental constraints to the maintenance, improvement, and development of housing, including housing for all income levels and housing for persons with disabilities;
- Conserve and improve the condition of the existing affordable housing stock;
- Promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status, or disability; and
- Preserve assisted housing developments for lower income households.

State housing element law mandates specific topics and issues that must be addressed in the housing element. These include:

- An analysis of population and employment trends, documentation of projections, and quantification of existing and projected housing needs for all income levels;
- An analysis and documentation of household characteristics, such as the age of housing stock, tenancy type, overcrowded conditions, and the level of payment compared to ability to pay;
- An analysis and documentation of special needs, such as female-headed households, homeless individuals, persons with disabilities, large households, farmworkers, and the elderly;
- A regional share of the total regional housing need for all income categories;
- An inventory of land suitable for residential development, including vacant land and infill/redevelopment opportunities; this analysis also looks at potential residential sites and their accessibility to adequate infrastructure and services;
- Identifying actual and potential governmental and non-governmental constraints that could potentially impede the maintenance, improvement, and development of housing for all income groups;
- Identifying and analyzing opportunities for energy conservation in residential developments;
- An inventory of at-risk affordable units that have the possibility of converting to market rate; and
- A statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the improvement, maintenance, and development of housing.

State law requires that adequate opportunity for participation be solicited from all economic segments of the community toward preparation of the housing element. Specifically, the jurisdiction must reach out to lower- and moderate-income persons as well as persons with special needs. Preparation of the housing element must also be coordinated with other local jurisdictions within the regional housing market area.

Regional and Local

2022 Tulare County Regional Transportation Plan/Sustainable Communities Strategy

The Regional Transportation Plan is a long-range plan that every Metropolitan Planning Organization is required to complete. The plan is meant to provide a long-range, fiscally constrained guide for the future of Tulare County's Transportation system. The long-range plan extends to the year 2046 in its scope. The plan accomplishes its goals by forecasting future growth, identifying regional priorities, and planning for infrastructure improvements. This plan is required to include four elements which include: the Policy Element (Chapter B), the Action Element (Chapter D), the Fiscal Element (Chapter E), and the Sustainable Communities Strategy (SCS; Chapter C) mandated by the state of California. Tulare County's 2022 RTP/SCS also includes chapters on goods movement, air quality conformity and valley-wide efforts.

2014 Tulare County Regional Housing Needs Assessment Plan

The RHNA is mandated by the State Housing Law as part of a periodic process of updating local housing elements in city and county general plans. The RHNA is produced by TCAG and contains a forecast of housing needs within each jurisdiction within the TCAG region. The current RHNA is for the fifth housing element cycle and covers a 9.75-year projection period. The RHNA provides an allocation of the existing and future housing needs by jurisdiction that represents the jurisdiction's fair share allocation of the projected regional population growth. The future housing needs allocations are broken down by income level so that each jurisdiction is responsible for the development of affordable housing units to meet future housing needs (TCAG 2014).

The Tulare County 2014-2023 RHNA Plan (TCAG 201a) determines housing needs in the County for the planning period from 2014 to 2023, and shows a need for 7,081 additional housing units within the TCAG region.

City of Tulare 2035 General Plan

The Housing Element is one of the seven required General Plan elements mandated by state law. State law requires that each jurisdiction's Housing Element consist of "identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, and scheduled program actions for the preservation, improvement and development of housing." The Housing Element must analyze and plan for housing for all segments of the community. The City's General Plan Housing Element covers the planning period from 2015 to 2023, consistent with the State-mandated update required for all jurisdictions within the TCAG region. The goals and policies in the Housing Element for population and housing applicable to the Project are provided below. The General Plan also contains additional goals and policies that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below, but as stated in Chapter 2, Introduction, all goals and policies in the City's General Plan are incorporated by reference.

An assessment of whether the proposed Project conforms with these goals and policies is provided in Section 4.11, Land Use and Planning, of this environmental impact report (EIR).

2014-2023 Housing Element

Goals:

A: New Housing Development. Provide opportunities for a broad range of housing types to meet the needs of all Tulare residents.

B: Affordable Housing. Protect existing sources of affordable housing and facilitate new affordable housing opportunities.

E: Fair Housing. Ensure equal opportunity to secure, safe, sanitary, and affordable housing for everyone in the community.

Policies:

A-1: The City shall ensure sufficient land is zoned at appropriate densities to accommodate the city's Regional Housing Needs Allocation (RHNA). (Program A, edited)

A-3: The City shall encourage home builders to develop multifamily designated land at the highest allowed density to make the use of land and facilities more efficient and to provide more affordable housing opportunities. (New Policy)

A-4: The City shall require that 8 to 12 percent of units in all Master Planned Communities be higher density residential. (Action Plan 4)

A-5: The City shall consider the potential impact on the City's ability to meet its share of the regional housing need when reviewing proposals to downzone residential properties, reclassify residentially-designated property to other uses, or develop a residential site with fewer units than what is assumed for the site in the Housing Element sites inventory. (New Policy)

A-6: The City shall strive to ensure adequate infrastructure and public services are provided to serve existing and planned residential development. (New Policy)

B-8: The City shall continue expeditiously processing residential projects that provide affordable housing, while meeting General Plan policy and City regulatory requirements. (New Policy)

D-1: The City shall encourage high density residential uses, such as senior housing, to be located near shopping, transit, and medical services in order to minimize auto use and encourage pedestrian travel and transit usage. (Action A, edited)

E-1: The City shall promote fair housing opportunities for all people regardless of age, religion, race, creed, sex, sexual orientation, marital status, ancestry, national origin, disability, economic level, and other arbitrary factors. (New Policy)

City of Tulare Municipal Code

The Land Use and Development Code, Title 10 of the Municipal Code, applies zoning districts to properties within the City of Tulare. The purpose of the zoning districts is to implement the land use designations established by the Draft General Plan. For each Draft General Plan land use designation, there is, at a minimum, one zoning district. Zoning establishes allowable density of development and population intensity.

Transit-Oriented Development (TOD) Plan

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development Plan (TOD Plan) for the City. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City of Tulare's General Plan documents (City of Tulare 2014). The specific population and housing-related policies and measures contained in the TOD Plan applicable to the Project are provided below.

4.14.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to population and housing are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to geology and soils would occur if the Project would:

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

4.14.4 Impacts Analysis

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

Less-than-Significant Impact. The Project is requesting to be annexed into the City. The Project site is within the City's Sphere of Influence and Urban Development Boundary and annexation of this area is anticipated under the City's 2035 General Plan (City of Tulare 2014). The Project proposes to construct a residential and mixed-use Project that would include 1,197 dwelling units which could support 4,178 residents based on the U.S. Census household size of 3.49 persons per household (United States Census Bureau 2021). This new population would not exceed the population projections for the City, which are based on planned development within the City's General Plan.

Based on the year 2021 and an estimated population in the City of 70,733 (United States Census Bureau 2021) and the County's General Plan population projections of approximately 498,559 residents up to 616,547 residents by 2035, the addition of up to 4,178 residents within the City as a result of the Project would not result in a substantial increase in unplanned population growth (County of Tulare 2012). Further, the Project would not indirectly encourage unplanned population growth because it would not construct any new roadways or offsite public service and utility infrastructure that could support additional development or contribute to unplanned development in the area.

The origin of potential new residents cannot be determined at this time; however, some of the estimated 4,104 new residents are anticipated to be current residents of the City, while others are anticipated to move to the Project site from areas outside the City. For some, the Project site would provide new first-time home buyer or rental

opportunities. The Project site would also provide an opportunity for "move-up" housing for existing homeowners inside and outside the City who are seeking to purchase a home that is newer, larger, and/or has more amenities than their current home.

As described above, the City has an unmet housing need, as does the rest of the state. The proposed Project would contribute to the City meeting its housing needs. However, the construction and operation of the proposed Project, to accommodate the increased population, would result in potentially significant impacts to the environment. These impacts are analyzed in Sections 4.1 through 4.19 of this EIR.

Indirect Population Growth

The Project site is located adjacent to S. Oakmore Street (Road 124) to the west. Avenue 228 to the north, and E. Bardsley Ave to the south. The Project would not require the extension of any existing roadways but would require construction of on-site roads as well as utilities and other infrastructure as well as fair-share contributions for intersection improvements in the vicinity of the Project site. More specifically, implementation of the proposed Project would include the construction of new water supply and wastewater infrastructure, internal roadways, telecommunication facilities, electrical utility infrastructure, and natural gas pipelines to service the Project site. The new infrastructure improvements would extend through and connect to the City's existing infrastructure near the Project site. The proposed infrastructure improvements would be sized to serve the Project itself and to serve future development of areas to the north of the Project site, should the area be developed in the future. Improvements may also be sized and located to serve existing residents to the west of the project site should the Tulare County LAFCO require annexation of the area in the future

The proposed Project would include perimeter improvements such as sidewalks, curbs, and gutters. In addition, as stated in MM-TRA-1, the Project would be required to pay fair share costs for intersection improvements in the vicinity of the Project site for queuing impacts directly related to Project implementation. These improvements would not be designed to extend services to non-Project-related undeveloped areas. Development of the proposed Project site is identified as a planned improvement in the City's Transit Oriented Development Plan. and therefore, would not induce or encourage substantial unplanned population growth within undeveloped areas in the adjacent County. Therefore, the potential direct and indirect effects of the Project on population growth are considered **less than significant**.

Threshold b: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Less-than-Significant Impact. The proposed Project involves development of a Master Plan to include 1,176 new residences. The three existing residences on the site that would be removed to accommodate the Project. These residences are currently occupied as part of the exiting agricultural activities onsite Therefore, the proposed Project would not displace substantial numbers of existing residents living on the site. Because only three residences would be removed it would not be considered to be a "substantial number". Therefore the proposed Project would not displace a substantial number of people or housing units and would add to the overall availably of housing within the City. Impacts would be **less than significant.**

4.14.5 Mitigation Measures

No mitigation measures are required.

4.14.6 Level of Significance After Mitigation

As detailed above, the potential impacts of the proposed Project were found to be less than significant with no mitigation required.

4.14.7 References

BLS (Unites States Bureau of Labor Statistics). 2022. Unemployment Rates for States. Last modified July 22, 2022. Accessed on August 4, 2022. ttps://www.bls.gov/web/laus/laumstrk.htm.

California Department of Housing and Community Development. 2018. "California's Housing Future: challenges and Opportunities. Final Statewide Housing Assessment 2025." February 2018. Accessed on August 4, 2022. https://www.hcd.ca.gov/policy-research/plans-reports/docs/sha_final_combined.pdf.

City of Tulare. 2014. City of Tulare 2035 General Plan. The Planning Center, DC&E. October 7, 2014.

City of Tulare. 2016. "City of Tulare Housing Element 2015-2023." https://www.tulare.ca.gov/home/showpublisheddocument/6238/636372019774700000.

County of Tulare. 2012. Tulare County General Plan 2030 Update. Adopted October 7, 2014. Accessed on August 9, 2022. ttps://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000.

County of Tulare. 2014. Final Regional Housing Needs Plan for Tulare County 2014-2023. Adopted June 30, 2014. Accessed on August 4, 2022. https://tularecog.org/tcag/planning/studies/regional-housing-needs-assessment-rhna/

County of Tulare. 2015. Tulare County Housing Element Updated 2015. August 2012, As Amended, November 17, 2015; GPA 15-003.

DOF (Department of Finance). 2021. "Report P-1A Total Population for California 2010-2060. Accessed August 4, 2022. https://dof.ca.gov/Forecasting/Demographics/projections/.

DOF. 2022a. "E-5 Population and housing Estimates for Cities, Counties, and the State January 2021-2022, with 2020 benchmark" Published May 2022. Accessed on August 4, 2022. https://dof.ca.gov/Forecasting/Demographics/Estimates/estimates-e5-2010-2021/.

DOF. 2022b. "E-1: Population Estimates for Cities, Counties, and the State – January 1, 2021 and 2022" Released May 2, 2022. Accessed August 4, 2022. https://dof.ca.gov/Forecasting/Demographics/estimates-e1/

EDD (Employment Development Department). 2022a. Civilian Unemployment Rate. California Seasonal Adjusted. Industry Employment and Labor Force – by month. Published July 22, 2022. Accessed August 4, 2022. https://view.officeapps.live.com/op/view.

EDD. 2022b. Tulare County (Visalia-Porterville MSA). "2010-current Industry Employment and Labor Force – by Month" Published July 22, 2022. Accessed on August 4, 2022. https://view.officeapps.live.com/op/

TCAG (Tulare County Association of Governments). 2014. Final Regional Housing Needs Plan for Tulare County 2014-2023. https://tularecog.org/tcag/planning/studies/regional-housing-needs-assessment-rhna/.

United States Census Bureau. 2021. Quickfacts. Tulare City, California; United States. https://www.census.gov/quickfacts/fact/table/tularecitycalifornia,US/HCN010217.

United States Census Bureau. 2022. Tulare City. California. Persons per Household 2016-2020. Accessed on August 4, 2022. https://www.census.gov/quickfacts/tularecitycalifornia.

4.15 Public Services

This section describes the potential adverse physical impacts associated with the provision or need for new or physically altered governmental (police and fire stations, library facilities) to meet acceptable response times, service ratios, or increase in usage of recreational facilities such that deterioration would occur from implementation of the Chandler Grove Master Plan and Annexation Project (proposed Project or Project). This section assesses potential effects on public services that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

No comments were received related to Public Services during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.15.1 Existing Conditions

Fire Protection and Emergency Services

Established in 1882, the Tulare Fire Department (TFD) provides fire, safety, and emergency medical services to the residents of the City of Tulare (City). TFD operates out of three stations: Station 61, located at 800 S. Blackstone; Station 62, located at 138 N. E Street; and Station 63, located at 2900 N. M Street. Of these, Station 61 is the closest to the Project site. Tulare County Fire Investigators participate in a mutual aid agreement throughout the state and its neighboring county of Kings to assist with fire investigations (Tulare County Fire 2022).

TFD consists of the Fire Administration and Fire Suppression Division. There is also a Fire Prevention Bureau that works within the Fire Administration. The primary responsibility of the TFD's fire suppression and first responder units are to respond to fire, emergency medical, rescue, and life safety emergencies within Tulare. Emergency Services provided by this Division is delivered through four in-service fire companies from three strategically located fire stations within the city. Three of the fire companies are staffed with three personnel (captain, engineer, and firefighter/paramedic) and one company cross staffs an engine and ladder truck with three personnel (captain, engineer, and firefighter/paramedic). A Division Chief is on duty each day to perform as an incident commander, supervise fire suppression activities, and provide personnel supervision (City of Tulare 2022a).

The TFD has a total of 40 sworn members and 1 Senior Administrative Assistant. Each fire station has one engine company with three personnel on duty each day. TFD also operates a ladder company with two personnel out of Station 61 each day. TFD provides a range of services which include Fire Suppression, Emergency Medical Services, Vehicle and Technical Rescue, Hazardous Materials Mitigation, Fire Prevention and inspection activities, Public Education, Fire Code Enforcement, Fire Causes and Investigation and other life safety services. (City of Tulare 2022a)

One of the TFD's highest priority is to maintain and improve their emergency response times to preserve property and lives. The department's goal is to arrive on scene of emergency incidents within a total response time of under

6 minutes 90% of the time. This response time goal is derived from the following factors, call processing time (1 minute goal), turn out to the emergency vehicle and wearing proper protective clothing (1-minute goal) and a 4-minute driving response time to the incident location. In calendar year 2021, TFD responded to 594 fire calls, 4,648 medical calls and 2,732 calls for various other reasons for a total of 7,974 calls for service. The TFD is also responsible for enforcing local fire ordinances, state, and federal laws, apprehending arsonists and assisting in their prosecution.

The TFD also has fire prevention and investigation programs operated by the Fire Prevention Bureau. The Fire Prevention Bureau conducts fire, and life safety inspections of existing buildings open to the public and performs plan review for safety compliance of all new structures. The Fire Investigation Team under this Bureau investigates all fires for origin and assists with the prosecution of intentionally set fires.

The TFD is responsible for enforcing local, state, and federal fire safety laws. The Prevention Bureau ensures compliance with these regulations through conducting annual fire & life safety inspections and performing plan reviews for new construction in the City.

Law Enforcement

There are 12 Police Departments in Tulare County, California, serving a population of 458,809 people in an area of 4,823 square miles. There is 1 Police Department per 38,234 people, and 1 Police Department per 401 square miles (CountyOffice.org 2022). Police services for the City of Tulare are provided by the Tulare Police Department (TPD) which is located at 260 South M Street, approximately 4 miles west of the Project site (City of Tulare 2022b).

TPD consists of three Divisions: Administrative, Patrol and Traffic. The office of the Chief of Police provides administrative direction to the department through determining departmental objectives and ensuring that police operations are coordinated toward the attainment of those directives. Through this, the Chief serves as a liaison to the City Council members and provides important services to them. The Administrative Department is further divided into special units that focus on communications, records, cops on campus/school resource officers and crime prevention.

The Patrol Division of the TPD is the largest of all the divisions within the Department. The Patrol Division is under the command of the Patrol Captain and is responsible for responding to all calls for service within the community. This task is accomplished by having a centralized location answering point for all 911 calls as well as all non-emergency police department calls. The division is comprised of four patrol shifts and each patrol shift is led by a Police Lieutenant as the Watch Commander. The Officers on patrol are supervised by the patrol Sergeant. Patrol Officers are responsible for initial investigation of all crimes that occur within the City of Tulare. Investigations that are too intensive or complex are turned over to the Division of Investigation to be continued by a Detective. This Division is further divided into specialty units that consist of: K-9 unit; Traffic Unit, S.W.A.T. and Code Enforcement.

The Traffic Division is comprised of one supervisor, three motor officers and is responsible for enforcing vehicle codes, as well as holding D.U.I. check points, seat belt check points and bicycle rodeos for juveniles as well as handling most accidents. The traffic officers' are supervised by the Police Corporal assigned to the Traffic Division and the overall Traffic Division is overseen by the on-duty Patrol Lieutenant (City of Tulare 2022b).

School Services

There are a total of 47 school districts that provide public education throughout Tulare County. Of the 47 school districts, 18 are unified districts providing educational services for kindergarten (K) through 12th grade. The remaining 40 districts consist of 34 elementary school districts, 1 high school district, and two community college districts. Total enrollment in Tulare County public schools for the 2022 school year was approximately 103,621 students (CDE 2022).

Public education services would be provided to the Project site by two school districts: Sundale Union Elementary School District (SUESD) and Tulare Joint Union High School District (TJUHSD). Students living at the Project site could attend schools in the SUESD for elementary and middle school and TJUHSD for high school. Sundale Union Elementary School serving Kindergarten through 8th grade (13990 Ave. 240, Tulare), is located approximately 2.7 miles northeast of the Project site and has a total enrollment of 826 students (CDE 2023). The closest high school is Mission Oak High School (3442 E Bardsley Ave) approximately 0.2 miles west of the Project site and has a total enrollment of 1,613 students (CDE 2022).

Libraries

Tulare Public Library (TPL), located at 475 North M Street, provides library services to the residents of the City. The mission of the TPL is to "support the personal, educational, and professional needs of the diverse community we serve by providing access to a wide variety of resources and a commitment to excellent customer service" (Tulare County Library 2021),

The TPL is part of the City's Community Services Department and is funded through the City's General Fund. TPL is a member of the San Joaquin Library System, which provides library users with access to a wide variety of resources and materials in diverse formats. In addition to the library, the building houses the Tulare City Council Chambers and a rental space currently occupied by the Tulare County Office of Education (TPL 2020).

The Tulare Public Library Advisory Board advises the Library Manager, Community Services Director and the Tulare City Council on matters pertaining to the TPL and the services it provides. Members are appointed by the Tulare City Council for 4-year terms of service (City of Tulare 2022c).

Parks

The Tulare Parks and Recreation Department has 13 park facilities within City that are available to the residents. These include Bender, Blain, Centennial, Caesar E. Chavez Memorial, Cypress, Del Lago Community, Elk Bayou Regional, Live Oak, Mulcahy, Parkwood Meadows, Prosperity Sports, Topham, Sayre, Sunrise, Tyler and Zumwalt parks. Of these, Cypress Park (1610 Cypress Avenue) and Live Oak Park (600 N. Laspina Street) are the closest parks to the Project site which are both located approximately 3 miles west of the Project site. All City parks consist of picnic shelters, a kids' play area, walking paths, horseshoe pit, barbeque pits, restrooms, and ample parking spaces (City of Tulare 2022d).

The City's Parks & Recreation Commission serves in an advisory capacity to the City Council and consists of seven members. The responsibility of this Commission is to advise the City Council regarding policies for the acquisition, development, maintenance and improvement of park facilities and make recommendations as appropriate. (City of Tulare 2022d).

4.15.2 Relevant Regulations, Plans, Policies, and Ordinances

Federal

The following federal regulations pertaining to public services would apply to the Project.

National Fire Protection Association

The National Fire Protection Association recommends that fire departments respond to fire calls within 6 minutes of receiving the request for assistance 90% of the time. These time recommendations are based on the demands created by a structural fire. It is crucial to attempt to arrive and intervene at a fire scene prior to the fire spreading beyond the room of origin. Total structural destruction typically starts within 8 to 10 minutes after ignition. Response time is generally defined as 1 minute to receive and dispatch the call, 1 minute to prepare to respond to the fire station or field and 4 minutes (or less) travel time.

State

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.

California Fire Code

California Code of Regulations (CCR), Title 24, Part 9, incorporates adoption of the 2015 International Fire Code of the International Code Council with necessary California amendments. The California Fire Code and Office of the State Fire Marshal provides regulations and guidance for local agencies in the development and enforcement of fire safety standards. The California Fire Code also establishes minimum requirements that would provide a reasonable degree of safety from fire, panic, and explosion. The California Fire Code applies to construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure within the State of California. The California Fire Code includes a mandate for automatic sprinkler systems in new buildings and structures, including floors of buildings where the fire area exceeds 5,000 square feet, has an occupant load of 100 or more, or is located on a floor other than the level of exit discharge[1] (Cal. Code Regs. tit. 24 Part 9). Part 2 of Title 24 of the CCR refers to the California Building Code, which contains complete regulations and general construction building standards of state adopting agencies, including administrative, fire and life safety, and field inspection provisions. Part 2 was updated in 2019 to reflect changes in the base document from the Uniform Building Code to the International Building Code.

[1] Exit discharge refers to the part of the exit route that leads directly outside.

California Education Code

The California Code of Regulations (CCR), Title 5, Education Code governs all aspects of education within the state. The California Education Code authorizes the California Department of Education (CDE) to develop site selection standards for school districts which require districts to select a site that conforms to certain net acreage requirements established in the CDE's 2000 School Site Analysis and Development guidebook. The guide includes the assumption that the land purchased for school sites will be in a ratio of approximately 2:1 between the developed grounds and the building area. If the "availability of land is scarce and real estate prices are exorbitant," the site size may be reduced. CDE policy states that if a school site is less than the recommended acreage required, the district shall demonstrate how the students will be provided an adequate educational program, including physical education, as described in the district's adopted course of study. Through careful planning, a reduced Project area school site could follow the recent trend of school downsizing and meet the CDE's criteria.

California Government Code 66000

According to California Government Code 66000, a qualified agency, such as a local school district, may impose fees on developers to compensate for the impact that the Project will have on existing facilities or services. The State of California legislature passed SB 50 in 1998 that inserted new language into the Government Code (Sections 65995.5–65995.7), which authorized school districts to impose fees on developers of new residential construction in excess of mitigation fees authorized by Government Code 66000. School districts must meet a list of specific criteria, including the completion and annual update of School Facility Needs Analysis, in order to be legally able to impose the additional fees.

Leroy F. Green School Facilities Act

California Government Code Section 65995 (The Leroy F. Green School Facilities Act of 1998) set base limits and additional provisions for school districts to levy fees to help fund expanded facilities to house new pupils that may be generated by the development project. Sections 65996(a) and (b) state that such fees collected by school districts provide full and complete school facilities mitigation under CEQA. These fees may be adjusted by the District over time as conditions change. According to the California Government Code, a qualified agency, such as a local school district, may impose fees on new residential and commercial construction to compensate for the impact that a project will have on existing school facilities or services. The California Legislature passed Senate Bill (SB) 50 in 1998 to insert new language into Government Code Sections 65995.5–65985.7, which authorized school districts to impose fees on new residential and commercial construction in excess of mitigation fees authorized by Government Code Section 66000. School districts must meet a list of specific criteria, including the completion and annual update of a School Facility Needs Analysis, in order to impose additional fees under the Government Code. Under the terms of this statute, payment of statutory fees is considered to mitigate in full for the purposes of CEQA any impacts to school facilities associated with a qualifying project. The fees are assessed based upon the proposed square footage of the new or expanded residential or commercial development. Currently, the fees are $4.79 per square foot of residential space and $0.78 per square foot of commercial space (TCSDK8 2022).

The Quimby Act (Government Code Section 66477)

The Quimby Act, enacted in 1975, creates a framework that allows cities and counties to provide parks for growing communities. The Quimby Act authorizes jurisdictions to adopt ordinances that require parkland dedication or payment of in-lieu fees as a condition of approval of residential subdivisions, The Quimby Act also specifies

acceptable uses and expenditures of such funds, such as allowing developers to set aside land, donate conservation easements, or pay direct fees for park improvements. The goal of the Quimby Act is to require developers to help mitigate the impacts of property improvements. The Quimby Act preserves open space and parkland in urbanizing areas of the state by authorizing local governments to establish ordinances that require private developers of new subdivisions to dedicate land for parks, pay an in-lieu fee, or a combination of the two. Originally, the Quimby Act was designed to ensure "adequate" open space acreage in jurisdictions adopting Quimby Act standards (i.e., 3 to 5 acres per 1,000 residents). The Act requires that standards for recreational facilities be adopted in the local general plan recreation element if a parkland dedication/fee ordinance is to be enacted. The City has established through its General Plan a standard of 4 acres of parkland per 1,000 residents.

Local

The following local regulations pertaining to public services would apply to the Project.

City of Tulare General Plan

Public services are protected through policies in the City's General Plan Land Use, Conservation and Open Space and Safety Elements. The goals and policies in the City's General Plan for public services applicable to the Project are provided below. The General Plan contains additional goals and policies that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below, but as stated in Chapter 2, Introduction, all goals and policies in the City's General Plan are incorporated by reference.

Land Use Element

Goal:

LU-2 To grow in an orderly pattern consistent with the economic, social, and environmental needs of Tulare and taking regional impacts into account.

LU-9 To organize new development areas into vibrant, neighborhoods characterized by a mix of land uses, pedestrian and transit accessibility, and neighborhood identity.

LU-11 To provide optimal municipal facilities and services, consistent with available resources, that are adequate to meet the needs of desired future growth

Policy:

LU-P2.14 Development Impact Fees. The City shall keep and maintain current development impact fee categories for new construction so that new construction adequately mitigates potential impacts to existing levels of service of infrastructure and public services.

LU-P11.9 Adequate City Service Capacity. The City shall only approve new development when it can be demonstrated by the applicant that adequate public service capacity in the area is or will be available to handle increases related to the project. School capacity will be discussed in the review of each development, and the City will ensure early coordination with the school districts serving the site. School capacity will be addressed as allowed under State law.

LU-P11.24 Co-Location of Facilities. The City shall encourage community facilities (such as community centers, schools, parks, libraries, fire stations with community rooms), when proposed in the same area, to be co-located to form a stronger activity node within the neighborhood.

Conservation and Open Space Element

Goal:

COS-4 To provide parks and recreation facilities and services that adequately meet the existing and future needs of all Tulare residents

Policy:

COS-P4.1 Parkland/Open Space Standards. The City's goal is to provide 4 acres of developed parkland per 1,000 residents. New residential or mixed-use developments containing a residential component may be required to provide parkland, or pay in-lieu fees, in this ratio as directed by the City.

COS-P4.5 Fair Share Responsibilities**.** The City shall ensure all future residential development is responsible for its fair share of the City's cumulative park and recreational service and facilities maintenance needs.

COS-P4.6 Land Dedication. The City shall continue its practice of requiring the dedication of community and neighborhood park lands as a condition of approval for large residential development projects (50 or more lots), if applicable.

COS-P4.7 Fees In Lieu of Parkland Dedication. The City shall allow the payment of fees in lieu of parkland dedication, especially in areas where dedication is not feasible, as provided under the Quimby Act.

COS-P4.8 Pocket Parks. The City will promote the utilization of pocket parks (approximately 0.25 to 0.50 acre) to establish a passive recreational and social gathering area in neighborhoods where it is deemed appropriate.

COS-P4.9 Neighborhood Parks. The City shall encourage the development of adequate neighborhood parks, 5 to 15 acres in size. These neighborhood facilities should include children's play equipment, paved games areas, free play fields, and perhaps a passive recreation area for parents and senior citizens.

COS-P4.14 Collocation with Schools**.** The City may promote, when feasible, the collocation of parks with school facilities for the purpose of enhancing available open space and recreation.

COS-P4.16 Funding and Maintenance of Recreational Facilities. The City shall ensure the continued funding of new recreational facilities and maintenance and improvement of existing City-owned recreational facilities and require new development and existing residents to participate in alternate maintenance funding mechanisms wherever appropriate.

COS-P4.17 Siting to Maximize Security. The City shall require that new parks be located and designed in such a way as to facilitate their security and policing.

Safety Element

Goal:

SAF-1 To regulate future development to ensure the protection of public health and safety from hazards and hazardous materials and the adequate provision of emergency services.

Policy:

SAF-P1.8 Police and Fire Department Review. The Planning process should continue to seek the input of the Police and Fire Departments in reviewing development plans and permits. Such a coordinated effort should be aimed at reducing property loss and affecting a reduction of injury and loss of life.

City of Tulare Municipal Code

Chapter 8.56 (Development Impact Mitigation Fee) of the Municipal Code imposes development fees on all new projects and is collected at the time of issuance of building permits by the City. The charges imposed by this regulation serves as a means to finance fire, police, library, parks and other services. As such, the proposed Project would be required to comply with this regulation.

Tulare Library Foundation

The Tulare Library Foundation is an independent, non-profit, 501(c)(3) organization promoting private donations to enrich and support the Tulare Public Library's facilities, educational programs, and resources. It has been said that one important measure of a community's overall quality of life can be judged by the quality of its public library. The Tulare Library Foundation is dedicated to the ideal of providing quality library services for the public benefit within the City (City of Tulare 2022c).

Greater Tulare Recreation Foundation

The Greater Tulare Recreation Foundation is a not-for-profit 501(c)(3) foundation whose purpose is to promote the acquisition and development of open space, park and recreation facilities in and around the Tulare area as essential to a healthful, urban environment, encourage innovation in the development of programs and facilities that may not ordinarily be supported by government resources and enhance the quality of parks, recreation and community services for the present and the future residents (City of Tulare 2022e).

Tulare Transit-Oriented Development Plan

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the City's Tulare Transit-Oriented Development Plan (TOD Plan). Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD Plan are based on the City's General Plan. The following specific recreation and public services-related policies and measures contained in TOD Plan are applicable to the Project.

4.15.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to public services are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to public services would occur if the Project would:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    i. Fire protection.
    ii. Police protection.
    iii. Schools.
    iv. Parks.
    v. Other public facilities.

4.15.4 Methods

Sources reviewed to prepare the analysis include the City's General Plan and information from the City. This analysis evaluates the ability of the TPD and the TFD to serve the proposed Project through a qualitative review of Project characteristics, such as location, land uses, and access routes. The analysis also addresses whether the proposed Project would require construction of additional facilities to maintain acceptable service ratios, response times or other performance objectives.

The analysis also assumes that the proposed Project would be consistent with the City's General Plan goals and policies, emergency evacuation plans, the California Fire Code, the Leroy F. Greene School Facilities Act, and other applicable regulations; therefore, such policies and standards would not specifically be identified as mitigation but are discussed in the impact analysis.

4.15.5 Impacts Analysis

Threshold a: Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:

i. Fire protection?

Less-than-Significant Impact. Fire protection requirements are based on the number of residents and workers in the TFD service areas. Service demand is primarily tied to population, not building size, because emergency medical calls typically make up the majority of responses provided by the fire department. As the number of residents and workers increases, so does the number of emergency medical calls. The proposed Project is a residential development' therefore, residents would occupy the Project site full-time and there would be an increase in demand for fire protection services.

Service demands during Project construction activities could increase. However, the presence of construction workers on site would be temporary and would cease after construction of the Project is complete. It would therefore not substantially increase the service demand for fire protection services in the City.

In addition, the proposed Project would be designed and constructed in accordance with all applicable provisions of the 2019 California Fire Code, which includes requirements for adequate fire flows, width of emergency access routes, turning radii for equipment, automatic sprinkler systems, fire alarms, and floor to sky height limits along emergency access routes. As part of the standard development practices, Project plans would be reviewed by the City and TFD, prior to construction. Compliance with fire code standards would reduce the potential demand for fire services by decreasing the likelihood and/or severity of a fire emergency at the site.

As previously discussed, the nearest fire station to the Project site is Fire Station 61 (at 800 S. Blackstone), located approximately 2 miles southwest. The TFD aims to arrive on scene of an emergency within a total response time of under 6 minutes 90% of the time. In the event that Fire Station No. 61 could not meet the immediate needs of a call for services independently or does not have capability to address the full extent of a larger incident. The second closest Fire Station No. 62 located approximately 4.4 miles from the Project site or other fire stations within the Tulare/Kings mutual aid agreement, as well as CAL FIRE, could respond or provide support (Tulare County Fire 2022).

The proposed Project would be subject to the payment of a Development Impact Fees (DIF), per Chapter 8.56 (Development Impact Mitigation Fees) of the City's Municipal Code. This fee would be used for future facility improvements necessary to ensure that the development contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City. The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development, which varies in proportion to specific land uses. A portion of the DIF would be used exclusively toward fire protection services.

If the Project is approved and annexed to the City the Project site would be located within the TFD's response area, and the department would provide service to the Project site. With the nearby services of Fire Station No. 61, as well as fire stations in neighboring jurisdictions, the Project would be served by sufficient fire protection services, and it is not anticipated that the Project would hinder the TFD from meeting its response time targets. Furthermore, payment of DIFs would ensure the Project contributes its fair share towards future facility improvements and equipment. The revenues and taxes generated from Project development would contribute to funding for facilities and services that have been identified by the TPD as needed for services in the future. Because the Project would increase the City's population by approximately 4,178 people and the TFD has indicated they can adequately serve the site, the Project would not result in the need for new or expanded fire protection facilities, and impacts would be less than significant.

ii. Police protection?

Less-than-Significant Impact. As described above in Section 4.15.1, Existing Conditions, police services are provided by the TPD (at 260 South M Street), located approximately 4 miles west of the Project site.

The Project site is currently located in the unincorporated County near the eastern edge of the City and is surrounded by undeveloped agricultural land and scattered rural development. It is therefore unlikely to attract attention that would make the Project susceptible to crime.

Construction activities may temporarily increase traffic volumes along Avenue 232 and S. Bardsley Road and other nearby roadways during the construction period. The added traffic associated with workers commuting to the Project site, haul routes, deliveries, and other Project-related activities may increase the need for law enforcement services during construction activities. During construction, it is anticipated temporary security measures including security fencing and lighting would be installed to deter criminal activity. However, construction would be temporary and would not have a significant adverse effect on the TPD's ability to service the site.

A need for new or expanded public services, such as police facilities, is typically associated with a population increase. Although the proposed Project includes construction of new homes and would generate an increase of approximately 4,178 new residents to the area, it would not induce substantial population growth such that a new police station would need to be constructed on-site. It is anticipated Project design would employ defensible design, lighting, and landscaping, as well as open fencing. These techniques would minimize spaces that are hidden from public view, which would help prevent loitering and crime. Building entries, parking areas, and walkways would be sufficiently lit, which would facilitate safe pedestrian movement. These design and operational practices would lessen the demand for police protection services at the Project site by reducing the potential for crime to occur.

Police units are continuously mobile, and service calls are responded to by the nearest available mobile unit. As previously discussed, TPD's average response time for highest priority emergency calls is 5 minutes. Further, the police service ratio is one police officer per 1,500 population. Therefore, at full build out of the Project, it is estimated an additional 2.8 new officers would be required. However, it is not anticipated that the Project would hinder the TPD from continuing to meet or exceed target response times and provide adequate service levels. In addition, The proposed Project would be subject to the payment of a DIFs per Chapter 8.56 of the City's Municipal Code. This fee would be used for future facility improvements necessary to ensure that the development contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City. The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development, which varies in proportion to specific land uses. A portion of the DIF would be used exclusively toward fire protection services.

Additionally, the proposed Project would be consistent with or would not hinder implementation of the City General Plan goals and policies pertaining to police protection services listed in Section 4.15.1. The proposed Project is not anticipated to adversely affect service ratios or response times for police services such that new or expanded police facilities would be required. Therefore, the proposed Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, or the need for new or physically altered police facilities; impacts would be less than significant.

iii. Schools?

Less-than-Significant Impact. As noted earlier, the proposed Project would be served by the SUESD and TJUHSD school districts. Consistent with General Plan policy LU-P11.9, the City will ensure early coordination with the school districts serving the site, along with the Project applicant.

As part of the Project, an approximately 5.0-acre site has been designated for a Kindergarten through 8th grade public school located at the core of the Project site, adjacent to Central Park. A community center would be sited on approximately 0.78 acres directly adjacent to the school. This would provide a joint use area for school use and a place for community activities, meetings, and gatherings, consistent with General Plan policy LU-P11.24 which encourages community facilities (such as community centers, schools, parks, libraries, fire stations with community rooms), when proposed in the same area, to be co-located to form a stronger activity node within the neighborhood.

Elementary and middle school students could be accommodated by this school once it is constructed. However, the timeline for constructing this school is not known at this time. Therefore, school-age students would have to attend off-site schools until the need exists for construction of a new school within the Project site and adequate funding is acquired for the new school to be built. High school students would attend schools outside of the Project site. The closest elementary school to the Project site is Sundale Union Elementary School located approximately 2.7 miles northeast, and the closest high school is Mission Oak High School located 0.2 miles west.

School districts impose fees on new residential and commercial development to compensate for the impact that a project would have on existing school facilities or services. Pursuant to SB 50, the Project applicant would be required to pay school impact fees shared between SUESC and TJUHSD prior to the issuance of building and grading permits. This payment is considered full mitigation for any impacts to school services that would result from a project. Payment of the school impact fees would provide funding for new school construction, improvements, and expansion to existing schools. Payment of the required school impact fees would ensure satisfaction of the Proposition 1A/SB 50 statutory requirements and the impact would be less than significant.

iv. Parks?

Less-than-Significant Impact. The proposed Project would provide new recreational opportunities or facilities to serve the community population, including a 14-acre Central Park and 12 acres in natural areas which would help to achieve the City of Tulare's standard of providing 4 acres of developed parkland per 1,000 residents. Trails throughout the site would also connect to the proposed school, Central Park, the community center, and the commercial center.

Development of the proposed Project would not in and of itself necessitate the construction of new or expanded parks within the city. Parks would act as natural areas, provide stormwater detention, and include trails for recreation. The increase in population associated with the Project would not create a significant impact on city parks outside of the Project site such that there would be substantial deterioration or a need for new or expanded parks, as the new parks would be highly accessible for all Project residents. The proposed Project would also be subject to the payment of DIFs, as per Chapter 8.56 (Development Impact Mitigation Fees) of the City's Municipal Code. This fee would be used for future facility improvements necessary to ensure that the Project contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City. The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development, which varies in proportion to specific land uses. Additionally, the Project would comply with all the applicable goals and policies highlighted in the City's General Plan. As such, impacts associated with parks would be less than significant.

v. Other public facilities?

Less-than-Significant Impact. The TPL, located at 475 North M Street, provides library services to the residents of Tulare. The increase in population associated with the proposed Project could increase the need for library services in the City but not to the extent that a new library facility would need to be constructed. As previously discussed, TPL is a member of the San Joaquin Library System, which provides library users with access to a wide variety of resources and materials in diverse formats. In the event that the local library could not provide services to the residents or does not have the capacity to do so, the City would continue to expand library facilities and services as necessary to accommodate the increase in demand. In addition, the proposed Project would be subject to the payment of a DIFs per Chapter 8.56 of the City's Municipal Code. This fee would be used for future facility improvements necessary to ensure that the development contributes its fair share of the cost of facilities and equipment determined

to be necessary to adequately accommodate new development in the City. The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development, which varies in proportion to specific land uses. A portion of the DIF would be used exclusively toward fire protection services. Finally, compliance with the City of Tulare General Plan goals and policies would ensure that impacts associated with the provisioning of library services would remain less than significant.

4.15.6 Mitigation Measures

No mitigation measures are required.

4.15.7 Level of Significance After Mitigation

As detailed above, the potential impacts of the proposed Project were found to be less than significant with no mitigation required.

4.15.8 References

CDE (California Department of Education). 2022. 2021-22 Enrollment by Grade, Mission Oak High Report. Accessed November 2022. https://dq.cde.ca.gov/dataquest/dqcensus/EnrGrdLevels.aspx?cds=54722490116368&agglevel=school&year=2021-22

CDE. 2023. School Profile: Sundale Elementary. Accessed May 2023. https://www.cde.ca.gov/sdprofile/details.aspx?cds=54721736054399.

City of Tulare. 2022a. Fire, Suppression. Accessed November 2022. https://www.tulare.ca.gov/government/departments/fire/suppression

City of Tulare. 2022b. Police. Accessed November 2022. https://www.tulare.ca.gov/government/departments/police

City of Tulare. 2022c. Tulare Public Library. About Us. Tulare library Foundation, Accessed August 2022. https://www.tulare.ca.gov/government/departments/community-services/tulare-public-library

City of Tulare. 2022d. Parks. Accessed November 2022. https://www.tulare.ca.gov/government/departments/community-services/parks-recreation/parks

City of Tulare. 2022e. Greater Tulare Recreation Foundation. Accessed August 2022. https://www.tulare.ca.gov/government/departments/community-services/parks-recreation/greater-tulare-recreation-foundation

CountyOffice.org. 2022. Police Departments in Tulare County, CA. Accessed August 2022. www.countyoffice.org/ca-tulare-county-police-department/.

TCSDK8 (Tulare City School District). 2022. Developer Fees. Accessed November 2022. https://www.tcsdk8.org/apps/pages/index.jsp?uREC_ID=1104885&type=d&pREC_ID=1387328#:~:text=Developer%20Fees%20Rates%20-%20Effective%207%2F10%2F2022%20Commercial%20Industrial,square%20foot%20Developer%20Fee%20Report%20Developer%20Fee%20Resolution.

TPL (Tulare Public Library). 2020. Strategic Plan: July 2016 to June 2020, Accessed August 2022. https://www.tulare.ca.gov/home/showpublisheddocument/10392/636620740062530000.

Tulare County Fire (TCF). 2022. Fire Prevention Bureau. Accessed November 2022. https://tularecounty.ca.gov/fire/prevention-division/fire-prevention/.

Tulare County Library. 2021. Friends of the Tulare County Library, Accessed August 2022. https://www.tularecountylibrary.org/friends-library.

4.16 Recreation

This section describes the existing recreation conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed Project. This section assesses potential effects on recreation that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

No comments were received related to Recreation during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.16.1 Existing Conditions

Tulare County defines recreational areas as any public or private space set aside or primarily oriented to recreational use, including both parks and community centers. The Tulare County Resource Management Agency, Parks and Recreation Branch, owns and operates 13 recreational areas, which encompass 693 acres of land. The County classifies its parks into four categories, based on size and available recreational amenities: neighborhood play lots/pocket parks, neighborhood parks, community parks, and regional parks.

Neighborhood Play Lots or Pocket Parks

Neighborhood play lots and pocket parks are the smallest park type, generally 1 acre or less in size. These parks typically are included as part of a new development to serve the neighborhood in which they are located.

Neighborhood Parks

Neighborhood parks are generally between 10 and 15 acres in size and are intended to serve an area within a 0.50-mile radius of the park. These parks typically contain a “tot-lot” play area for 2- to 5-year-old children, a playground for 5- to 12-year-old children, one basketball court or two half-courts, a baseball field or fields, an open grassy area, meandering concrete paths, picnic tables, and a small group picnic shelter.

Community Parks

Community parks are typically between 15 and 40 acres in size and are designed to serve the needs of the community as a whole. These parks usually contain the same recreational facilities as neighborhood parks, but also may contain additional sports facilities, community centers, swimming pools, and other community facilities.

Regional Parks

Regional parks are designed to address the needs of the entire County and often exceed 200 acres in size (although smaller facilities are appropriate for certain sites). These parks generally contain an active recreation component, such as camping, but are mostly maintained for passive recreation and natural resource enjoyment purposes.

State Recreational Areas

Two state-owned recreational areas are located within Tulare County: Colonel Allensworth State Historic Park and Mountain Home Demonstration State Forest.

Federal Recreational Areas

Federally owned recreational areas that exist within the County include Lake Kaweah, Lake Success, portions of the Pacific Crest Trail (PCT), Sequoia National Forest, and Sequoia and Kings Canyon National Parks. The majority of federal recreational acreage within Tulare County is located within the Sequoia National Forest and the Sequoia and Kings Canyon National Parks.

City of Tulare

The Tulare Parks and Recreation Department has 13 park facilities within City that are available to the residents. These include Bender, Blain, Centennial, Caesar E. Chavez Memorial, Cypress, Del Lago Community, Elk Bayou Regional, Live Oak, Mulcahy, Parkwood Meadows, Prosperity Sports, Topham, Sayre, Sunrise, Tyler and Zumwalt parks. Of these, Live oak, located at 600 N. Laspina St, approximately 2 miles northwest is the closest to the Project site. All the parks consist of picnic shelters, Kids' play area, walking paths, horseshoe pit, barbeque pits, restrooms and ample parking spaces (City of Tulare 2022a).

The Parks & Recreation Commission serves in an advisory capacity to the City Council and consists of seven members. The responsibility of this Commission is to: advise the City Council regarding policies for the acquisition, development, maintenance and improvement of park facilities and make recommendations as appropriate. (City of Tulare 2022b).

4.16.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal policies or regulations applicable to recreation with respect to the Proposed Project.

State

The following state regulations pertaining to recreation would apply to the Proposed Project.

California Government Code Section 66477 (The Quimby Act)

California Government Code Section 66477 provides cities and counties with the authority to require, by ordinance, land dedications, fee payments or a combination thereof for recreation facilities as a condition to the approval of tentative and parcel maps. Section 66477 outlines a number of items that must be contained in the local ordinance, including standards from which calculations can be made for the amount of land or fee that must be given for

recreation purposes. In addition, the dedications and fees can only be used for creating or rehabilitating recreational facilities, and the city/county must develop a timeline for the construction of the facilities.

The Quimby Act sets forth the standard ratio of dedicated park area in relation to the number of residents for a development proposal. Based on the average number of people per household and an approved or tentatively approved map, the Quimby Act requires a dedication of at least 3 acres of park land, or cash in-lieu fees, or a combination of both for every 1,000 persons generated by a proposed residential project.

Proposition 40 Park Bond Act

Proposition 40 allows for the maintenance for preservation of parks of the state's growing population by borrowing money through general obligation bonds for the development, restoration, and acquisition of state and local parks, recreation areas and historical resources, and for land, air, and water conservation programs.

The Mello-Roos Community Facilities Act of 1982

The Mello-Roos Community Facilities Act provides an alternative method of financing certain public capital facilities and services, especially in developing areas and areas undergoing rehabilitation. This state law empowers local agencies to establish Community Facilities Districts (CFDs) as a means of obtaining community funding.

Landscaping and Lighting Act of 1972, California Streets and Highway Code Sections 22500–22509

The California Landscaping and Lighting Act of 1972 authorizes local legislative bodies to establish benefit related assessment districts, or Landscaping and Lighting Districts (LLADs) and to levy assessments for the construction, installation, and maintenance of certain public landscaping and lighting improvements. LLADs may be established to maintain local public parks.

Local

City of Tulare General Plan

Recreation is protected through policies in the City of Tulare's General Plan Land Use and Conservation and Open Space Elements (City of Tulare 2014). The goals and policies in the City's General Plan for recreation applicable to the Project are provided below. The General Plan contains additional goals and policies that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below, but as stated in Chapter 2, Introduction, all goals and policies in the City's General Plan are incorporated by reference.

Land Use Element

Goal:

LU-2 To grow in an orderly pattern consistent with the economic, social, and environmental needs of Tulare and taking regional impacts into account.

LU-9 To organize new development areas into vibrant, neighborhoods characterized by a mix of land uses, pedestrian and transit accessibility, and neighborhood identity.

LU-11 To provide optimal municipal facilities and services, consistent with available resources, that are adequate to meet the needs of desired future growth

Policy:

LU-P2.14 Development Impact Fees. The City shall keep and maintain current development impact fee categories for new construction so that new construction adequately mitigates potential impacts to existing levels of service of infrastructure and public services.

LU-P9.12 Funding for Parks and Open Space. Specific Plans shall include provisions to establish maintenance district financing or equivalent financing mechanisms to support park and open space maintenance.

LU-P9.13 Trail and Open Space Connections. The City shall require each village, and the neighborhoods they contain, to provide a well-connected network of trails, bikeways, and open spaces that provide convenient paths throughout the village and connect the village to surrounding neighborhoods and other existing or planned trails, bikeways, and open spaces in the City.

LU-P9.14 Parkland Distribution. The City shall encourage parks within each village to be distributed proportionally to match the distribution of population within the village. Park sizes and location will typically be in keeping with serving the population within a walking distance of the park (¼-mile). At least one community park should be placed within walking distance (¼-mile) of the neighborhood centers.

LU-P11.3 System Expansion. The City shall require new development be responsible for expansion of existing facilities such as water systems, sewer systems, storm drainage systems, parks and other capital facilities made necessary to serve the new development.

LU-P11.24 Co-Location of Facilities. The City shall encourage community facilities (such as community centers, schools, parks, libraries, fire stations with community rooms), when proposed in the same area, to be co-located to form a stronger activity node within the neighborhood.

LU-P11.26 Evaluate Fiscal Impacts. The City shall evaluate the fiscal impacts of new development and encourage a pattern of development that allows the City to provide and maintain a high level of urban services (including, but not limited to, water, sewer, transportation, fire stations, police stations, libraries, administrative, and parks), and community facilities, and utility infrastructure, as well as attract targeted businesses and a stable labor force.

Conservation and Open Space Element

Goal:

COS-4 To provide parks and recreation facilities and services that adequately meet the existing and future needs of all Tulare residents

Policy:

COS-P4.1 Parkland/Open Space Standards. The City's goal is to provide 4 acres of developed parkland per 1,000 residents. New residential or mixed-use developments containing a residential component may be required to provide parkland, or pay in-lieu fees, in this ratio as directed by the City.

COS-P4.2 Recreation and Cultural Opportunities. The City will encourage a variety of enjoyable leisure, recreation, and cultural opportunities that are accessible, physically attractive, safe, and uncrowded. The City shall provide an adequate balance of recreational opportunities including facilities to serve the varying needs and interests of the Tulare population.

COS-P4.3 Adequate Sites. The City shall provide adequate and convenient park sites to meet the City's existing and anticipated future park and recreation needs.

COS-P4.4 Park Upgrades**.** The City shall upgrade existing parks to meet the unmet needs of the residents as determined by the Parks Department.

COS-P4.5 Fair Share Responsibilities. The City shall ensure all future residential development is responsible for its fair share of the City's cumulative park and recreational service and facilities maintenance needs.

COS-P4.6 Land Dedication. The City shall continue its practice of requiring the dedication of community and neighborhood park lands as a condition of approval for large residential development projects (50 or more lots), if applicable.

COS-P4.7 Fees In Lieu of Parkland Dedication. The City shall allow the payment of fees in lieu of parkland dedication, especially in areas where dedication is not feasible, as provided under the Quimby Act.

COS-P4.8 Pocket Parks. The City will promote the utilization of pocket parks (approximately 0.25 to 0.50 acre) to establish a passive recreational and social gathering area in neighborhoods where it is deemed appropriate.

COS-P4.9 Neighborhood Parks. The City shall encourage the development of adequate neighborhood parks, 5 to 15 acres in size. These neighborhood facilities should include children's play equipment, paved games areas, free play fields, and perhaps a passive recreation area for parents and senior citizens.

COS-P4.10 Community Parks. The City shall encourage the development of conveniently-located community parks containing 20 to 50 usable acres for year-round use.

COS-P4.11 Regional Park. The City shall encourage the development of one major regional park at least 100 acres in size.

COS-P4.13 Park Location and Design. The City shall effectively locate, design, and use public park facilities to serve the greatest number of Tulare citizens.

COS-P4.14 Collocation with Schools. The City may promote, when feasible, the collocation of parks with school facilities for the purpose of enhancing available open space and recreation.

COS-P4.16 Funding and Maintenance of Recreational Facilities**.** The City shall ensure the continued funding of new recreational facilities and maintenance and improvement of existing City-owned recreational facilities and require new development and existing residents to participate in alternate maintenance funding mechanisms wherever appropriate.

COS-P4.17 Siting to Maximize Security. The City shall require that new parks be located and designed in such a way as to facilitate their security and policing.

COS-P4.18 Incorporation of Open Space. The City shall encourage the development of natural open space areas in regional and community parks.

City of Tulare Municipal Code

Chapter 8.56 (Development Impact Mitigation Fee) of the Municipal Code imposes development fees on all new projects on the issuance of building permit in the City. The charges imposed by this regulation serves as a means to finance the fire, police, library, parks and other services. As such, the proposed Project would be required to comply with this regulation.

Greater Tulare Recreation Foundation

The Greater Tulare Recreation Foundation is a not-for-profit 501(c)(3) foundation whose purpose is to promote the acquisition and development of open space, park and recreation facilities in and around the Tulare area as essential to a healthful, urban environment, encourage innovation in the development of programs and facilities that may not ordinarily be supported by government resources and enhance the quality of parks, recreation and community services for the present and the future residents (City of Tulare 2022c).

Tulare Transit-Oriented Development Plan

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City of Tulare. Characteristics of transit-oriented development consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City of Tulare's General Plan documents (City of Tulare 2014). The following specific recreation-related policies and measures contained in TOD are applicable to the Project.

LU-8.4 The City will look at the following design concepts in the village areas: provide a variety of transportation choices, offer housing choices and opportunities, take advantage of compact development, mixed land uses, preserve open space and natural beauty through natural resources conservation, and preserve farmland in the surrounding unincorporated areas through design measures designed to avoid land use conflicts, encourage distinctive, attractive communities with quality design, incorporate park and open space areas within the Village Center, a neighborhood commercial center should complement other community areas within the Village Center, and the Village Center shall provide a convenient hub for accessing transit services, and be supported by adequate parking and trail access

LU-3.3 The County shall encourage high-density residential development (greater than 16.1 dwelling units per gross acre) to locate along collector roadways and transit routes, and near public facilities (e.g. schools, parks), shopping, recreation, and entertainment

LU-6.1 The County shall encourage the development of centrally located public activity centers that include parks, schools, libraries, and community centers in communities via accessible, multiple modes of travel.

4.16.3 Methodology

The analysis for recreation is based on the existing parkland resources as determined by the City's General Plan or any other relevant recreation policy-based document. The potential impacts of the proposed Project are then determined based on how the Proposed Project could impact the existing parkland resources. Should the proposed Project impact the existing parklands negatively, then impacts would be considered significant and proper mitigation would be required. However, dedication of parkland or payment of applicable fees may potentially mitigate potential recreation impacts that could result from the proposed Project.

4.16.4 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to recreation are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to recreation would occur if the Project would:

a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

4.16.5 Impacts Analysis

Threshold a: Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less-than-Significant Impact. Implementation of the proposed residential Project would include the construction of multiple recreational amenities, which would provide recreational opportunities for use by future community residents and visitors. Private amenities for use by residents of the Chandler Grove Master Plan area include a park, natural areas, and trails. Central Park would be located near the core of the Project site and would include a playground, plaza, field area, walnut grove, and planning beds. Two natural areas, that also provide stormwater detention during storm events, are available for use by residents and are surrounded by a trail system that runs through the entire Project site. This trail system connects the residential areas to the parks, schools, and neighborhood commercial center, as well as to the multiple transit stops available throughout the Project site. All developed areas would be landscaped and would provide green space throughout the Project site.

Specifically, at buildout, the proposed Project is expected to have a 13-acre central park, a 10.8-acre neighborhood commercial center, a 0.78-acre community center, and a 6-acre school with a community use area. As discussed in Chapter 3, Project Description, the proposed Project would include a full range of land uses, including

commercial, residential, and recreational uses, within one master-planned community at buildout. Since the proposed Project is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area, which is characterized by a robust transit network, a mix of land uses (housing types as well as business and public uses), and available pedestrian and bicycle facilities, the Project and its amenities would be consistent with the TOD plan.

As stated previously, the City of Tulare 2035 General Plan Update (Land Use Element) sets an overall standard of 4 acres of developed parkland per 1,000 persons, which is more conservative than the 3 acres per 1,000 persons established by the Quimby Act (City of Tulare 2014). The recreational facilities proposed as part of the Project would continue to meet this goal.

The extent to which the City can implement parks, trails, and other recreational facilities is related to the availability of funding for land acquisition, construction, operations, and maintenance, and programming. As discussed in Section 4.16.2, Relevant Plans, Policies, and Ordinances, the Mello-Roos Community Facilities Act of 1982 and the Landscaping and Lighting Act of 1972 help to ensure funding for the maintenance of existing and new parks. Adherence to the City's municipal code (Chapter 8.56 Development Impact Mitigation Fees) provides funding for the maintenance and operation of existing parks and the development of new parks in the City. Additionally, the City's non-profit organization, the Greater Tulare Recreation Foundation, promotes the acquisition, development and enhancement of open space, park, and recreation facilities in and around the Tulare area while providing crucial funding to maintain these areas. These funding sources would help ensure that new parks are developed, and existing parks are improved, which in turn would serve to reduce the potential for deterioration of existing facilities.

In summary, the proposed Project would not increase the use of existing recreational facilities such that substantial physical deterioration would occur as residents and visitors of the Project site would be more likely to use on-site amenities. Conformance with existing regulations and General Plan policies along with the presence of a variety of recreation options beyond local park facilities such as trails and open space lands, a planning framework that would allow for an efficient allocation of funds and would require funding for parks to be proportional to future increases in population, would all serve to reduce the potential for significant deterioration of recreational facilities associated with buildout of the Proposed Project. Therefore, impacts related recreational facilities would be less than significant.

Threshold b: Would the Project include recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less-than-Significant Impact. As stated above, implementation of the proposed Project would require the construction of new recreational facilities to serve the population generated by the proposed Project. The approximately 13-acre Central Park would be located near the core of the Project site and would include a playground, plaza, field area, walnut grove, and planning beds. Two natural areas, that also provide stormwater detention during storm events, are available for use by residents and are surrounded by a trail system that runs through the entire Project site. As discussed in Threshold b above, the Project would not require construction of additional recreational facilities other than those currently proposed as the Project meets the 4 acres per 1,000 residents requirement. The goals, policies, and actions in the City of Tulare General Plan, and the Tulare Transit-Oriented Development (TOD) Plan and other applicable standards would guide the development of the recreational facilities within the Project site.

Development of the Project's recreational facilities itself would not have a significant impact on the environment due to the already disturbed nature of the site and the lack of sensitive resources on the Project site. For more information on specific impacts related to potential impacts of the overall Project development, including the

recreational facilities, refer to Sections 4.1 through 4.19 of this EIR. Consequently, the Proposed Project would result in less than significant impacts relating to new or expanded recreational facilities.

4.16.6 Mitigation Measures

No mitigation measures are required.

4.16.7 Level of Significance After Mitigation

As detailed above, the potential impacts of the proposed Project were found to be less than significant with no mitigation required.

4.16.8 References

City of Tulare. 2014. 2035 General Plan Update. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000. Accessed on August 2, 2022.

City of Tulare. 2022a. Parks and Recreation. Parks. https://www.tulare.ca.gov/government/departments/community-services/parks-recreation/parks. Accessed on August 2, 2022.

City of Tulare. 2022b. Parks and Recreation Commission. https://www.tulare.ca.gov/government/departments/community-services/parks-recreation/parks-and-recreation-commission. Accessed on August 2, 2022.

City of Tulare. 2022c. Greater Tulare Recreation Foundation. https://www.tulare.ca.gov/government/departments/community-services/parks-recreation/greater-tulare-recreation-foundation. Accessed on August 2, 2022.

INTENTIONALLY LEFT BLANK

4.17 Transportation

This section describes the existing transportation conditions of the Project site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, cumulative impacts, and identifies mitigation measures related to implementation of the proposed Project. This section analyzes the potential impacts of the Project based on the California Environmental Quality Act (CEQA) Guidelines Section 15064.3(b), which focuses on newly adopted criteria (vehicle miles traveled [VMT]) for determining the significance of transportation impacts. Pursuant to Senate Bill (SB) 743, the focus of transportation analysis changed from level of service (LOS) or vehicle delay to VMT. The related updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. This new methodology was required to be used statewide beginning July 1, 2020.

In addition to the documents incorporated by reference (see Section 2.7 of Chapter 2, Introduction, of this Environmental Impact Report [EIR]), the following analysis is based, in part, on the following source, which is found in Appendix I of this Draft EIR:

- Technical Attachments for Transportation Analysis prepared by Dudek in January 2023 (Appendix I)

One comment letter was received from California Department of Transportation (CDOT) in response to the Notice of Preparation, which included recommendations for the implementation of "smart growth" regarding parking solutions and providing alternative transportation choices. The CDOT also recommended that the Project prepare a Transportation Impact Study (TIS) and Vehicles Miles Traveled (VMT) analysis and implement improvements to reduce VMT. The Notice of Preparation and comments received are provided in Appendix A.

4.17.1 Existing Conditions

This section provides a summary of the existing circulation network, bicycle and pedestrian facilities, transit service, and truck routes in the study area.

Existing Circulation Network

Regional access to the Project site is provided by State Route (SR) 99 approximately 2 miles west of the site. The local street system serving the site includes East Bardsley Avenue, South Oakmore Street, Road 132, and Avenue 228. Characteristics of the existing local roads surrounding the Project site are described below.

State Route 99 (SR 99) is a north-south highway that connects Tulare County to Fresno and Sacramento to the north and Bakersfield to the south. Within the study area, SR 99 is four lanes, with interchanges provided at Tulare Avenue (SR-137) and Bardsley Avenue.

Tulare Avenue (SR 137) is an east-west state route north of the proposed Project site. Within the study area, Tulare Avenue is a four-lane divided road between SR 99 and approximately Morrison Street and an undivided two-lane road east of Morrison Street. The City of Tulare 2035 General Plan Transportation and Circulation Element designates Tulare Avenue as a Major Arterial. The Transportation Concept Report for State Route 137 designates State Route 137 as a four-lane conventional highway.

East Bardsley Avenue (Avenue 224) is an east-west road that borders the site on the south. Within the study area, Bardsley Avenue is currently striped as a four-lane roadway west of Irwin Street, and a two-lane roadway east of

Irwin Street and along the Project frontage. The Circulation Element designates East Bardsley Avenue as an Arterial. Around the Project site, there is a school zone and a posted speed limit of 25 mph.

South Oakmore Street (Road 124) is a north-south road that borders the Project to the west. The Circulation Element designates Oakmore Street as an Arterial and currently has one lane in each direction. Within the study area, South Oakmore Street has a posted speed limit of 50 mph.

Road 132 is a north-south street to the east of the Project site. The Circulation Element designates Road 132 as a Major Arterial and currently has one lane in each direction. It terminates at Avenue 228 to the north and Bardsley Avenue to the south. There is no posted speed limit.

Avenue 228 is an east-west road that borders the Project site to the north. The Circulation Element designates Avenue 228 as a Collector and currently has one lane in each direction. There is no posted speed limit.

Bicycle and Pedestrian Facilities

The Project site is in a less developed area of unincorporated Tulare County, with limited pedestrian facilities provided. Where new development has occurred, sidewalks have been typically constructed along site frontages, particularly near existing residential, and institutional facilities located to the west, east, and south of the Project site. The Project will construct pedestrian facilities (e.g., curb and gutter) along the perimeter of the Project site. As the adjacent areas surrounding the Project site continue to become developed, connectivity to the rest of the pedestrian network along South Oakmore Street, Road 130, Munson Rd, Avenue 228 and E Bardsley Ave and other major roadways will be realized.

There are no bicycle facilities within the immediate vicinity of the site. However, the City's Transit Oriented Development Plan (Placeworks 2013) includes recommendations for pedestrian and bicycle connections through the Project site as part of the COS North Land Use Concept (see Figure 4.17-1). In addition, the City of Tulare Bike Plan proposes a Class I Bike Path along Bardsley Avenue along the extent of the Project frontage, as well as a Class III bicycle route along Oakmore Street. The Tulare County Regional Bicycle Plan (TCAG 2010) and the recently updated 2022 Regional Active Transportation Plan for the Tulare County Region (TCAG 2022) also reference bicycle improvements along segments of Bardsley Avenue.

Transit Service

Tulare County Area Transit provides regional transit service throughout the County. Public transit in the City is provided by Tulare InterModal Express (TIME). Figure 4.17-2, Existing Transit Facilities, shows the various bus routes that provide service in the study area. A description of each service provider is presented below.

Tulare County Area Transit (TCAT)

Tulare County Area Transit (TCAT) provides nine fixed route bus service in the towns and communities of Tulare County, including Tulare, Visalia, Dinuba, Porterville, and Delano (TCAT 2020). Bus service is provided 7 days a week. Route 20 (South County) provides service between Tulare, Tipton, Pixley, Teviston, Earlimart, Richgrove, and Delano. Route 40 provides service between Porterville, Strathmore, Lindsay, Tulare and Visalia. Routes 10-90 offer curb-to-curb service for ADA- eligible riders with advance reservation. TCAT also provides weekday Dial-a-Ride transportation.

Tulare InterModal Express

Tulare InterModal Express (TIME), operated by the City of Tulare, seven local fixed bus routes throughout the city, including one express route. Each route is a one-way loop operating between the Tulare Transit Center and various employment centers, retail centers, mall, and schools. Route 7 operates in the vicinity of the Project site along East Bardsley Avenue. The nearest bus stops to the Project site are located at Mission Oak High School, near the intersection of East Bardsley Avenue and Road 124 and in at the College of the Sequoias Tulare College Center, near the intersection of East Bardsley Avenue and Road 130.

College of the Sequoias North Transit Oriented Development Plan Area

The College of Sequoias (COS) opened the Tulare campus in 2014 with approximately 1,300 students and enrollment is expected to increase to approximately 10,000 students by 2040. The Project is located in the COS North Transit Oriented Development Plan Area (Placeworks 2013). At the time the Plan was prepared (2012), the COS Transit Plan recommended extending TIME Route 7, rerouting TCAT Route 40 to the Tulare campus, and constructing a Tulare Campus Transit Center. As shown in Figure 4.17-1, the COS North Land Use Concept, many of these recommendations have been implemented.

4.17.2 Relevant Plans, Policies, and Ordinances

The following section describes state and local regulations, plans, policies, and ordinances relevant to the study area. There are no transportation-specific federal regulations applicable to the Project.

Senate Bill 743

On September 27, 2013, Governor Brown signed SB 743, which became effective on January 1, 2014. SB 743 streamlines the review under the CEQA process for several categories of development projects, including the development of infill projects in transit priority areas to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas (GHG) emissions. SB 743 adds Chapter 2.7: Modernization of Transportation Analysis for Transit Oriented Infill Projects to the CEQA Statute (PRC Section 21099). Section 21099(d)(1) provides that aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. In addition, SB 743 mandates that alternative metric(s) for determining impacts relative to transportation shall be developed to replace the use of LOS in CEQA documents.

In the past, environmental review of transportation impacts focused on the delay that vehicles experience at intersections and on roadway segments, often measured using LOS. Mitigation for impacts on vehicular delay often involves increasing capacity such as widening a roadway or the size of an intersection, which in turn encourages more vehicular travel and greater pollutant emissions. Additionally, improvements to increase vehicular capacity can often discourage alternative forms of transportation such as biking and walking. SB 743 directed OPR to develop an alternative metric(s) for analyzing transportation impacts in CEQA documents. The alternative shall promote the state's goals of reducing GHG emissions and traffic-related air pollution, promote the development of multimodal transportation system, and provide clean, efficient access to destinations.

Pursuant to SB 743, OPR released the draft revised CEQA Guidelines in November 2017, recommending the use of VMT for analyzing transportation impacts. Additionally, OPR released Updates to Technical Advisory on Evaluating

Transportation Impacts in CEQA, to provide guidance on VMT analysis. In this Technical Advisory, OPR provides its recommendations to assist lead agencies in screening out projects from VMT analysis and selecting a significance threshold that may be appropriate for their jurisdictions. While OPR's Technical Advisory is not binding on public agencies, CEQA allows lead agencies to "consider thresholds of significance … recommended by other public agencies, provided the decision to adopt those thresholds is supported by substantial evidence" (14 CCR 15064.7[c]).

In December 2018, the CEQA Guidelines were updated to add new Section 15064.3, Determining the Significance of Transportation Impacts, which describes specific considerations for evaluating a project's transportation impacts using the VMT methodology.

CEQA Guidelines Section 15064.3(b) is divided into four subdivisions as follows:

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

OPR's regulatory text indicates that the guidelines must be implemented statewide by July 1, 2020. However, the OPR Technical Advisory allows local agencies to retain their congestion-based LOS standards in general plans and for project planning purposes. This EIR relies on VMT as the basis for evaluating transportation impacts under CEQA, as detailed in Appendix I, and the Project's LOS effects have been documented in the TIA prepared for the proposed Project and provided to the City.

Sustainable Communities Strategies: Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008) supports the state's climate action goals to reduce greenhouse gas emissions through coordinated transportation and land use planning with the goal of more sustainable communities. Under the Sustainable Communities Act, the California Air Resources Board sets regional targets for greenhouse gas emissions reductions from passenger vehicle use. In 2010, the California Air Resources Board established these targets for 2020 and 2035 for each region covered by one of the state's Metropolitan Planning Organizations (MPOs). The California Air Resources Board will periodically review and update the targets, as needed.

Each of California's MPOs must prepare a Sustainable Communities Strategy (SCS) as an integral part of its Regional Transportation Plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its greenhouse gas emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. California Air Resources Board must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional greenhouse gas targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate alternative planning strategy to meet the targets. The alternative planning strategy is not a part of the RTP. The Project is within the Tulare County Association of Governments (TCAG) MPO, which has adopted 2022 Regional Transportation Plan/Sustainable Communities Strategy as their SCS, as discussed below (TCAG 2022).

The Sustainable Communities Act also establishes incentives to encourage local governments and developers to implement the SCS or the alternative planning strategy. Developers can get relief from certain CEQA requirements if their new residential and mixed-use projects are consistent with a region's SCS (or alternative planning strategy) that meets the targets (see California Public Resources Code Sections 21155, 21155.1, 21155.2, 21159.28).

Caltrans

As the owner and operator of the State Highway System, Caltrans implements established state planning priorities in all functional plans, programs, and activities. Caltrans has the responsibility to coordinate and consult with local jurisdictions when proposed local land use planning and development may impact state highway facilities. To comply with SB 743 implementation, the Caltrans Transportation Impact Study Guide (Caltrans 2020a), replaced the Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). Per the 2020 Transportation Impact Study Guide, Caltrans' primary review focus is VMT, replacing LOS as the metric used in CEQA transportation analyses. Caltrans recommends use of OPR's recommended thresholds and guidance on methods of VMT assessment found in OPR's Technical Advisory (OPR 2018). In addition to VMT, Caltrans has developed an Interim Local Development and Intergovernmental Review Safety Review Practitioners Guidance (December 2020), which may request a targeted operational and safety analysis to address a specific geometric or operational issue related to the State Highway System and connections with the State Highway System (Caltrans 2020b). To comply with this requirement, an assessment of queuing at SR-99 off-ramps and Tulare Avenue intersections in the Project study area has been included in the EIR.

Regional

Tulare County Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

TCAG is the designated MPO for the County of Tulare, and is federally mandated to develop plans for its forecasting future growth, identifying regional priorities, and planning for infrastructure improvements.

The 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is to be adopted in 2023, and presents the land use and transportation vision for the region through the year 2046, providing a long-term investment framework for addressing the region's challenges (TCAG 2022). The RTP/SCS explicitly lays out goals related to housing, transportation, equity and resilience in order to adequately reflect the increasing importance of these topics in the region, and where possible the goals have been developed to link to potential performance measures and targets. The RTP/SCS development process involved working closely with local governments throughout the region to collect and compile data on land use and growth trends. The core vision of the RTP/SCS is to build upon and expand land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern.

Local

City of Tulare General Plan Circulation Element

The City of Tulare General Plan Circulation Element addresses many transportation issues such as automobile travel and parking, transit, non-motorized transportation, goods movement, and air transportation. It provides roadway classifications within the City of Tulare, which include state freeways and highways, expressways, major arterials, minor arterials, primary collectors, secondary collectors, industrial collectors, and local streets.

The main goals of the Circulation Element, relevant to the Project, are:

- To develop an integrated transportation system that provides for the safe and efficient movement of people and goods
- To maintain and efficient, affordable, and safe roadway system throughout Tulare in a way that is economically sustainable and fits within the projected budgeted resources
- To maintain a system for funding needed roadway improvements that ensure a safe and efficient level of service that meets the City's established standards
- To maintain and develop an adequate transit system that provides for the local and regional transit needs of Tulare residents
- To maintain an efficient and safe non-vehicular circulation system through Tulare
- To improve the city's transportation systems through use of transportation systems management (TSM) and transportation demand management (TDM)

County of Tulare General Plan Circulation Element

The County of Tulare General Plan Circulation Element provides an overview of existing conditions within the County of Tulare, including the railway

The main goals of the Circulation Element are:

- To promote an efficient roadway and highway system for the movement of people and goods, which enhances the physical, economic, and social environment while being safe, environmentally friendly, and cost-effective
- To improve and enhance current rail services that stimulate economic growth and meet the needs of freight human transportation
- To support the development of a public transportation system that provides an alternative to the private automobile and meets the needs of those considered "transit dependent"
- To encourage the development of safe, continuous, and easily accessible bicycle and trail systems that facilitate the use of viable transportation alternatives in a safe and financially feasible manner
- To address the transportation system from a multimodal perspective and identify how to provide for routine accommodation of all roadway users, including motorists, pedestrians, bicyclists, people with disabilities, seniors, and users of public transportation in a manner suitable to the rural, suburban, or urban context of the general plan

4.17.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to transportation are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to transportation would occur if the Project would:

a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
d. Result in inadequate emergency access.

4.17.4 Impacts Analysis

Threshold A: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less-than-Significant Impact. The Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, as discussed below. Impacts would be less than significant.

Regional Transportation Plan/Sustainable Communities Strategy

The Project would be consistent with the 2023 RTP/SCS as analyzed in Table 4.11-1 Consistency with Applicable Goals and Policies under Section 4.11, Land Use and Planning.

City of Tulare General Plan Circulation Element

The Project would be consistent with the applicable goals and policies of the City's General Plan Circulation Element. The Project would not hinder the City's ability to develop a safe, efficient, and affordable transportation system throughout the community. The Project would include on and off-site roadway improvements to serve internal circulation needs, as well as to mitigate impacts to ensure a safe and efficient level of service that meets the City's established standards. The Project provides improved transit, pedestrian, and bicycle facilities that meet the City's goals to maintain and develop an adequate transit system that provides for the local and regional transit needs of Tulare residents and to maintain an efficient and safe non-vehicular circulation system through Tulare.

County of Tulare General Plan Circulation Element

The Project would be consistent with the applicable goals and policies of the County's General Plan Circulation Element. As discussed in Section 4.11, the Project site is currently under the jurisdiction of Tulare County; however, the Project site is within the City's SOI and UDB and future development of the area was contemplated in the City's 2035 General Plan and evaluated in the General Plan EIR. Because development of the Master Plan is dependent upon the site being annexed into the City, the City is serving as lead agency. As such, an analysis of consistency with the Tulare County General Plan is not provided. However, as roadways within the study area analyzed in the TIA fall within the County of Tulare, consistency with the County's Circulation Element was reviewed. Specifically, the Project is consistent with the County's goal to encourage the development of safe, continuous, and easily accessible bicycle and trail systems that facilitate the use of viable transportation alternatives in a safe and financially feasible manner and to address the transportation system from a multimodal perspective.

Transit, Bicycle, and Pedestrian Facilities

The Project would not conflict with any plans or policies regarding existing or proposed bicycle and pedestrian facilities in the study area and would be consistent with the City of Tulare General Plan non-motorized transportation plan; the Regional Active Transportation Plan for the Tulare County Region; the College of the Sequoias North Transit Oriented Development Plan Area. As a transit-oriented development, approximately six transit stops are proposed, as approved by the Regional Transit Agency, would be located around the perimeter of the Project site for use by residents. In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas. The site improvements would improve transit, pedestrian, and bicycle access over existing conditions and would not impede the construction of new or the expansion of such existing facilities in the future.

Based on analysis provided above, the Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and its impact to transportation plans and programs would be less than significant.

Threshold B: Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less-than-Significant Impact. CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. As shown in the following analysis, the Project is estimated to generate VMT per service population below the county regional average for this metric. The Project would be consistent with CEQA Guidelines Section 15064.3(b) and therefore, impacts would be less than significant.

VMT Screening

The County's SB 743 Guidelines provide five types of VMT screening that can be applied to the proposed Project to screen from a project-level VMT assessment. If a project meets at least one of the below screening criteria, it will not require a detailed VMT analysis:

- **Small Projects (less than 500 daily trips):** If a development project generates less than 500 daily vehicle trips, a project can be presumed to have a less than significant impact. Based on the Transportation Analysis prepared for the Project (Appendix I), the Project would generate 20,954 daily trips and therefore does not meet this screening criterion based on its proposed size and land use.
- **Local Serving Retail and Similar Land Uses:** Consistent with OPR's Technical Advisory, local-serving retail uses are presumed to have a less than significant impact on VMT since they tend to attract vehicle trips from adjacent areas that would have otherwise been made to more distant retail locations. This presumption also applies in Tulare County. Most retail developments in the unincorporated area of Tulare County are anticipated to be local serving. In cases where there is reasonable doubt on whether a project is local serving or regional, County staff can exercise an option of requesting, or requiring, a market study to assist in the evaluation/determination of localness or regionality. The retail component of the Project meets this criterion, and therefore this portion of the Project is screened from VMT.
- **Local Serving Public Facilities.** Similar to retail land uses, local-serving public facilities are presumed to have a less than significant impact on VMT. This would include government facilities intended to typically serve the local public, parks, and public elementary schools, public middle schools, and high schools. The school component of the Project meets this criterion, and therefore this portion of the Project is screened from VMT.
- **Affordable and Farmworker Housing.** OPR's Technical Advisory allows for a less than significant finding for transportation impacts of residential projects that that are 100% affordable housing located in infill areas. For Tulare County, affordable housing is defined as affordable to all persons with a household income equal to or less than 50% of the area median income (as defined by California Health and Safety Code Section 50093), housing for senior citizens, housing for transitional foster youth, disabled veterans, and homeless persons. In addition, this screening category applies to all 100% affordable housing projects that meet the detailed criteria above, regardless of whether they are located in infill areas. It also applies to all developments intended primarily for farm worker housing regardless of their status with respect to affordability. The Project does not include affordable housing or farm worker housing and therefore does not meet this screening criterion.
- **Redevelopment Projects That Result in a Net Reduction of VMT**. According to CEQA, projects are considered to have a less than significant impact if they result in a net reduction in the relevant performance measure (in this case VMT). Therefore, redevelopment projects in Tulare County that generate less VMT than the existing project they are replacing would be considered to have a less than significant impact on VMT. For the purposes of VMT analysis, a redevelopment project is any project that replaces an existing development rather than being built on vacant/undeveloped land, Since VMT/capita and VMT/employee are efficiency metrics, a redevelopment project that would produce more VMT than the existing project it is replacing would need to conduct a VMT analysis assuming the proposed land use (with no credit taken for the existing land use) to determine whether the proposed Project meets the applicable significance thresholds (i.e. a value below the average VMT/capita or VMT/employee of the TAZ in which the Project is located). The Project is not considered a redevelopment project and does not meet this criterion.

- **Mixed-Use Projects That Result in a Net Reduction of VMT.** Mixed-use projects typically generate less VMT than the individual component land uses would generate if they were built on separate project sites because mixed-use projects allow some trips to be made by walking or by short vehicle trips, which would occur within or very near the project site. Mixed-use projects that wish to demonstrate a net reduction in VMT would need to conduct an internal capture analysis using the methodology described in the current edition ITEs' Trip Generation Handbook. Once a reduction in VMT is demonstrated through internal capture, the VMT reduction would be used to indicate a reduced level of VMT/capita or VMT/employee for one or more of the individual land uses. After applying this reduction, the individual land use components of the Project would be analyzed separately with respect to applicable significance thresholds. The Project is a mixed-use development and the VMT for each individual land use has been calculated, as further described below.

VMT Impact Thresholds

The following VMT significance threshold applies to the Project:

- **General Plan Updates/Community Plans:** A significant impact would result if the VMT/capita of the study area within the planning horizon year exceeds the VMT/capita of the study area in the base year.

Project-Specific Analysis

The proposed Project includes approximately 1,197 total units of low-, medium-, and high-density housing (524 single family and 673 multi-family), a neighborhood commercial center, a community center, and a Kindergarten through 8th grade public school, and a central park. As a transit-oriented development, approximately six transit stops are proposed to be located around the perimeter of the Project site for use by residents (or as approved by the Regional Transit Agency). In addition, pedestrian and bicycle trails throughout the site would connect the schools, parks, community center, and the commercial center to the residential areas. Due to its size and extent, this Project is considered a community plan for the purposes of this analysis.

The VMT analysis provided in Appendix I was conducted by TJKM (January 6, 2023) based on the County's SB 743 Guidelines (adopted June 8, 2020). The VMT of the proposed Project and the forecast regional VMT was calculated using the 2018 Regional Transportation Plan (RTP) model from the Tulare Council of Governments (TCAG). The model run included both the baseline conditions (2018) and horizon/forecast year (2042).

The Project generated VMT is defined as the VMT attributed to automobile trips to and from the Project. For VMT forecasting, the Tulare County SB 743 Guidelines state that for a community plan VMT analysis, total VMT/capita of the Project in the horizon year is compared with the VMT/capita of the study area in the base year. If the horizon year with project VMT/capita is lower than the base year VMT per capita, the Project is deemed to be VMT insignificant. The study area is set as the TAZ the Project is located in (#1898).

Based on review of the TCAG model, the horizon year for TAZ #1898 has 243 households with a population of 708. The Project will add 1,197 households and 3,483 people for a total of 1,440 households and 4,191 people. A base year model run and a horizon year plus project model run was conducted with the land use changes added (+1,197 households and +3,483 population). Table 4.17-1 summarizes the findings of this evaluation.

Table 4.17-1. Home Based VMT Per Capita Comparison

TAZ	Base Year Average Daily Home-Based VMT per Capita (per TCAG Model)	Horizon year Plus Project Average Daily Home-Based VMT per Capita (per TCAG Model)	Difference in VMT per Capita
#1898	10.873	9.335	-1.538

Source: Appendix I.
Note: VMT = vehicle miles traveled; TAZ = traffic analysis zone

The Project's VMT was compared between the Horizon year plus project VMT per capita and the base year no project VMT per capita within the study area of the plan (TAZ #1898) using TCAG SB 743 Guidelines. TCAG model run results show that the horizon year plus project model run has a slightly lower total VMT per capita than the base year model run (9.335 vs 10.873) in the study area of TAZ #1898. Since the VMT/capita is lower in the horizon year with project compared to the base year conditions, the Project's impact to VMT would be less than significant.

Threshold C: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Significant and Unavoidable Impact. The following discussion describes the potential for increased hazards as a result of geometric design features of the Project, and/or as a result of the addition of Project traffic to adjacent roadways and Caltrans facilities. The Project study area included in the Transportation Analysis (Appendix I) is presented as Figure 4.17-3, and identifies the study intersections and driveways evaluated and further discussed below. The evaluation included the Opening Year (2032) plus Project and Horizon Year (2040) plus Project conditions.

Project Site Access

Site access is proposed from seven new driveways, one along Oakmore Street, three along Avenue 228, and three along Bardsley Avenue, as follows:

- #14. Driveway A/Avenue 228
- #15. Driveway B/Avenue 228
- #16. Driveway C/Avenue 228
- #17. Oakmore Street/Driveway D
- #18. Driveway E/Bardsley Avenue
- #19. Driveway F/Bardsley Avenue
- #20. Driveway G/Bardsley Avenue

For the purposes of this analysis, all driveways are assumed to function as stop control, with full access (e.g., left- and right-turn inbound and outbound movements allowed). As noted in Section 3.6, Permits and Approvals, upon completion of the annexation of the Master Plan Project site into the City limits, a parcel map detailing site development per the approved land use and zoning designations would be submitted to the City for review and approval prior to the start of construction. As site plans are developed and exact locations of driveways are identified, it is recommended that individual driveway and access locations are analyzed to determine the most appropriate intersection control and minimize potential access-related impacts. Therefore, implementation of **Mitigation Measure TRA-1: Local Site Access Analysis** is recommended to ensure that the site access is adequately

analyzed at the time detailed development plan(s) are proposed. It should be noted that LOS operations at all driveways were also evaluated in the Transportation Analysis prepared for the Project (Appendix I) and include specific intersection improvements related to improving LOS.

As previously noted, the Project proposes approximately six transit stops (as approved by the Regional Transit Agency) located around the perimeter of the Project site, as well as include pedestrian and bicycle trails throughout the site to connect the schools, parks, community center, and the commercial center to the residential areas. There would be no impacts to transit, pedestrian or bicycles access or facilities.

Queuing Analysis

A queuing analysis was prepared for all Project driveways to assess the adequacy of any off-site storage lanes into the Project site. As this is a larger community planning area, the adequacy of driveway throat lengths and space on-site for vehicles to queue without affecting the internal circulation on the Project site was not analyzed. As noted above, implementation of **Mitigation Measure TRA-1: Local Site Access Analysis** is recommended upon buildout of components of the proposed Project.

Additionally, locations where traffic travels from the Project site onto state highways (e.g., Oakmore Avenue/Tulare Avenue – SR-137), and intersections with off-ramps where queuing could extend to the freeway mainline (e.g., SR-99 northbound and southbound off-ramps at Bardsley Avenue), were also included in the queuing analysis. Queuing was analyzed utilizing the SimTraffic software, which calculates the 95th percentile (design) queue, and results for all Opening Year (2032) plus Project and Horizon Year (2040) plus Project conditions are summarized in Tables 4.17-2 and 4.17-3 below, respectively. All queuing analysis data and SimTraffic queuing worksheets are provided in Appendix I.

As shown in the tables, several queues would be expected to extend past available stacking distances and/or the lengths of freeway off-ramps, or extend along a roadway segment where only one direction of travel is provided (e.g., no stop-control is provided along the major street and vehicles are attempting to turn left onto the minor street). Where queuing extends along a roadway without an available turn pocket at the intersection, queuing can be alleviated by providing the necessary storage capacity. With implementation of the improvements recommended for LOS operations identified in Appendix I, the following intersections would be converted from one- or two-way stop-control to signalized intersection with pockets for left-turning movements:

- #5: Oakmore Street/Tulare Avenue (SR-137)
- #12: Oakmore Street/Avenue 228
- #23: Road 132/Tulare Avenue (SR-137)

Although some locations identified in Tables 4.17-2 and 4.17-3, show queues exceeding the available stacking distances of specific movements, if these queues do not contribute to the total length of queues extending into the freeway mainline (e.g., southbound right-turn at SR-99 SB Ramps/Tulare Avenue (SR-137), or if they exceed turning pocket lengths by 1- to 2-vehicles (e.g. westbound left-turn at Dayton Street/Tulare Avenue [SR-137]), additional improvements are not recommended in this analysis.

Improvement measures required to mitigate the Project's LOS and queuing impacts would include fair-share contributions to these intersections (see Appendix I for further information). Additionally, at the locations where queuing extends past available stacking distances at both the northbound and southbound off-ramps of SR-99 at Bardsley Avenue, signalization is recommended for improving LOS operations, which would reduce delays and queuing such that vehicles would not extend into the freeway mainline. However, since the City does not have

jurisdiction over state facilities (SR-137 and SR-99), these improvements cannot be assumed to be in place prior to Project's occupancy. Therefore, the Project's impact to increase in hazardous conditions (i.e., queuing) would be partially mitigated, but remain significant and unavoidable.

Table 4.17-2. Peak-Hour Queuing Summary for Opening Year (2032) plus Project Conditions

No.	Intersection	Movement	Available Stacking Distance (Feet)	Opening Year (2032) plus Project			
				AM Peak Hour		PM Peak Hour	
				95th Percentile Queue	Acceptable?[1]	95th Percentile Queue	Acceptable?[1]
1	SR-99 SB Ramps/ Tulare Avenue (SR-137)	EBL	150	49	Yes	88	Yes
		SBL[2]	1300	197	Yes	1090	Yes
		SBR	50	90	**No**	90	**No**
2	Dayton Street/ Tulare Avenue (SR-137)	WBL	300	322	**No**	265	Yes
		NBLT[2]	1150	54	Yes	57	Yes
		NBR	50	40	Yes	49	Yes
5	Oakmore Street/ Tulare Avenue (SR-137)	WBLTR[3]	25	4803	**No**	1467	**No**
		NBLTR[2]	875	2933	**No**	3014	**No**
6	SR-99 SB Ramps/ Bardsley Avenue	SBLTR[2]	1425	1899	**No**	1681	**No**
		WBL	125	147	**No**	129	**No**
7	SR-99 NB Ramps/ Bardsley Avenue	NBLTR[2]	1345	1867	**No**	1655	**No**
		EBL	100	152	**No**	146	**No**
11	Bardsley Avenue/ Oakmore Street	EBL	100	150	**No**	145	**No**
		SBL	240	138	Yes	229	Yes
		SBR[2]	1025	103	Yes	413	Yes
12	Oakmore Street/ Avenue 228	WBLR[2]	900	1211	**No**	1229	**No**
		SBLT[3]	25	820	**No**	395	**No**
21	Road 132/ Bardsley Avenue	EBLTR[3]	25	34	**No**	28	**No**
		SBLTR[2]	460	57	Yes	67	Yes
22	Road 132/ Avenue 228	EBLTR[3]	25	18	Yes	15	Yes
		NBLTR[2]	175	64	Yes	50	Yes
		SBLTR[2]	200	72	Yes	67	Yes
23	Road 132/ Tulare Avenue (SR-137)	WBLTR[3]	25	128	**No**	172	**No**
		NBLTR[2]	300	108	Yes	83	Yes

Source: Appendix I.
Notes: WBL = westbound left; WBR = westbound right; EBL = eastbound left; NBR = northbound right; SBL = southbound left; SBR = southbound right; WBLTR = westbound left-through-right; EBLTR = eastbound left-through-right; NBLTR = northbound left-through-right; SBLTR = Southbound left-through-right; SBLT = southbound left-through; NBLT = northbound left-through; **Bold**: Exceeds stacking distance; **Bold:** Exceeds stacking distance and extends onto freeway mainline.

1 Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided; stacking distance is noted as "OK" if exceeded by less than one vehicle length (e.g., 25 feet).

2 Available stacking distance measured from stop bar to the nearest driveway or intersection, or gore point at freeway mainline (where applicable).

3 Available stacking distance measured as one vehicle length (e.g., 25 feet) as turning movement is uncontrolled/no stacking distance is provided.

Table 4.17-3. Peak-Hour Queuing Summary for Horizon Year (2040) plus Project Conditions

No.	Intersection	Movement[1]	Available Stacking Distance (Feet)	Horizon Year (2040) plus Project			
				AM Peak Hour		PM Peak Hour	
				95th Percentile Queue	Acceptable?[1]	95th Percentile Queue	Acceptable?[1]
1	SR-99 SB Ramps/ Tulare Avenue (SR-137)	EBL	150	41	Yes	102	Yes
		SBL[2]	1300	184	Yes	535	Yes
		SBR	50	87	**No**	98	**No**
2	Dayton Street/ Tulare Avenue (SR-137)	WBL	300	302	**No**	278	Yes
		NBLT[2]	1150	58	Yes	136	Yes
		NBR	50	38	Yes	111	**No**
5	Oakmore Street/ Tulare Avenue (SR-137)	WBLTR[3]	25	4786	**No**	718	**No**
		NBLTR[2]	875	2917	**No**	3070	**No**
6	SR-99 SB Ramps/ Bardsley Avenue	SBLTR[2]	1425	1911	**No**	1630	**No**
		WBL	125	133	**No**	149	**No**
7	SR-99 NB Ramps/ Bardsley Avenue	NBLTR[2]	1345	1940	**No**	1436	**No**
		EBL	100	148	**No**	157	**No**
11	Bardsley Avenue/ Oakmore Street	EBL	100	143	**No**	147	**No**
		SBL	240	194	Yes	151	Yes
		SBR[2]	1025	512	Yes	223	Yes
12	Oakmore Street/ Avenue 228	WBLR[2]	900	1203	**No**	1252	**No**
		SBLT[3]	25	2592	**No**	188	**No**
21	Road 132/ Bardsley Avenue	EBLTR[3]	25	35	**No**	32	**No**
		SBLTR[2]	460	67	Yes	66	Yes
22	Road 132/ Avenue 228	EBLTR[3]	25	10	Yes	10	Yes
		NBLTR[2]	175	64	Yes	54	Yes
		SBLTR[2]	200	74	Yes	73	Yes
23	Road 132/ Tulare Avenue (SR-137)	WBLTR[3]	25	365	**No**	157	**No**
		NBLTR[2]	300	117	Yes	60	Yes

Source: Appendix I.

Notes: WBL = westbound left; WBR = westbound right; EBL = eastbound left; NBR = northbound right; SBL = southbound left; SBR = southbound right; WBLTR = westbound left-through-right; EBLTR = eastbound left-through-right; NBLTR = northbound left-through-right; SBLTR = Southbound left-through-right; SBLT = southbound left-through; NBLT = northbound left-through; **Bold**: Exceeds stacking distance; **Bold:** Exceeds stacking distance and extends onto freeway mainline.

1 Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided; stacking distance is noted as "OK" if exceeded by less than one vehicle length (e.g., 25 feet).

2 Available stacking distance measured from stop bar to the nearest driveway or intersection, or gore point at freeway mainline (where applicable).

3 Available stacking distance measured as one vehicle length (e.g., 25 feet) as turning movement is uncontrolled/no stacking distance is provided.

Threshold D: Would the Project result in inadequate emergency access?

Less-than-Significant Impact. The conceptual site plan identifies seven main access driveways into the plan area, and in the event of an emergency all the driveways would enable vehicles to enter/exit the plan area. All street improvements will be designed with adequate width, turning radius, and grade to facilitate access by City firefighting apparatus, and to provide alternative emergency ingress and egress. The site plan would be subject to plan review by the City Fire Departments to ensure proper access for fire and emergency response is provided and required fire suppression features are included. Therefore, the Project's impact due to inadequate emergency access would be less than significant.

4.17.5 Mitigation Measures

The following mitigation measure is proposed:

MM-TRA-1 Local Site Access Analysis. Conduct local site access analysis for individual driveway and access locations at the time detailed development plan(s) are proposed. Fair share costs shall be calculated when local access studies are completed as the plan area is developed.

4.17.6 Level of Significance After Mitigation

Since the City does not have jurisdiction over all of the study intersections, improvements cannot be assumed to be in place prior to the Project's occupancy. Therefore, even with implementation of MM-TRA-1, the Project's impact to increase hazardous conditions (e.g., queuing) would be **significant and unavoidable** (Threshold C and Threshold E).

4.17.7 References

Caltrans. 2002. Guide for the Preparation of Traffic Impact Studies. https://nacto.org/docs/usdg/guide_preparation_traffic_impact_studies_caltrans.pdf.

Caltrans. 2020a. Vehicle Miles Traveled-Focused Transportation Impact Study Guide. https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf.

Caltrans. 2020b. Interim Local Development and Intergovernmental Review Safety Review Practitioners Guidance. https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-07-01-interim-ldigr-safety-guidance-a11y.pdf.

OPR (California Governor's Office of Planning and Research). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December 2018. Accessed February 2021. http://opr.ca.gov/docs/20190122-743_Technical_Advisor.y.pdf.

Placeworks. 2013. Tulare Transit-Oriented Development Plan. https://www.tulare.ca.gov/home/showpublisheddocument/731/635713493595600000

TCAG (Tulare County Association of Governments). 2010. Tulare County Regional Bicycle Plan. https://www.ca-ilg.org/sites/main/files/file-attachments/tulare_county_bike_plan_0.pdf

TCAG. 2022. 2022 Regional Active Transportation Plan. https://tularecog.org/tcag/planning/active-transportation-planning/regional-active-transportation-plan-ratp/

TCAT (Tulare County Area Transit). 2020. Tulare County Area Transit – Transportation for Tulare, Visalia, Dinuba, Porterville, and Delano (ridetcat.org)

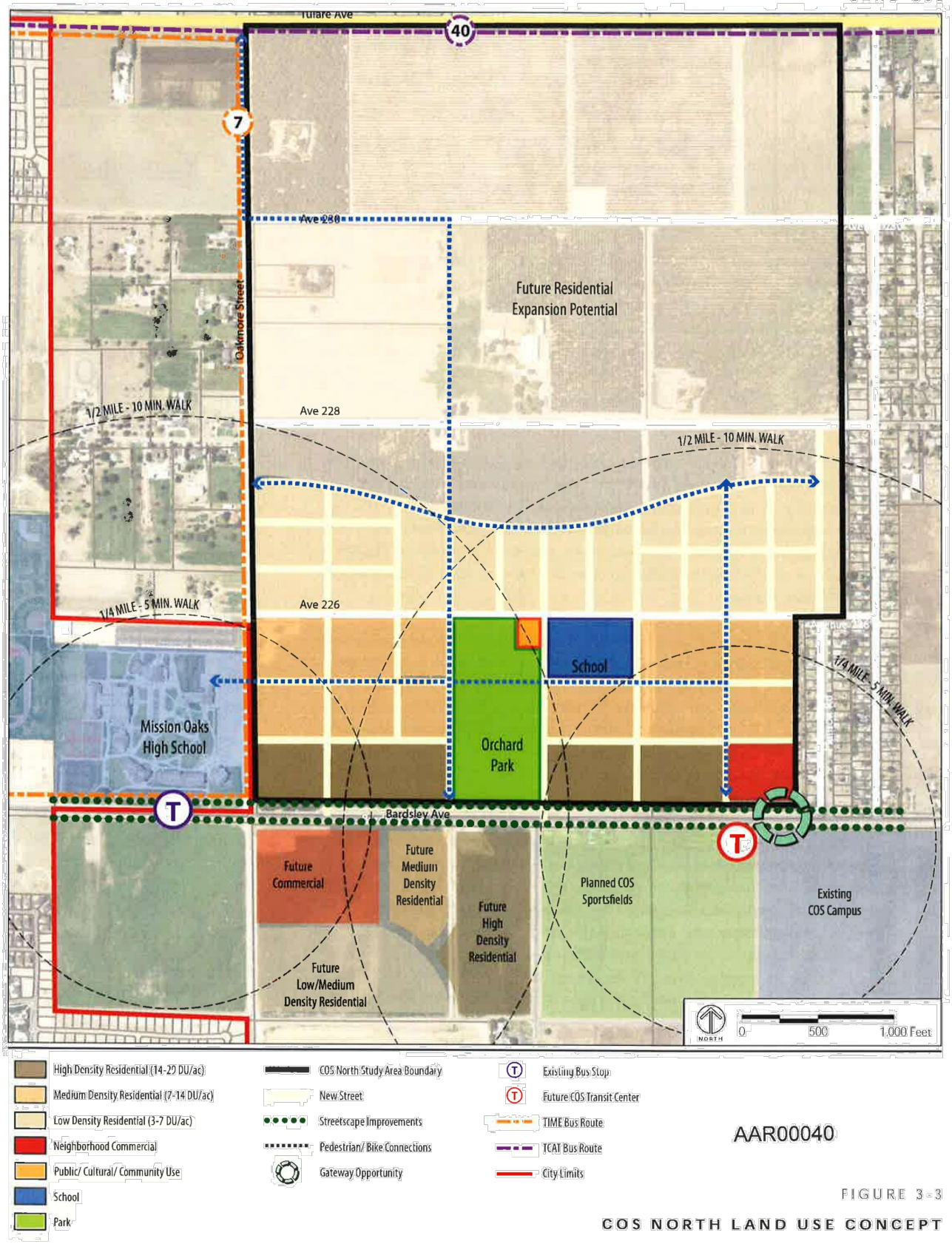


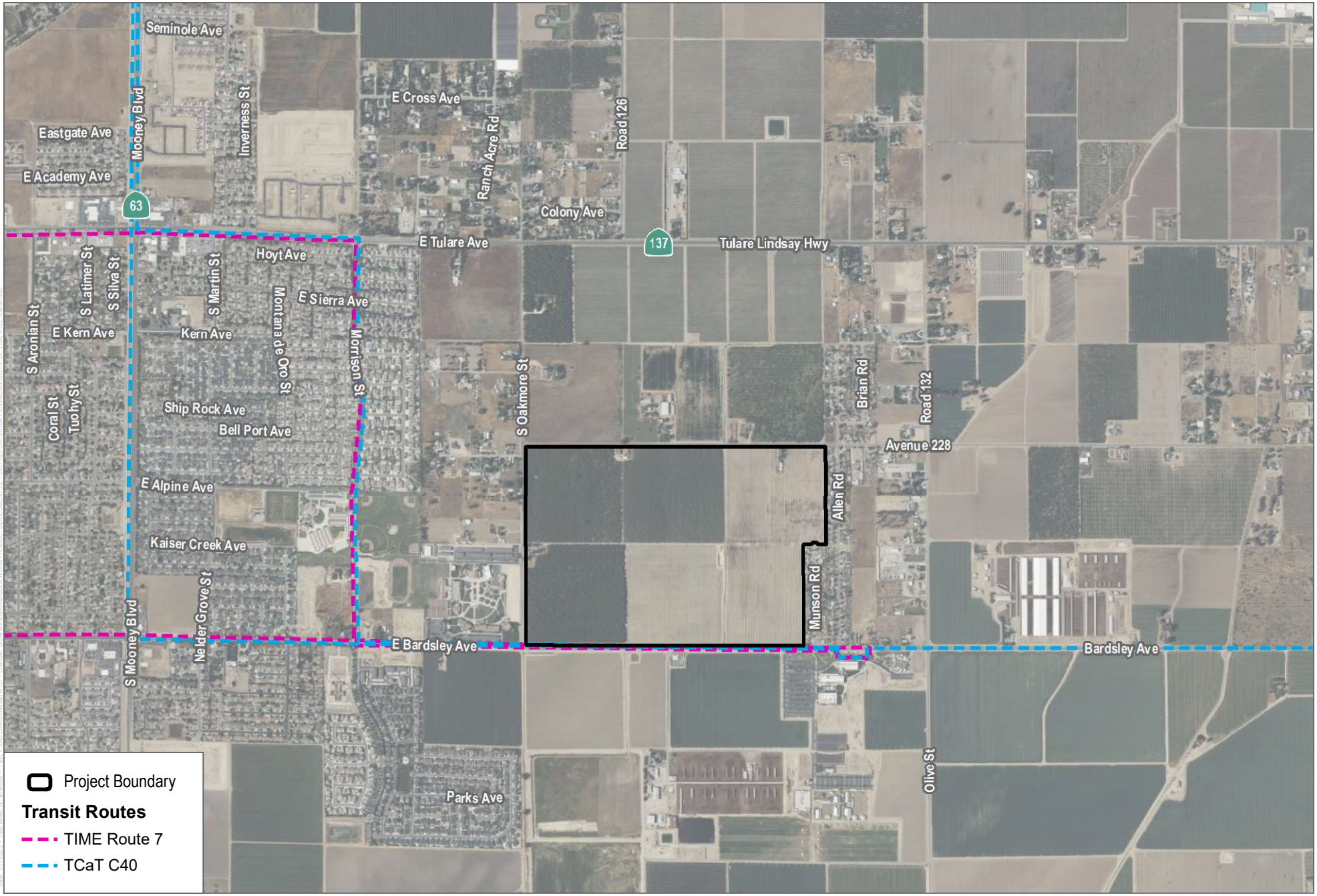
FIGURE 3-3
COS NORTH LAND USE CONCEPT

SOURCE: Tulare Transit-Oriented Development Plan (City of Tulare 2013)

DUDEK NOT TO SCALE

FIGURE 4.17-1
COS North Land Use Concept
Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK



SOURCE: Bing Maps 2022

DUDEK

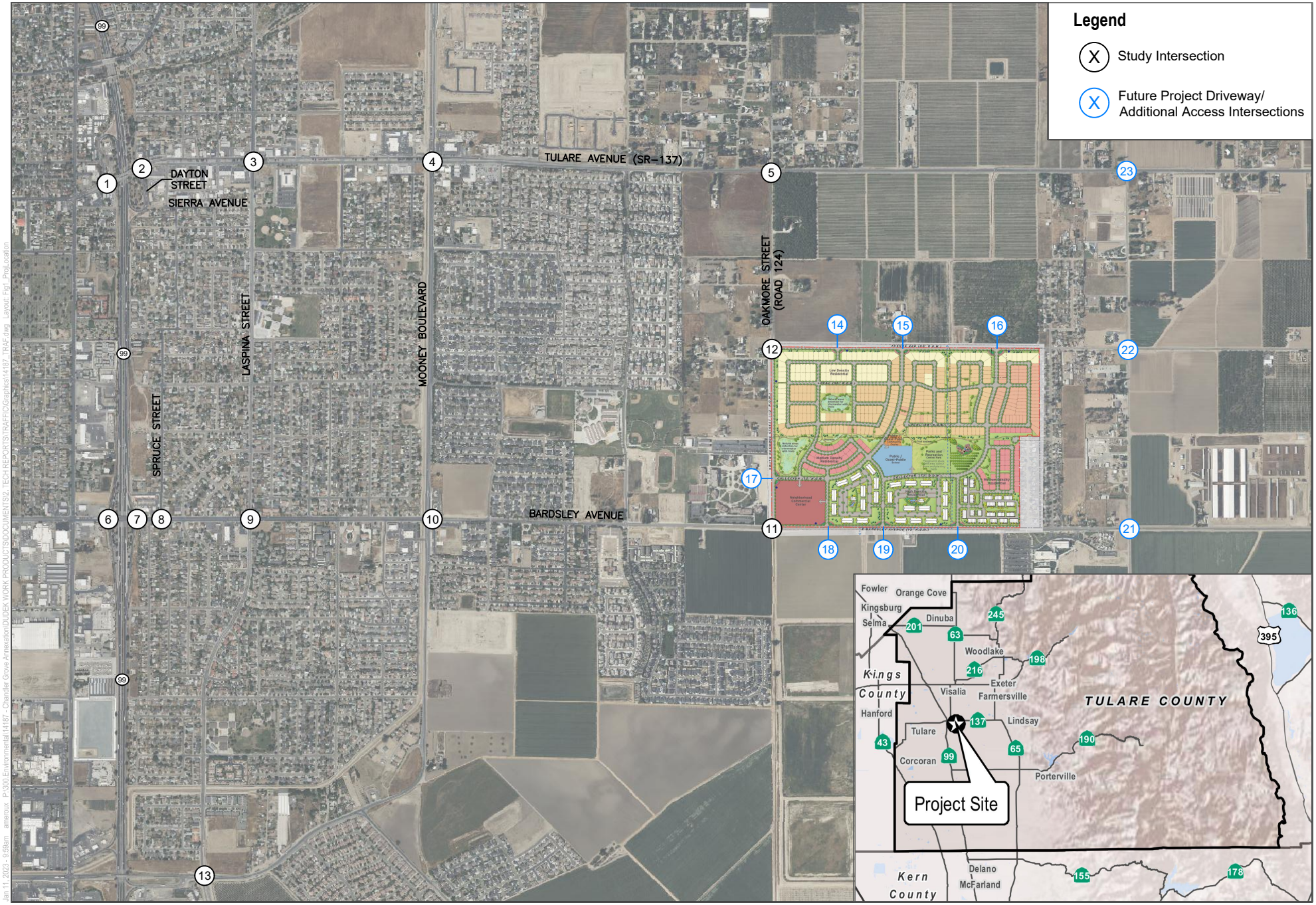
0 850 1,700 Feet

FIGURE 4.17-2

Existing Transit Facilities

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK



SOURCE: Bing Maps; Russell Mills 2022

DUDEK

NOT TO SCALE

FIGURE 4.17-3

Project Location and Study Area

Chandler Grove Master Plan and Annexation Project

INTENTIONALLY LEFT BLANK

4.18 Utilities and Service Systems

This section describes the existing public utilities (water supply, wastewater conveyance and treatment, and solid waste collection and disposal) that would serve the Project site and identifies anticipated demand for these facilities resulting from implementation of the Chandler Grove Master Plan and Annexation Project (proposed Project or Project). This section assesses potential effects on air quality that could result from implementation of the proposed Project. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

The capacity of these utilities to accommodate development of the proposed Project is evaluated. Section 4.10, Hydrology and Water Quality, addresses storm drain infrastructure.

The analysis of the Project impacts related to utilities and service systems is supported by and based on information in the City of Tulare 2020 Urban Water Management Plan, October 2021 (City of Tulare 2021) and as provided in the following report:

- Appendix G, Water Supply Assessment, prepared by Dudek (2022)

Other sources consulted are listed below in Section 4.18.8, References.

No comments were received related to Utilities and Service Systems during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.18.1 Existing Conditions

This section describes the existing utility and service system conditions in the Project area and also identifies the resources that could be affected by the Project. The proposed Project would include new water, sewer, and dry utilities infrastructure on site to serve the residential and commercial development designed in compliance with City specifications. Currently there are no publicly provided water, sewer, storm drain or other utilities within the Project site, with the exception of overhead electrical lines that run along Ave 228 along the northern boundary of the site. The Project's on-site water, sewer, and storm drain lines are proposed to be located within the proposed road/driveway rights-of-way within the Project site. Currently, the Project site includes orchards and three residences and associated outbuildings that are served by two on-site water wells and septic systems.

Water Supply

The Project site is currently located within unincorporated Tulare County but is planned to be annexed to the City as part of the Project. Once annexed, the Project would be supplied with water from the City (Water Division of the Public Works Department). The City provides water supplies to its customer base through multiple groundwater wells located throughout the City; the system uses groundwater as its sole water supply source. However, it does use surface water and treated wastewater for percolation to offset the groundwater extraction. The City also has an

emergency interconnection with California Water Service (but do not receive water as a customer) and operate a groundwater well on the south side of E. Bardsley Avenue and Mooney Boulevard, approximately 1 mile west of the Project site. An existing City water line is located along E. Bardsley Avenue, approximately 1,000 feet west of the Project site that would likely serve as the Project's point of connection for water service. On-site groundwater wells currently serve the irrigation and domestic water needs of the existing orchard, and thus the site is not currently served by the City's municipal water distribution system. The existing water demand for the irrigation and three residential properties at the Project site is 629 acre-feet per year (AFY) (Appendix G).

Based on the City's current 2020 Urban Water Management Plan (UWMP), the City's water system consists of a network of 24 groundwater wells widely distributed throughout the City with a total capacity of approximately 25,760 gallons per minute (gpm) or 41,551 AFY, well in exceedance of current and projected annual demands. Groundwater from the City's wells are stored in a 125,000-gallon water storage tower, two 2-million-gallon concrete storage tanks, and one 1.5-million-gallon concrete storage tank, which are interconnected by at least 277 miles of water transmission and distribution mains. Groundwater pumped from the underlying groundwater subbasin is treated as needed to potable standards using a combination of chlorine disinfection and additional treatment where needed. The City's groundwater source can have elevated arsenic and nitrate concentrations, as well as some wells with 1,2,3-tricholoropropane detections. There are at least seven well sites with granulated activated carbon treatment filters to address 1,2,3-tricholoropropane.

The City's annual groundwater production between 2001 and 2020 has varied from a low of 14,550 AF in 2001 to a high of 19,524 AF in 2013 (City of Tulare 2021). Between 2013 and 2015, water use decreased sharply down to 15,351 AF despite a continued increase in population and stayed generally below 16,879 AF since then (City of Tulare 2021). The volume of groundwater pumped by the City in year 2020 was 16,937 AF and projected to be 22,820 AF in 2040 (City of Tulare 2021). The 2020 water use equates to an average day demand of approximately 10,500 gpm, and 2040 projected water use equates to approximately 14,150 gpm. The City's wellfield has a combined capacity of approximately 25,760 gpm, which is more than double the current average day demand and would be sufficient to serve the City's projected water demands (City of Tulare 2021).

Sewer

The City's sewer collection system is primarily located within the City limits and includes gravity sewer lines ranging from 6-inch up to 39-inch diameter gravity sewer lines. The majority of the pipelines convey generated wastewater to the City's Domestic Wastewater Treatment Plant and there are also dedicated lines conveying wastewater flow from industrial dischargers to the City's Industrial Wastewater Treatment Plan. There is a 21-inch sewer main located in Bardsley Avenue at the southwest corner of the Project site (City of Tulare 2009a).

Wastewater Treatment

The City's Wastewater Treatment Plant Division operates and maintains the city's wastewater treatment facilities (WWTF), which consists of a domestic plant and an industrial plant. The domestic plant has a capacity to treat 6.0 million gallons per day (MGD) and the industrial plant has a capacity to treat up to 12.0 MGD. The domestic plant is currently treating about 4.15 MGD and about 7.5 MGD in the industrial plant (City of Tulare 2022). Additional operations include 320 acres of storage ponds, 2,200 acres of farmland under permit for beneficial reuse of treated wastewater, and self-generation of renewable energy including the anaerobic bulk volume fermenter, 5.6 megawatt (MW) of fuel cells, and 3.45 MW of solar photovoltaic panels. The City's Wastewater Treatment Plant Division is also responsible for performing laboratory analyses on domestic and industrial waste samples as well as domestic water samples.

Stormwater Drainage

The Project site is currently within Tulare County but adjacent to the current city of Tulare limits and at the transition from urban development to the west and agricultural land uses to the east. According to the 2009 Storm Drainage Master Plan, the City of Tulare divided its planning area into 32 distinct subbasins, each consisting of a system of conveyance facilities to collect and dispose runoff. Depending on the subbasin, stormwater runoff is either conveyed to retention or detention basins or is discharged directly into Tulare Irrigation District owned facilities at Town Ditch, Railroad Ditch, Kaweah Ditch/Pipeline, and Main Canal (City of Tulare 2009a). The City's existing stormwater conveyance facilities consist of storm drainage pipes varying in size from 8 to 42 inches. Runoff discharges by gravity or is pumped into various irrigation canals. The City currently maintains 28 retention and 18 detention basins that are located throughout Tulare and operates 25 stormwater pump stations.

The Project site is currently unimproved in terms of stormwater drainage. Stormwater runoff currently flows as sheet flow across the Project site. There are catch basins to the west of the site on East Bardsley Avenue and the west side of South Oakmore Street. The Project site has a concrete-lined drainage ditch (Bates Slough Ditch) that transects the approximate center of the subject property. The ditch drains across the subject property to the south until reaching East Bardsley Avenue, where it changes course to the east along the southern property boundary, flowing through a culvert that crosses East Bardsley Avenue (Appendix G). The site also has an empty storage pond adjacent to two irrigation wells in the center of the property.

Solid Waste

The collection, transport, and disposal of solid waste and recyclables in the City is provided by the Solid Waste/Street Sweeping Division. The solid waste service operates under the direction of the Board of Public Utilities. The collected solid waste is transported to one of three active solid waste disposal facilities in the county: Visalia, Woodville, and Teapot Dome.

The Visalia facility is located at 22466 Road 80 in Visalia and serves the cities of Visalia, Farmersville, Dinuba, Exeter, Tulare, Woodlake, Fresno, and unincorporated areas of northern Tulare and southern Fresno counties. The facility has a maximum permitted daily throughput of 2,000 tons of solid waste (CalRecycle 2022a). The landfill has a remaining capacity of 18,630,666 tons and is expected to remain open until 2024 (CalRecycle 2022a).

The Woodville facility is located at 19800 Road 152 in Woodville and is another public facility that serves the cities of Tulare, Exeter, Farmersville, Lindsay, Visalia, Woodlake, and unincorporated areas of central Tulare County. The facility has a maximum permitted daily throughput of 1,078 tons of solid waste (CalRecycle 2022b). The landfill has a remaining capacity of 7,093,145 tons and is expected to remain open until 2026 (CalRecycle 2022b).

The Teapot Dome facility is located at 21063 Avenue 128 in Porterville and serves the City of Porterville and unincorporated areas of southern Tulare, and northern Kern counties. The facility has a maximum permitted daily throughput of 800 tons of solid waste (CalRecycle 2022c). The landfill has a remaining capacity of 712,861 tons and is expected to remain open until December 31, 2022 (CalRecycle 2022c).

Electric Power

Electric service is provided to the City by Southern California Edison. Four major substations are located within the City limits, including: Protein, Dairymans, Tulare, and an unnamed substation. In the vicinity of the Project site, main electrical transmission lines are located along South Mooney Boulevard and along East Tulare Avenue. There are

also above-ground electrical pole lines that supply electricity along E. Bardsely Avenue to the west of the Project site and along Road 124 to the north of the site.

Natural Gas

Natural gas is supplied to the City by Southern California Gas Company. As a public utility, Southern California Gas Company is under the jurisdiction of federal and state regulatory agencies. There are existing high pressure distribution lines located along North Mooney Boulevard that make a 90-degree turn to the west along East Tulare Avenue approximately 1.2 miles northwest from the Project site (SoCalGas 2022).

Telecommunications Facilities

The existing telecommunications services in the vicinity of the Project site are supplied by various utilities providers such as AT&T Distribution South and Comcast.

4.18.2 Relevant Regulations, Plans, Policies, and Ordinances

Federal

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The SDWA authorizes the United States Environmental Protection Agency (EPA) to set national health-based standards for drinking water to protect against both naturally occurring and manmade contaminants that may be found in drinking water. Contaminants are regulated by EPA through the establishment of primary and secondary maximum contaminant levels (MCLs). EPA has delegated responsibility for California's drinking water program to the SWRCB Division of Drinking Water. SWRCB Division of Drinking Water is responsible for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. The CWA made it unlawful for any person to discharge any pollutant from a point source into navigable waters unless a permit was obtained under its provisions. The CWA assists in the development and implementation of waste treatment management plans and practices by requiring provisions for treatment of waste using best management practices (BMPs) technology before there is any discharge of pollutants into receiving waters, as well as the confined disposal of pollution, so that it will not migrate to cause water or other environmental pollution. Additionally, CWA funds the construction of sewage treatment plants under the construction grants program.

National Pollutant Discharge Elimination System Permit Program

The National Pollution Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. Discharge from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water

limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (CFR, Title 40, Section 268, Subpart D), contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs that include federal landfill criteria. The federal regulations address the location, operation, design, and closure of landfills, as well as groundwater monitoring requirements.

State

Porter-Cologne Water Quality Control Act

In 1969, the California Legislature enacted the Porter-Cologne Water Quality Control Act ("Porter-Cologne Act") to preserve, enhance and restore the quality of the State's water resources. The Porter-Cologne Act established the SWRCB and the nine individual Regional Water Quality Control Boards (RWQCBs) as the principal state agencies with the responsibility for controlling water quality in California. Under the Porter-Cologne Act, water quality policy is established, water quality standards are enforced for both surface and groundwater, and the discharges of pollutants from point and non-point sources are regulated. The Porter-Cologne Act authorizes the SWRCB to establish water quality principles and guidelines for long-range resource planning, including groundwater and surface water management programs and control and use of recycled water.

The Region 5 (Central Valley) the RWQCB has jurisdiction over all of Tulare County and includes the Sacramento River and San Joaquin River, two of the state's major rivers, that drain the region. The RWQCB develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources throughout the Central Valley. In accordance with Section 13263 of the California Water Code, RWQCBs are authorized to issue Waste Discharge Requirements (WDR), as well as periodically review self-monitoring reports submitted by the discharger, and perform independent compliance checking, and take enforcement action if necessary.

California Water Plan Update 2013

The California Water Plan is the state's blueprint for integrated water management and sustainability. The California Department of Water Resources (DWR) updates the Water Plan approximately every 5 years. California Water Plan Update 2013 is the latest edition of the water plan and provides statewide strategic plan for water management to the year 2050. The California Water Plan provides framework and resource management strategies promoting two major initiatives: integrated regional water management that enables regions to implement strategies appropriate for their own needs and helps them become more self-sufficient, and improved statewide water management systems that provide for upgrades to large physical facilities, such as the State Water Project, and statewide management programs essential to the California economy (DWR 2013).

Urban Water Management Plans

Pursuant to the California Urban Water Management Act (California Water Code Sections 10610–10656), urban water purveyors are required to prepare and update an Urban Water Management Plan (UWMP) every 5 years. UWMPs are prepared by California's urban water suppliers to support long-term resource planning and ensure

adequate water supplies. Every urban water supplier that either delivers more than 3,000 AFY of water annually or serves more than 3,000 connections are required to assess the reliability of its water sources over a 20-year period under normal-year, dry-year, and multiple-dry-year scenarios in a UWMP. UWMPs must be updated and submitted to the CDWR every 5 years for review and approval. The 2020 UWMP for the City of Tulare was prepared and adopted in October 2021 (City of Tulare 2021).

Senate Bill 610 and Senate Bill 221: Water Supply Assessments

SB 610 and SB 221, amended into state law effective January 1, 2002, improve the linkage between certain land-use decisions made by cities and counties and water supply availability. The statutes require detailed information regarding water availability and reliability with respect to certain developments to be included in the administrative record, to serve as the evidentiary basis for an approval action by the City or County on such projects. Under Water Code Section 10912(a), projects subject to the California Environmental Quality Act (CEQA) that would require a water supply assessment include the following:

1. Residential development of more than 500 dwelling units
2. Shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space
3. Commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space
4. Hotel, motel or both, having more than 500 rooms
5. Industrial, manufacturing, or processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land or having more than 650,000 square feet of floor area
6. Mixed-use projects that include one or more of the projects specified
7. (A project that would demand an amount of water equivalent to or greater than the amount required by a 500 dwelling unit project

A fundamental source document for compliance with SB 610 is the UWMP, which can be used by the water supplier to meet the standard for SB 610. SB 221 applies to the Subdivision Map Act, conditioning a tentative map on the applicant to verify that the public water supplier has sufficient water available to serve the proposed development.

Drought Emergency Regulation, Executive Order B-29-15

In response to California's previous drought, Executive Order B-29-15 set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the Executive Order extended through February 28, 2016, although many of the directives became permanent water-efficiency standards and requirements. The Executive Order includes specific directives that set strict limits on water usage in the state. In response to Executive Order B-29-15, the CDWR modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Senate Bill X7-7

SB X7-7, which became effective on February 3, 2010, is the water conservation component to the Delta legislative package (SB 1, Delta Governance/Delta Plan). The bill implements water use reduction goals established in 2008 to achieve a 20% statewide reduction in urban per capita water use by December 31, 2020. The bill requires each urban

retail water supplier to develop urban water use targets to help meet the 20% goal by 2020 and an interim 10% goal by 2015. The bill establishes methods for urban retail water suppliers to determine targets to help achieve water reduction targets. The retail water supplier must select one of the four compliance options. The retail agency may choose to comply with SB X7-7 as an individual or as a region in collaboration with other water suppliers. Under the regional compliance option, the retail water supplier must report the water use target for its individual service area.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package—AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley)—collectively known as the Sustainable Groundwater Management Act (SGMA). This Act requires governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, sustainability should be achieved by 2040. For the remaining high- and medium-priority basins, 2042 is the deadline. Through SGMA, the CDWR provides ongoing support to local agencies through guidance, financial assistance, and technical assistance. SGMA empowers local agencies to form Groundwater Sustainability Agencies to manage basins sustainably and requires those Groundwater Sustainability Agencies to adopt Groundwater Sustainability Plans for crucial groundwater basins in California.

Sanitary Sewer General Waste Discharge Requirements

On May 2, 2006, the State Water Resources Control Board adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system in order to prevent sanitary sewer waste from entering the storm sewer system, and to develop a Sewer System Management Plan. The General Waste Discharge Requirement also requires that storm sewer overflows be reported to the State Water Resources Control Board using an online reporting system.

Assembly Bills 939 and 341: Solid Waste Reduction and other Regulations

The California Integrated Waste Management (CIWM) Act of 1989 (Assembly Bill [AB] 939) was enacted as a result of a national crisis in landfill capacity, as well as a broad acceptance of the desired approach to solid waste management of reducing, reusing, and recycling. AB 939 mandated local jurisdictions to meet waste diversion goals of 25% by 1995, 50% by 2000, and established an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance. AB 939 requires cities and counties to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) a source reduction and recycling element to demonstrate how the jurisdiction will meet the diversion goals. Other elements included encouraging resource conservation and considering the effects of waste management operations. The diversion goals and program requirements are implemented through a disposal-based reporting system by local jurisdictions under CIWM Board regulatory oversight. Since the adoption of AB 939, landfill capacity is no longer considered a statewide crisis. AB 939 has achieved substantial progress in waste diversion, program implementation, solid waste planning, and protection of public health, safety, and the environment from landfills operations and solid waste facilities.

In 2011, AB 341 was passed, making a legislative declaration 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 the year 2020. AB 341 requires that local agencies adopt strategies that will enable 75% diversion of all solid waste by 2020. This bill requires all

commercial businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. In addition, multifamily apartments with five or more units are also required to form a recycling program.

Mandatory commercial recycling was one of the measures adopted in the AB 32 Scoping Plan by the California Air Resources Board (CARB), pursuant to the California Global Warming Solutions Act (Chapter 488, Statutes of 2006, codified at California Health and Safety Code Section 38500 et seq.). (AB 32 is further described below.) The mandatory commercial recycling measure is focused on increasing waste diversion from commercial uses to reduce greenhouse gas emissions (greenhouse gas resulting from decomposition of organic waste in landfills has been identified as a significant source of emissions contributing to global climate change). The measure establishes an objective of reducing greenhouse gas emissions by 5 million metric tons of carbon dioxide equivalent. To meet this objective, the commercial sector will be required to recycle an additional 2 to 3 million tons of materials annually by 2020. This regulation reflects the statutory provisions of AB 341 and provides additional procedural clarifications.

Senate Bill 1374: Construction and Demolition Waste Reduction

Senate Bill (SB) 1374 requires that annual reports submitted by local jurisdictions to CIWM Board include a summary of the progress made in the diversion of construction and demolition waste materials. In addition, SB 1374 requires the CIWM Board to adopt a model ordinance suitable for adoption by any local agency that required 50% to 75% diversion of construction and demolition waste materials from landfills. Local jurisdictions are not required to adopt their own construction and demolition ordinances, nor are they required to adopt CIWM Board's model by default.

Assembly Bill 1826: Mandatory Commercial Organics Recycling

In October 2014, Governor Brown signed AB 1826 Chesbro (Chapter 727, Statutes of 2014), requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste generated per week. "Organic waste" is defined as 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 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. This law phases in the mandatory recycling of commercial organics over time. 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 recycle organic waste.

California Code of Regulations Title 24, Part 11

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code, Part 11 of Title 24, is commonly referred to as CALGreen and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all new construction of residential and non-residential buildings. CALGreen standards are updated periodically. The latest version became effective on January 1, 2019.

Mandatory CALGreen standards pertaining to water, wastewater, and solid waste include the following (24 CCR Part 11):

Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings.

Mandatory reduction in outdoor water use through compliance with a local water-efficient landscaping ordinance or the CDWR's Model Water Efficient Landscape Ordinance.

Diversion of 65% of construction and demolition waste from landfills.

Local

City of Tulare 2035 General Plan

The City of Tulare 2035 General Plan (City of Tulare 2014) Land Use Element sets forth the following goals and policies relevant to utilities:

LU-P11.3 System Expansion. The City shall require new development be responsible for expansion of existing facilities such as water systems, sewer systems, storm drainage systems, parks and other capital facilities made necessary to serve the new development.

LU-P11.4 Water Supply System. The City shall require that water supply systems be adequate to serve the size and configuration of land developments. Standards as set forth in the subdivision ordinance shall be maintained and improved as necessary.

LU-P11.5 Water Supply for New Development. For all new development, prior to the approval of any subdivision applications, the developers shall assure that there is sufficient available water supply to meet projected buildout

LU-P11.6 Adequate System Maintenance. The City shall require maintenance funding for streets, storm drainage, and ponding basins for new development.

LU-P11.7 Adequate Infrastructure Capacity. The City shall only approve new development when it can be demonstrated by the applicant that adequate system capacity in the service area is or will be available to handle increases related to the project.

LU-P11.8 Conditions of Approval. During the development review process, the City shall not approve new development unless the following conditions are met:

- The applicant can demonstrate that all necessary infrastructures to serve the project will be installed or adequately financed;
- Infrastructure improvements are consistent with City infrastructure plans; and
- Infrastructure improvements incorporate a range of feasible measures that can be implemented to reduce public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required improvement.

LU-P11.10 Sewer Capacity. The City shall provide adequate additional City sewer system capacity through the improvement of existing collection system lines and the construction of new trunk lines as proposed in the Sewer Master Plan.

LU-P11.12 Drainage Systems. The City shall expand existing storm drainage systems as necessary to serve existing and future development.

LU-P11.13 Adequate Storm Drainage Facilities. The City shall provide storm drainage facilities with sufficient capacity to protect the public and private property from stormwater damage. The facilities will also be implemented in a manner that reduces public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required drainage improvements (i.e., drainage basins, etc.).

City shall seek permanent funding sources for maintenance of stormwater infrastructure.

LU-P11.16 Detention Facilities. The City shall utilize stormwater detention facilities to mitigate drainage impacts and reduce storm drainage system costs. To the extent practical, stormwater detention facilities should be designed for multiple purposes, including recreational and/or stormwater quality improvement

LU-P11.17 Fair Share Improvements. The City shall ensure new development is required to participate on a fair-share basis in the completion of improvements to the existing sewer system, and/or the construction of new sewer trunk lines as described in the City's adopted Sewer Master Plan.

LU-P11.18 Solid Waste. The City shall promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes.

LU-P11.19 Recycling of Hazardous Materials. The City shall require the proper disposal and recycling of hazardous materials

4.18.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to utilities and service systems are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to utilities and service systems would occur if the Project would:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.
c. Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

4.18.4 Methods

Potential Project impacts on water, wastewater, and solid waste disposal were evaluated based on the adequacy of existing and planned infrastructure and the capacity to meet additional demand for these services resulting from

the proposed Project. Sources reviewed to prepare the analysis include the City's 2035 General Plan, the Urban Water Management Plan, the City's Sewer Master Plan, and the Water Supply Assessment prepared for the proposed Project.

Water

The Project's estimated water demand represents the total demand from all of the land uses proposed on site. The Water Supply Assessment (Appendix G) prepared for the Project evaluated the increase in demand due to the 1,197 residential units, neighborhood commercial and school uses. Table 4.18-1 displays the existing and proposed Project's anticipated water demands. The total annual water demand at full buildout in would be 629 AFY, which would be less than the existing water demands under existing conditions. The decrease would be approximately 70 AFY compared to the Project site's existing irrigation and domestic water demand (699 AFY). This decrease in water demand is a minimum because the methods used to estimate existing water demand were very conservative (i.e., lower than actual), whereas the methods to estimate the proposed Project's water demands were liberal (i.e., higher than actual).

Table 4.18-1. Existing and Proposed Water Demand

Land Use	Demand Coefficient (gpd/acre)[1]	Acreage[2]	Water Demand	
			gpd	AFY
Existing Water Demand (Source: combination of canal water and groundwater)				
Agricultural Irrigation[3]	N/A	207	619,465	694
Rural Residential	1,200	3	4,099	5
	Existing Totals	**210**	**623,564**	**699**
Proposed Water Demand (Source: City of Tulare Water Division)				
Low-Density Residential	2,400	109	260,880	292
Medium-Density Residential[4]	3,000	46	136,500	153
High-Density Residential	4,000	33	133,600	150
Neighborhood Commercial	1,300	11	14,040	16
Public/Quasi-Public[5]	800	6	4,544	5
Irrigated Areas/Landscaping[6]	N/A	24	11,652	13
	Proposed Totals	**228**	**561,216**	**629**
	Estimated Post-Project Water Demand Reduction	**—**	**62,348**	**70**

Notes: gpd = gallons per day; AFY = acre-feet per year; N/A = not applicable.

1 Demand coefficients are from the City of Tulare Water Master Plan (City of Tulare 2009b, Table 3.8).

2 Total Project site is 231 acres. Only acreage with water demands is included in this table (e.g., existing and proposed roads, perimeter areas, and others are excluded).

3 This is an estimate of the average yearly irrigation based on the last 6 years of crop-specific monthly evapotranspiration minus monthly precipitation records. This is a low (conservative) estimate, since it is assumed that precipitation occurs evenly (no runoff), and irrigation is 100% efficient.

4 Inclusive of single-family detached lots and townhomes.

5 Inclusive of school and community center.

6 Inclusive of central park and perimeter right-of-way. Outdoor water demands for other land uses are included in their demand coefficients, and natural areas are assumed to be non-irrigated. Maximum applied water allowance under the Model Water Efficient Landscape Ordinance is used because a landscape plan has not been developed.

Wastewater

The analysis of impacts to wastewater treatment services is based on wastewater treatment demand generated by the proposed Project compared to the thresholds of significance listed below. Wastewater demand was quantified based on CalEEMod Version 2020.4.0, discussed in more detail in Section 4.8, Greenhouse Gas Emissions, which was used to estimate potential Project-generated operational GHG emissions from area sources that include wastewater treatment volumes. The Project's total wastewater generation would be 696,430 gallons per day (gpd).

Solid Waste

The analysis of impacts to landfill capacity is based on the amount of solid waste that would be generated by the proposed Project compared to the thresholds of significance listed below. The total volume of solid waste generation was based on estimates from CalEEMod Version 2020.4.0, which was used to estimate potential Project-generated operational GHG emissions from area sources including solid waste as discussed more thoroughly in Section 4.8.

Using a construction waste generation rate published by the United States Environmental Protection Agency, the Project would generate 4.38 pounds per square foot for construction of a single-family residential dwelling unit and 3.89 pounds per square foot for construction of a multi-family residential dwelling unit and commercial space prior to any diversion or recycling (EPA 1998). The Project's total construction solid waste generation would be 35,853 tons (Table 4.18-2).

Table 4.18-2. Anticipated Solid Waste Generation - Construction

Land Use	Solid Waste Generation (tons)
Residential – 4.38 lb/sq.ft.	34,457
Commercial – 3.89 lb/sq.ft.	915
School – 3.89 lb/sq.ft.	415
Community Center – 3.89 lb/sq. ft	66
Total	35,853

The proposed Project's operational solid waste generation an estimated 1,815.56 tons of operational solid waste would be generated, prior to recycling (Table 4.18-3).

Table 4.18-3. Anticipated Solid Waste Generation - Operation

Land Use	Solid Waste Generation (tons per year)
Residential	849.22
Commercial/Community Center	688.87
School	277.47
Total	1815.56

Telecommunications

There are several purveyors providing telecommunications services such as telephone service, cable television, and Internet services within the City. Telephone and Internet service providers include Verizon Wireless, Sprint,

AT&T, and Comcast. Comcast provides cable television services in the City, while DISH Network and DirecTV provide satellite television services. These telecommunications services have the capacity to increase demand and would serve the Project site. The construction of telecommunications infrastructure would be installed in conjunction with other utilities. Therefore, this issue is not further discussed.

4.18.5 Impacts Analysis

Threshold a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

Less-than-Significant Impact. The proposed Project would involve the construction of water distribution infrastructure (e.g., pipes, valves, meters) to provide domestic water and irrigation water to serve the new buildings and facilities within the Project site. The on-site water facilities would be connected to the 12-inch water lines in East Bardsley Avenue, although as noted above, the existing on-site groundwater wells may be used for irrigation. The on-site facilities and installation/construction of tie-ins are considered part of the proposed Project. All construction work within the City public right-of-way would be subject to City municipal code requirements. Other than the lateral connections from the Project site to existing water mains, the proposed Project is not expected to require or result in construction or expansion of off-site infrastructure.

Construction impacts associated with the installation of water distribution lines would primarily involve trenching in order to place the water distribution lines below surface and would be limited to on-site water distribution, and minor offsite work associated with connections to the public water mains. In addition, and consistent with standard best management practices, installed as part of an NPDES-mandated stormwater pollution prevention plan, would reduce potential water quality impacts associated with the referenced water facility connections to less-than-significant levels. In addition, adherence to the General Plan policies LU P11.7 and P11.8 require that adequate infrastructure are included in design plans and adherence to City requirements are considered conditions of approval for all infrastructure improvements. As such, the proposed Project would not result in the expansion or construction, or relocation of existing water infrastructure located in East Bardsley Avenue, and it is unlikely that there would be any significant environmental effects related to the construction of water infrastructure within the Project site. As a result, impacts would be less than significant.

Wastewater Treatment

Less-than-Significant Impact. The Project would require construction of new wastewater infrastructure within the Project site to serve the buildings and facilities of the proposed Project. There is no existing wastewater infrastructure on the Project site. The existing residences are served by septic systems. Construction impacts within the Project site associated with wastewater infrastructure would primarily be confined to trenching for miscellaneous utility lines and connections to public infrastructure. Installation of wastewater infrastructure would be limited to on-site wastewater distribution, and minor off-site work associated with connections to the public main that is located within E. Bardsley Avenue.

Wastewater in the City is directed to the city's wastewater treatment facilities (WWTP) that is operated and maintained by the Wastewater Treatment Plant Division. The WWTF consists of a domestic plant with a 6.0 MGD

capacity and an industrial plant with a 12.0 MGD capacity (City of Tulare 2022). The domestic plant is treating about 4.15 MGD and the industrial plant 7.5 MGD (City of Tulare 2022).

The Project's total proposed peak flow would discharge approximately 696,430 gpd into the sewer system and the City's WWTP has adequate capacity to treat the Project's wastewater and no upgrades to the plant would be required. Therefore, buildout of the proposed Project would not require the construction of new infrastructure beyond what has been identified and evaluated in this EIR. Therefore, in relation to wastewater conveyance systems, the Project would result in a less-than-significant impact.

Stormwater Drainage

Less-than-Significant Impact. The Project site is located at the boundary of urban developed land uses and rural agriculture land uses. While the Project would include open space and landscaped areas, it would also introduce new impervious surfaces. The introduction of new impervious surfaces prevents stormwater from percolating into the ground, and increasing the amount of runoff reaching the storm drain infrastructure. In addition, as discussed in Section 4.10, stormwater control features would be required as part of the proposed Project, which would include features such as detention/retention basins and other stormwater features that encourage on-site infiltration. With adherence to the City's stormwater control requirements as discussed in Section 4.10, the amount of stormwater that is discharged offsite would be minimized. Therefore, the proposed Project would not create or contribute runoff water, which would exceed the capacity of existing stormwater drainage systems.

As a result, the Project would not result in the expansion of any existing off-site stormwater facilities or in the construction or relocation of new off-site facilities beyond the tie in connections to existing storm drain lines adjacent to the Project site on East Bardsley Avenue and the west side of South Oakmore Street. Upon compliance with the applicable regulatory requirements, impacts associated with the construction or expansion of any new stormwater drainage facilities would be less than significant.

Electrical Power and Natural Gas

Less-than-Significant Impact. Connections upgrades would be required with respect to electric power, natural gas, and telecommunication facilities (i.e., cable television services), based on the change in land use (i.e., greater intensification). These utilities would be provided by Southern California Edison and Southern California Gas Company and would be part of a dry utility package that would be installed on site and in the adjacent public roadways to provide service to the Project. Upgrades would be confined to the connections to the Project site and not any off-site centralized facilities. The existing overhead electrical infrastructure located along S. Oakmore and Avenue 228 are adjacent to the Project site. No natural gas infrastructure is currently available within the Project site. Connection to these existing utilities would require limited construction, which would be temporary and limited to overhead electrical line connections and also trenching, to the depth of the underground lines. Per CPUC Rule 20, additional electrical and natural gas infrastructure and facilities added on site would be collocated with other utilities underground within roadway right-of-way as the Project site is developed. Project construction would occur in accordance with all applicable regulatory requirements, including accordance with Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings. As a result, impacts associated with upgrades of electric, natural gas, connections to the Project site would be less than significant.

Threshold b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less-than-Significant Impact. Water supply for the proposed Project would be supplied by the City with the option of using one or more of the existing on-site wells for irrigation of the public spaces. The City obtains all of its water supply from local groundwater supplies through the existing network of 24 groundwater production wells. The City's groundwater supplies are sourced from the Kaweah Groundwater Subbasin, which is in critical overdraft condition. However, consistent with the findings of the City's 2020 UWMP Update, there is adequate water available to supply the Project, in addition to other existing and planned future uses, under normal- year, single-dry-year, and multiple-dry-year conditions over a 20-year projection (Appendix G).

Although the City relies 100% on groundwater to supply its customers, it has an agreement with Tulare Irrigation District to receive surface water that it uses for intentional groundwater recharge. The City also treats and uses its wastewater effluent for either percolation or agriculture uses in order to reduce demand on groundwater supplies. The City is also working cooperatively with the Mid-Kaweah Groundwater Sustainability Agency (MKGSA) and the Tulare Irrigation District to implement additional projects and management actions identified in the GSP to offset the City's groundwater pumping impacts.

The Project site is currently being used for agricultural purposes with an estimated water demand of 699 AFY, which includes irrigation uses and the existing residential uses. According to the WSA that was prepared for the proposed Project, the demand for the Project would be 629 AFY (Appendix G). Notably, the Project would require less water than is currently supplied for irrigation of the on-site orchard, which is the primary water consumer under existing conditions.

Therefore, considering that the City has demonstrated through the 2020 UWMP that it has sufficient water supplies to meet Project water demands out to 2040 under normal, single dry year, and multiple dry year scenarios, and the proposed Project would represent a decrease in water demands compared to existing conditions, the Project's potential impact to water supplies would be less than significant.

Threshold c. Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less-than-Significant Impact. Wastewater produced from the Project would be conveyed through tie-ins to the City's existing sewer infrastructure to the Domestic WWTP for treatment. The City's WWTP has an approximate treatment capacity of 6.0 MGD and, reportedly, is currently treating approximately 4.15 MGD, or approximately 69% of its total capacity (City of Tulare 2022). The Project's total projected wastewater demand would be 0.696 mgd or 0.05% of the remaining capacity of the treatment facility. As such, since the Project would not exceed the available treatment capacity of the City's WTP, it would not require the construction of additional wastewater treatment infrastructure. Impacts related to wastewater treatment facilities would be less than significant.

Threshold d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-than-Significant Impact. The proposed Project would generate an increase in solid waste associated with construction activities as well as from Project operation.

Solid waste disposal in Tulare is primarily hauled to Visalia and Woodville Landfills with Woodville being the closest to the site at just about 5 miles to the southeast. The Woodville facility has a maximum permitted daily throughput of 1,078 tons per day and a remaining capacity of 7,093,145 tons. The facility is permitted through to 2026 when current capacity is projected to be reached (CalRecycle 2022b). However, the facility has a planned expansion that would add an additional capacity of 14 million cubic yards and push projected closure to 2074. The expansion is estimated to be completed sometime during the 2022-2023 fiscal year.

Construction of the Project would generate construction debris such as wood, metal, asphalt and concrete, containers and packaging, and other miscellaneous waste. The Project is estimated to generate 35,853 tons of construction debris. Building contractors would be required by CALGreen to recycle 50% of Construction and Demolition debris from all new construction projects; therefore, the amount of solid waste requiring disposal would be less than estimated. Given the remaining capacity of 7,093,145 tons at Woodville Landfill, the net increase in solid waste generation from construction would not exceed the capacity of the landfill. Therefore, short-term construction impacts on landfill capacity would be less than significant.

Once operational, the proposed Project would produce solid waste on a regular basis, in association with operation and maintenance activities. Anticipated solid waste generation attributable to the Project is shown in Table 4.18-1. Operation of the Project would conservatively generate an estimated 1,815.56 tons of operational solid waste annually. The Project's estimated operational waste generation represents 0.026% of the available capacity at the Woodville landfill. Adequate landfill capacity is available to meet the needs of the Project at full buildout. Implementation of the proposed General Plan policies and associated actions including AB 341, CALGreen standards and City diversion standards would further assist in solid waste reduction measures. Considering the existing remaining capacity and the anticipated expansion, Project operations would not 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. Impacts would be less than significant.

Threshold e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less-than-Significant Impact. As described above, solid waste from the City is currently disposed of at one of three different landfill facilities including Visalia, Woodville, and Teapot Dome. However, Teapot Dome is being phased out and expected to close in the near future. The Woodville facility has planned for expansion that would extend operations out to 2074. Regardless, all of these facilities are regulated under federal, state, and local laws. Additionally, the City is required to comply with the solid waste reduction and diversion requirements set forth in AB 939, AB 341, AB 1327, and AB 1826 (Section 4.18.2, Relevant Regulations, Plans, Policies, and Ordinances). Per AB 341, businesses that generate 4 cubic yards or more of commercial solid waste per week are required to arrange for organic waste recycling services.

In addition, as previously described, waste diversion and reduction during Project construction and operations would be completed in accordance with CALGreen standards and City diversion standards. As a result, the proposed Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Impacts are considered less than significant.

4.18.6 Mitigation Measures

No mitigation required.

4.18.7 Level of Significance After Mitigation

As detailed above, the potential impacts of the proposed Project were found to be less than significant with no mitigation required.

4.18.8 References

CalRecycle, 2022a. SWIS Facility/Site Activity Details, Visalia Disposal Site, https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/822?siteID=3839, accessed September 16, 2022.

CalRecycle, 2022b. SWIS Facility/Site Activity Details, Woodville Disposal Site, https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3838, accessed September 16, 2022.

CalRecycle, 2022c. SWIS Facility/Site Activity Details, Teapot Dome Disposal Site, https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3834, accessed September 16, 2022.

City of Tulare. 2009a. City of Tulare Stormwater Drainage Master Plan, July 2009.

City of Tulare. 2009b. City of Tulare Sewer Master Plan, July 2009.

City of Tulare. 2014. City of Tulare 2035 General Plan. The Planning Center, DC&E. October 7, 2014. https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000 https://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000. Accessed on September 2, 2022.City of Tulare, 2021. City of Tulare 2020 Urban Water Management Plan, October 2021.

City of Tulare, 2022. Wastewater Information Page, https://www.tulare.ca.gov/government/departments/public-works/wastewater, accessed September 22, 2022.

DWR (California Department of Water Resources). 2013. California Water Plan. Accessed September 2022. https://water.ca.gov/Programs/California-Water-Plan.

EPA (U.S. Environmental Protection Agency). 1998. Characterization of Building-related Construction and Demolition Debris in the United States. Accessed September 2022. https://www.epa.gov/sites/default/files/2016-03/documents/charact_bulding_related_cd.pdf

SoCalGas (Southern California Gas Company), 2022. Gas Transmission Pipeline Interactive Map, https://socalgas.maps.arcgis.com/apps/webappviewer/index.html?id=18b0d6f217754557a591d1aea66b893d, accessed September 19, 2022.

INTENTIONALLY LEFT BLANK

4.19 Wildfire

This section addresses potential wildfire hazards that may result from implementation of the proposed Chandler Grove Master Plan and Annexation Project (Project or proposed Project) and describes the existing setting of the Project site as it relates to wildfire conditions, identifies associated regulatory requirements, evaluates potential impacts, and identifies feasible mitigation measures. The Project also includes annexing approximately 863 acres into the City of Tulare (City), including the 231-acre Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the analysis in this section is focused only on impacts related to the construction and operation of the proposed Chandler Grove Master Plan.

Potential wildfire impacts resulting from construction and operation of the proposed Project were evaluated based on a review of existing resources, data, and applicable laws, regulations, guidelines and standards. This section focuses on the effect of the proposed Project on wildfire risk. Fire protection services for the proposed Project are addressed in Section 4.15, Public Services.

No comments were received related to wildfire during the public review of the Notice of Preparation. A copy of the Notice of Preparation and comment letters received are included in Appendix A.

4.19.1 Existing Conditions

A wildfire is a nonstructural fire that can occur in undeveloped areas and spread to urban areas where the landscape and buildings are receptive to ignition. The Urban-Wildland Interface Area or WUI is a zone of transition between wildland (undeveloped/unoccupied/"natural" land) and urban development. Communities adjacent to WUI areas are at a higher risk for wildfire occurrence. In Tulare County, the WUI includes intermix and interface located on the eastern portion of the County mainly on the mountain range (USDA 2020). Steep hillsides and varied topography can also contribute to the risk of wildland fires. In the City of Tulare (City), a majority of the City is developed or those areas that are undeveloped include irrigated agricultural lands.

Fire protection for the unincorporated communities is provided by the City and the County of Tulare (County) fire stations. The City and County operate under a mutual aid agreement to provide fire service. There are two fire stations located in the City which include Fire Station #62 (138 N. E St) that is located approximately 4.3 miles from the Project site and Fire Station #61 (800 S. Blackstone) that is located approximately 2.5 miles from the Project site. Fire stations in the County include Fire Station #25 (2082 Foster Drive) approximately 2.2 miles and Fire Station #15 (19603 Avenue 228) approximately 10.1 miles from the Project site (City of Tulare 2022).

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazards in the state through its Fire and Resources Assessment Program (FRAP). The CAL FIRE maps identify different Fire Hazard Severity Zones (FHSZs), based on factors such fuel, slope, and fire weather to identify the degree of fire hazard throughout California (i.e., moderate, high, or very high). While FHSZs do not predict when or where a wildfire will occur, they do identify areas where wildfire hazards could be more severe and therefore are of greater concern. CAL FIRE does not have responsibility for densely populated areas, incorporated cities, agricultural lands, or lands administered by the federal government. Areas where CAL FIRE is responsible for wildland fire protection includes

lands owned or managed by the state or where the state is financially responsible for the prevention and suppression of wildfires, classified as a State Responsibility Area (SRA). In areas where local fire protection agencies are responsible for wildfire protection, the land is classified as a Local Responsibility Area (LRA). The Project site is classified as being within a LRA and is not located in a fire hazard zone identified by CAL FIRE (see Figure 4.19-1, Fire Hazard Severity Zones for Local Responsibility Areas). Existing development in the Project vicinity is generally characterized as irrigated agriculture and undeveloped land, with rural residences, and a school nearby. The nearest residences are located west and north of the site. There are overhead electrical lines adjacent to the Project site along Ave 228.

Fire History

Between the years of 1878 to 2013, there have been historic fires on the eastern portion of the County. The Eastern portion of the County is in State Responsibility Areas (SRA) Fire Hazard Severity Zones that vary between moderate to very high (City of Tulare 2012).

Climate and Weather

Climate change is expected to influence existing fire-related hazards and vulnerabilities. Consequences of a changing climate include changing precipitation patterns, reduced water supply, the intensity of prevailing winds coming from the northwestern direction, and increased hazards such as heat waves and wildfire. Changes in precipitation (rain and snowfall), humidity, and temperature have the cumulative effect of increasing conditions where wildfires could occur with greater frequency and severity. According to the Center for Climate and Energy Solutions, drier vegetation and drought conditions have contributed to a doubling of large fires in the western states between 1984 and 2015, with projections indicating that a 1 degree increase in temperature could result in a substantial increase in fires due to warmer temperatures and drier conditions that help fires spread and make them harder to extinguish (C2ES 2020). The region's topographic features restrict air movement through and out of the SJVAB.

Climate

The San Joaquin Valley is in a Mediterranean Climate Zone, influenced by a subtropical high-pressure cell most of the year and characterized by warm, dry summers and cooler winters. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summertime maximum temperatures in San Joaquin Valley often exceed 100°F.

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by the presence of persistent temperature inversions. Air temperatures usually decrease with an increase in altitude in the troposphere. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. A temperature inversion can act like a lid, restricting vertical mixing of air above and below an inversion because of differences in air density and thereby trapping air pollutants below the inversion. The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions. Most of the surrounding mountains are above the normal height of summer inversions (1,500–3,000 feet). Wintertime high-pressure events can often last many weeks, with surface temperatures often lowering into the 30s°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 (SJVAPCD 2015).

Wind Patterns

Winds in the San Joaquin Valley most frequently blow from the northwesterly direction, especially in the summer. The region's topographic features restrict air movement and channel the air mass toward the southeastern end of the San Joaquin Valley. Marine air can flow into the SJVAB from the Sacramento–San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow through the San Joaquin Valley, over the Tehachapi Pass, into the Mojave Desert Air Basin. The Coastal Range and the Sierra Nevada are barriers to air movement to the west and east, respectively. A secondary but significant summer wind pattern is from the southeasterly direction and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in San Joaquin 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 San Joaquin 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 pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can re-circulate a polluted air mass for an extended period (SJVAPCD 2015).

4.19.2 Relevant Regulations, Plans, Policies, and Ordinances

Federal

Federal Program

International Fire Code

Created by the International Code Council, the International Fire Code is not a federal regulation but provides important guidance regarding a wide array of conditions hazardous to life and property including fire, explosions, and hazardous materials handling or usage. The International Fire Code places an emphasis on prescriptive and performance-based approaches to fire prevention and fire protection systems. Updated every 3 years, the International Fire Code uses a hazards classification system to determine the appropriate measures to incorporate into the building and design of new structures or improvement of existing structures in order to protect life and property (often times these measures include construction standards, specialized equipment, and performance requirements). The International Fire Code uses a permit system (based on hazard classification) to ensure that required measures are instituted.

International WUI Code

The International WUI Code is published by the International Fire Code and is a model code intended to supplement a City or County's building and fire codes. The objective of the code is to establish minimum regulations for the safeguarding of life and property from the intrusion of fire from wildland fire exposures and fire exposures from adjacent structures, and to prevent structure fires from spreading to wildland fuels, even in the absence of fire department involvement.

State

California Fire Code

The California Fire Code (CFC) is contained within Title 24, Chapter 9 of the California Code of Regulations (CCR). Based on the International Fire Code, the CFC is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the CFC and the California Building Code (CBC) use a hazards classification system to determine the appropriate measures to incorporate to protect life and property. The CFC states in Section 903.2 that approved automatic sprinkler systems in new buildings and structures are required based on the occupancy group classification. This includes areas of assembly (i.e., community halls, restaurants, movie theaters, and churches), educational buildings, institutional buildings, factory and industrial buildings, mercantile uses (including markets and retail stores), and certain residential uses such as apartment buildings and residential care facilities.

California Department of Forestry and Fire Protection

CAL FIRE protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. The Office of the State Fire Marshal supports CAL FIRE's mission by focusing on fire prevention. It provides support through a wide variety of fire safety responsibilities including by regulating buildings in which people live, congregate, or are confined; by controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; by providing statewide direction for fire prevention in wildland areas; by regulating hazardous liquid pipelines; by reviewing regulations and building standards; and by providing training and education in fire protection methods and responsibilities.

California Public Resources Code Sections 4291–4299

California Public Resources Code Sections 4291–4299. requires that brush, flammable vegetation, or combustible growth within 100 feet of buildings be maintained. Vegetation that is more than 30 feet from the building, less than 18 inches high, and important for soil stability, may be maintained; as may single specimens of trees or other vegetation that is maintained so as to manage fuels and not form a means of rapid-fire transmission from other nearby vegetation to a structure. Additionally, the Public Resources Code outlines infraction fees, certification, and compliance procedures applicable with state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code.

California Strategic Fire Plan

The 2018 Strategic Fire Plan (Fire Plan) for California is a cooperative effort between the California Board of Forestry and CAL FIRE have developed the California Fire Plan in an effort to reduce the overall costs and losses associated with wildfire in California. According to the Fire Plan, the primary purpose of wildland fire protection is to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to ecosystem health. The Fire Plan reflects CAL FIRE's focus on (1) fire prevention and suppression activities to protect lives, property, and ecosystem services, and (2) natural resource management to maintain the state's forests as a resilient carbon sink to meet California's climate change goals and to serve as important habitat for adaptation and mitigation. It describes a vision for a natural environment that is more fire resilient; buildings and infrastructure that are more fire resistant; and a society that is more aware of and responsive to the benefits and threats of wildland fire; all achieved through local, state, federal, tribal, and private partnerships (CAL FIRE 2018). The Fire Plan defines a

standard for measuring the level of fire protection service provided in an area, considers assets at risk, incorporates the cooperative interdependent relationships of wildland fire protection providers, provides for public stakeholder involvement, and creates a fiscal framework for policy analysis. A key product of the Fire Plan is the development of wildfire safety zones to reduce the risks to residents and firefighters from future large wildfires. The Fire Plan defines an assessment process for measuring the level of service provided by the fire protection system for wildland fire. This measure can be used to assess the Department's ability to provide an equal level of protection to sites with similar land types, as required by Public Resources Code (PRC) Section 4130. This measure is the percentage of fires that are successfully controlled before unacceptable costs are incurred. Knowledge of level of service will help define the risk to wildfire damage faced by public and private assets in wildlands.

Field Act

Under the Field Act, the Department of General Services (DGS) is required to supervise the design and construction, reconstruction, or alteration of any school buildings to ensure that the plans and specifications are in compliance with adopted rules, regulations, and building standards for the protection of life and property, including Title 5 of the California Code of Regulations. Within the DGS, the Division of the State Architect (DSA) is responsible for design and construction oversight for K-12 schools to ensure application of the California Building Code (CBC), pursuant to the Field Act. Additionally, the DSA promotes compliance with all relevant structural, accessibility, and fire and life safety codes.

Senate Bill 99 (Section 65302 of the Government Code)

State Planning and Zoning law requires that each city or county adopt a comprehensive general plan that includes a safety element to address hazards such as flooding and wildfire risks. It also requires the development of emergency and evacuation routes, and updates on a specific schedule of not less than 8 years. Senate Bill 99 requires all cities and counties, upon revision of the housing element on or after January 1, 2020, to review and update the safety element to include information identifying residential developments in hazard areas that do not have at least two emergency evacuation routes.

Title 24 – California Building Standards Code

Title 24 of the CCR, known as the California Building Standards Code or just "Title 24," contains the regulations that govern the construction of buildings (both residential and non- residential) in California. Title 24 is composed of 12 "parts." Part 9, the California Fire Code, contains fire-safety-related building standards referenced in other parts of Title 24. This Code is preassembled with the 2000 Uniform Fire Code of the Western Fire Chiefs Association with necessary California amendments.

Local

The Tulare County Fire Department (TCFD) and CAL FIRE provide fire protection throughout the County, including the Project site. Through an established cooperative agreement, CAL FIRE and the BCFD function together as a fully consolidated fire protection agency. The Project site is proposed to be annexed to the City, which would bring the site under the jurisdiction of the City of Tulare Fire Department to provide fire protection and emergency response services.

The City and County have both adopted Emergency Response Plans, which include prearranged emergency response procedures and mutual aid agreements for emergency assistance with CAL FIRE and surrounding cities. Emergency routes for evacuation of City residents are not pre-determined in the County's General Plan or Strategic Plan.

Emergency Response Plans

The polices outlined in HS-7 are designed to provide effective emergency response to natural or human-made hazards and disasters. This includes coordination with government agencies and mutual aid. Emergency evacuation plans have been prepared as part of the County's Strategic Plan and Emergency Operations Plan. Evacuation routes are not pre-determined in the County's General Plan or Strategic Plan. The County's Emergency website (https://tularecounty.ca.gov/emergencies/) provides a digital wildfire evacuation map that is updated in the event of wildfire evacuation orders or warnings within the County (County of Tulare 2022).

City of Tulare General Plan 2035

Wildfire protection is provided through policies in the City of Tulare's General Plan 2035 (City of Tulare 2012). The goals and policies applicable to the Project are provided below. The General Plan contains additional goals and policies that are more general in nature and not specific to development such as the Project. Therefore, they are not listed below, but as stated in Chapter 2, Introduction, all goals and policies in the County's General Plan are incorporated by reference.

Health and Safety Element

Goal:

Goal SAF-1 To regulate future development to ensure the protection of public health and safety from hazards and hazardous materials and the adequate provision of emergency services.

Goal SAF-3 To provide adequate emergency services.

Goal SAF-6 Protect people and property from fire risk.

Policy:

SAF-P1.1 Development Constraints**.** The City shall permit development only in areas where the potential danger to the health and safety of people and property can be mitigated to an acceptable level.

SAF-P1.4 Building and Codes. Except as otherwise allowed by State law, the City shall ensure that all new buildings intended for human habitation are designed in compliance with the latest edition of the California Building Code, California Fire Code, and other adopted standards based on risk (e.g., seismic hazards, flooding), type of occupancy, and location (e.g., floodplain, fault).

SAF-P1.5 Hazard Awareness and Public Education. The City shall continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.

SAF-P1.8 Police and Fire Department Review. The Planning process should continue to seek the input of the Police and Fire Departments in reviewing development plans and permits. Such a coordinated effort should be aimed at reducing property loss and affecting a reduction of injury and loss of life.

SAF-P3.2 Coordinate Emergency Response Services with Government Agencies. The City shall coordinate emergency response with local, state, and federal governmental agencies charged with disaster and emergency preparedness responsibilities.

SAF-P3.4 Emergency Centers. The City shall require emergency backup systems to enable uninterrupted continuous operations as required by the California Essential Facilities Act.

SAF-P3.5 Joint Exercises. The City shall encourage fire and law enforcement departments to periodically conduct joint training exercises with the goal of developing the best possible coordinated action in the event of a natural or human-made hazard.

SAF-P6.1 New Building Fire Hazards. The City shall ensure that all building permits for development in urban areas as well as areas with potential for wildland fires are reviewed by the City Fire Chief.

SAF-P6.2 Development in Fire Hazard Zones. The City shall ensure that development in extreme or high fire hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards and meets all applicable State and City fire standards. This shall include promoting the use of fire-resistant materials designed to reduce fire vulnerability within high or extreme fire hazard areas through use of Article 86-A of the 2001 California Fire Code and other nationally recognized standards, as may be updated periodically. Special consideration shall be given to the use of fires resistant construction in the underside of eaves, balconies, unenclosed roofs and floors, and other similar horizontal surfaces in areas with steep slopes.

SAF-P6.3 Encourage Cluster Development. The City shall encourage cluster developments in areas identified as subject to high or extreme fire hazard, to provide for more localized and effective fire protection measures such as consolidations of fuel building abatement, firebreak maintenance, firefighting equipment access, and water service provision.

SAF-P6.4 Fire Risk Recommendation. The City shall encourage the City Fire Chief to make recommendations to property owners regarding hazards associated with the use of materials, type of structures, location of structures and subdivisions, road widths, location of fire hydrants, water supply and other important considerations regarding fire hazards that may be technically feasible but not included in present ordinances or policies.

SAF-P6.5 Wildlife Fire Management Plans. The City shall require the development of wildland fire management plans for projects adjoining significant areas of open space that may have high fuel loads.

SAF-P6.6 Fire Buffers. The City shall strive to maintain fire buffers along heavily traveled roads within hazard zones by thinning, disking, or controlled burning. Parks, golf courses, utility corridors, roads, and open space areas shall be encouraged to locate so they serve as secondary function as a fuel break.

SAF-P6.7 Weed Abatement. The City shall encourage weed abatement programs throughout the City in order to promote fire safety.

SAF-P6.8 Mutual Aid Agreements. Mutual aid agreements should be encouraged between the City of Tulare's Fire and Police Departments and other municipal Police and Fire Departments, as well as the County Sheriff, the California Division of Forestry, and the California Highway Patrol.

Tulare Transit-Oriented Development Plan

The Project site is located within the College of the Sequoias (COS) North Transit Oriented Development Plan Area that is outlined in the Tulare Transit-Oriented Development (TOD) Plan for the City (City of Tulare 2013). Characteristics of TODs consist of having access to a robust transit network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities. The policies incorporated in the TOD are based on the City's General Plan documents. There are no specific wildfire-related policies and measures contained in the TOD Plan. In the absence of applicable goals, policies, or implementation measures within the TOD, refer to the applicable policies, goals, and implementation measures of the City's General Plan above.

4.19.3 Methodology

This analysis of impacts of the proposed Project on wildfire hazards is based on review of California Department of Forestry and Fire Protection's Fire Hazard Severity Zone map for Tulare County (CAL FIRE 2022), the City's General Plan, and City's Municipal Code.

4.19.4 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to wildfire are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to wildfire would occur if the Project would:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan.
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

4.19.5 Impacts Analysis

Threshold a: Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The Project would add new residents and buildings in an area that is presently undeveloped increasing the demand for emergency respond and related services.

While the site is located in a rural, sparsely developed area with limited population, it is just east outside of the City of Tulare and west of the Tulare Villas neighborhood within the County. The Project site is not located along an identified emergency evacuation route as evacuation routes are not pre-determined in the County's General Plan or Strategic Plan. The polices outlined in HS-7 are designed to provide effective emergency response to natural or human-made hazards and disasters. This includes coordination with government agencies and mutual aid. Emergency evacuation plans have been prepared as part of the County's Strategic Plan and Emergency Operations Plan. The County's Emergency website (https://tularecounty.ca.gov/emergencies/) provides a digital wildfire evacuation map that is updates in the event of wildfire evacuation orders or warnings within the County (County of

Tulare 2022). Development of the Project would require, at a minimum, two points of ingress/egress in the event of an emergency, The Project would also be required to adhere to the City's emergency access requirements, which could include designing internal Project roads to accommodate fire equipment.

Currently, the Project site is under the fire protection of the Tulare County Fire Department. Upon approval of the Project and annexation of the site to the City, the City's Fire Department would be the first responder for fire protection and emergency response services to the Project site. It is assumed the City would maintain the cooperative agreement with both Tulare County to provide support in the event of a major wildfire. The nearest fire stations are the City Fire Station #61 (800 S. Blackstone) and County Fire Station #25 (2082 Foster Drive) are both approximately 2 miles from the Project site. Given the proximity of the nearest fire stations and the inclusion of fire suppression features onsite, it is reasonable to expect that an initial response time of five and a half minutes would be met. While a new fire station is not proposed within the Project site, the Project applicant or future developers would be required to pay an impact fee for capital improvements that would provide funding for new City fire stations and related improvements (City of Tulare 2022).

The proposed Project is not expected to impair evacuation procedures as evacuation routes are not pre-determined in the County's General Plan or Strategic Plan. The Project would also be required to comply with the City's General Plan policies addressing fire safety and access, described above in the regulatory setting. Lastly, due to the location of the Project site in an area not designated as having a high fire risk and not in a WUI area, the proposed Project would have a **less-than-significant impact** on emergency response and access.

Threshold b: Due to slope, prevailing winds, and other factors, would the Project exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less-than-Significant Impact. The Project site is undeveloped, and the vegetation community is dominated by orchards. According to the Fire Hazard Severity Zones map, the Project site is not classified as being within a high fire hazard severity zone. In addition, the Project site is flat which poses less of a threat as wildfires typically burn up slopes faster and more intensely than along flat ground. Flat areas do not typically present an increased wildfire risk. Moderate or steep slopes greater than 20%, are considered a higher risk for wildfires. The prevailing winds typically come from the northwestern direction.

Overhead electrical transmission lines area located along Ave 228, as described in the Environmental Setting. Faulty power lines have resulted in igniting wildfires and can be considered a hazard. Although the Project's on-site electrical infrastructure would be placed underground and would not have the potential to ignite a wildfire, the Project would not be placing residences in an area with existing overhead transmission lines thereby exposing future residents to an existing wildfire risk.

Other factors that could exacerbate wildfire risks include construction activities due to the use of flammable materials, tools, and equipment capable of generating a spark and igniting a wildfire. During construction activities, heat or sparks from construction equipment and vehicles have the potential to ignite vegetation and start a fire. Construction sites also store and use of flammable hazardous materials. The risk of wildfire would be especially high during weather events that include low humidity and high wind speeds. The potential risk of wildfire ignition and spread associated with construction activities can be managed so that the potential for vegetation ignition is reduced. In addition, pre-planning and construction personnel fire awareness, reporting, and suppression training can lower the probability of ignition, and increase the probability that fire can be controlled and extinguished in its early stages. Measures that would help reduce construction-related wildfire impacts include having adequate water available to service construction activities, implementing a construction-phase fire prevention plan, providing

proper wildfire awareness, reporting, and suppression training to construction personnel, and following construction best management practices (City of Tulare 2022).

In addition, the City's General Plan contains goals and policies that help to reduce the risk of wildfires (see Section 4.19.2, Relevant Regulations, Plans, Policies, and Ordinances, specifically Policies SAF-P 1.5, 1.8, 1.9, 3.2, 3.5, 6.1, 6.2, 6.4, 6.5, 6.8, 6.9 and 6.10, which require the City to develop hazard awareness and public education, emergency plans within government agencies such as police and fire departments, mutual aid agreements, and wildfire management plans). Compliance with applicable regulations, goals, and policies as previously described would ensure that the proposed Project would not result in a significant increase to wildfire risks and minimize impacts related to wildland fires. Therefore, because the Project does not include factors that could exacerbate wildfire risks the proposed Project would have a **less-than-significant impact** associated with wildfire.

Threshold c: Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less-than-Significant Impact. The proposed Project proposes: a mix of low, medium and high-density residential uses, parks and trails; neighborhood commercial uses, and a school. Development of the Project is anticipated to take place in three phases over the course of 3 to 4 years. Utilities such as water, electrical, and gas required for the Project would tie into the City's existing infrastructure near the Project site. Electrical power lines would be installed below ground and would not exacerbate wildfire risk.

The installation of the new utilities would not be placed within a high fire hazard zone, and would not result in increased fire risks that could result in temporary or ongoing impacts to the environment. Additionally, compliance with applicable regulations, goals, and policies would ensure that the Project would not result in a significant increase in fire risk through the installation or maintenance of associated infrastructure. Therefore, the Project would have a less-than-significant impact associated with fire risk through the installation or maintenance of associated infrastructure.

Threshold d: ***Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?***

Less-than-Significant Impact. As discussed above, the Project site is flat and is not located within or near a fire hazard safety zone. Wildfires can greatly reduce the amount of vegetation within a burned area. Plant roots stabilize the soil and above-ground plants allow water to percolate more slowly into the soil. Removal of surface vegetation resulting from a wildfire reduces the ability of the soil surface to absorb rainwater and can allow for increased runoff that may include large amounts of debr is. If water-resistant soil conditions exist post-fire, the rate of surface water runoff is increased as water percolation into the soil is reduced. Development of the proposed Project would alter existing on-site drainage patterns compared to existing conditions and include the introduction of new impervious surfaces. However, the Project site is flat so there would be no risks due to downstream flooding, landslides, or post-fire instability. The Project's stormwater drainage system would include undergrounding the existing Bates Slough Ditch that traverses the Project site which would likely not be affected by a fire. It is anticipated drainage features would be unaffected under post-fire conditions and would result in a minimum increase in the risk of post-fire flooding and increased runoff. Compliance with applicable regulations, goals, and policies would ensure that the proposed Project would not result in significant risks to people or buildings resulting from post-fire runoff or drainage changes. Therefore, the proposed Project would have a less-than-significant impact.

4.19.6 Mitigation Measures

No mitigation measures are required.

4.19.7 Level of Significance After Mitigation

As detailed above, the potential impacts of the proposed Project were found to be less than significant with no mitigation required.

4.19.8 References

C2ES (Center for Climate and Energy Solutions) 2022. *Drought and Climate Change.* Assessed on November 2022. https://www.c2es.org/content/drought-and-climate-change/.

CAL FIRE (California Department of Forestry and Fire Protection). 2018. 2018 Strategic Fire Plan for Calfironia. Accessed November 2022. https://osfm.fire.ca.gov/media/5590/2018-strategic-fire-plan-approved-08_22_18.pdf.

CAL FIRE. 2022. Fire Hazard Severity Zones Map. Accessed November 2022. https://osfm.fire.ca.gov/fire-hazard-severity-zones-maps-2022/

City of Tulare. 2012. 2035 Tulare General Plan. Health and Safety Element. Accessed July 2022. ttps://www.tulare.ca.gov/home/showpublisheddocument/2393/635907185852000000.

City of Tulare. 2013. 2035 Tulare General Plan. Tulare Transit-Oriented Development Plan. Accessed November 2022. https://www.tulare.ca.gov/home/showpublisheddocument/731/635713493595600000.

City of Tulare. 2022. Fire. Suppression. Accessed November 2022. https://www.tulare.ca.gov/government/departments/fire/suppression.

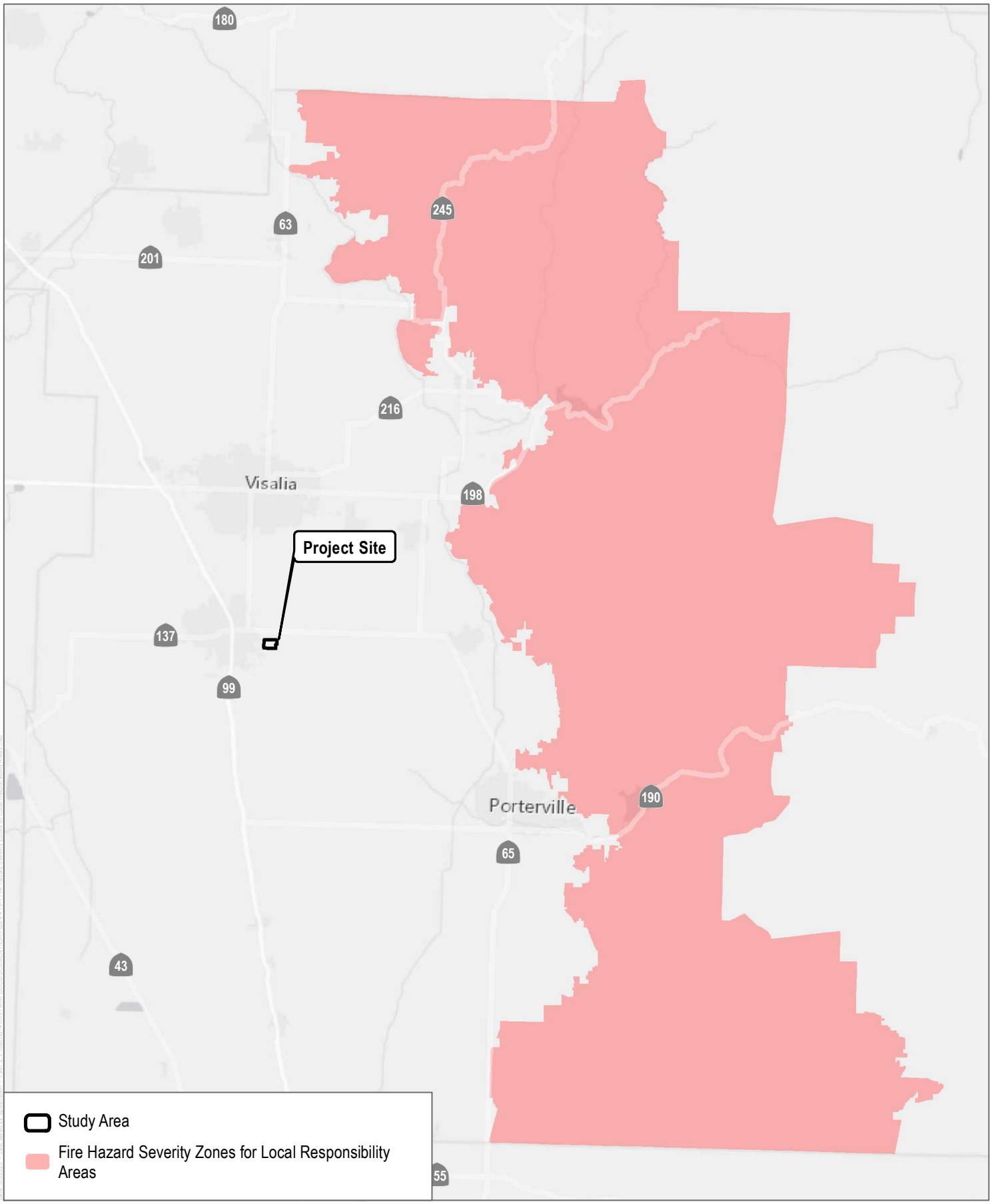
County of Tulare. 2022. Emergencies. Accessed November 2022. https://tularecounty.ca.gov/emergencies/.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2015. *Guidance for Assessing and Mitigating Air Quality Impacts*. Accessed August 2017. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

Tulare County Fire. 2022. Tulare County Fire Department. Accessed November 2022. https://tularecounty.ca.gov/fire/.

USDA (United States Department of Agriculture). 2020. Wildland-Urban Interface (WUI) Change 1990-2020. Assessed November 2022. http://silvis.forest.wisc.edu/data/wui-change-2020/.

INTENTIONALLY LEFT BLANK



SOURCE: Esri 2022; CalFire 2022

FIGURE 4.19-1

Fire Hazard Severity Zones for Local Responsibility Areas

Chandler Grove Master Plan and Annexation Project

DUDEK

INTENTIONALLY LEFT BLANK

5 Cumulative Effects

The California Environmental Quality Act (CEQA) requires an environmental impact report (EIR) to analyze cumulative impacts. The purpose of this chapter is to explain the methodology for the cumulative analyses and present the potential cumulative effects of the Chandler Grove Master Plan and Annexation Project (Project or proposed Project).

Section 15355 of the State CEQA Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

Section 15130 of the State CEQA Guidelines provides guidance for analyzing significant cumulative impacts in an EIR. The discussion of cumulative impacts "need not provide as great detail as is provided for the effects attributable to the project alone," but instead is to be "be guided by standards of practicality and reasonableness" (14 CCR 15130[b]). CEQA requires that cumulative impacts be discussed when the "project's incremental effect is cumulatively considerable" (14 CCR 15130 [a]). Additionally, Section 15130(a)(1) clarifies, "an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR."

Cumulative impacts can result from the combined effect of past, present, and future projects located in proximity to the project under review. Therefore, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future developments whose impacts might compound or interrelate with those of the project under review. The cumulative impacts analyze the extent to which the project would contribute to cumulative impacts, and whether that contribution would be considerable (i.e., would cause a cumulative condition to be significant and/or substantially increase the severity of a cumulative impact that would be significant whether or not the project was developed.

5.1 Methodology

According to Section 15130(b)(1) of the State CEQA Guidelines, a cumulative impact analysis may be conducted and presented by either of two methods:

(A) a list of past, present, and probable activities 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.

The cumulative list approach has been used in this cumulative analysis, as shown in Table 5-1. The cumulative impacts of air quality have been evaluated using the summary of projections method because the geographic scope encompasses the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties and is spread

across 25,000 square miles of Central California. air basin and global scale. Greenhouse gases are inherently cumulative; therefore, the cumulative analysis of greenhouse gas emissions is included in Section 4.8.

For the analysis of cumulative impacts associated with the Project, a cumulative project list of other past, present, or reasonably foreseeable projects was developed through consultation with the City and County. Table 5-1 provides a list of these cumulative projects and their associated land use.

Table 5-1. Cumulative Projects

Project	Project Description	Location	Status
Mission Creek Development	162 single-family units & 192 apartment units	SW corner of Bardsley Avenue & Oakmore Street	Site Plan Review
St. Rita's Catholic Church	New church campus	SW corner of Bardsley Avenue & Morrison Street	Recently Completed
Fulton Estates Subdivision	New residential subdivision w/ 197 single-family residential lots & a commercial corner for retail and/or service station	SW corner of Oakmore (Rd 124) & Tulare Ave. (SR-137)	Entitlement applications have been approved; project site has been annexed into the City limits
East Bardsley Apartments	New apartment community consisting of 79 units across several buildings	2970 E. Bardsley Ave, near NW corner of Bardsley Avenue & Morrison Street	Phase 1 under building permit plan check
Hidden Ridge Subdivision	New residential subdivision w/ 32 single-family residential lots	Two parcels west of the East Bardsley Apartments, adjacent to the existing developed single-family subdivision	Under Construction
Fernjo Estates Subdivision	New residential subdivision w/ 83 single-family lots	1468 S. Mooney Boulevard	Under Construction
Farrar Estates Subdivision	New residential subdivision w/ 358 single-family lots	NW corner of Tulare Avenue (SR-137) & Morrison Street	Under Construction
Greens @ Oak Creek Subdivision	New residential subdivision w/ 139 lots	Two parcels north of the old waterslides/fun park on the NE corner of Mooney (SR-63) & Tulare Avenue (SR-137)	2/3 constructed, other 1/3 under construction
Oak Creek 3 & 4	New residential multi-family developments for a total of 27 lots with 4 units per lot = 108 units	Just north of The Greens @ Oak Creek Subdivision	Under Construction
KCOK Residential Community	New residential subdivision w/ 355 lots	NW corner of Seminole Avenue & Morrison Street just north of Farrar Estates subdivision	Under Construction Phase 2b (40 lots) is under construction, and 106 other lots have been built

5.1.1 Cumulative Impact Analysis

Section 15130(b)(3) of the State CEQA Guidelines states that "lead agencies shall define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used." Unless otherwise indicated in the analysis in Chapter 4 of this Draft EIR, the geographic scope used in the cumulative analysis includes those projects listed in Table 5-1, as depicted on Figure 3-9 included in Chapter 3, Project Description. However, there are environmental issues whose relevant geographic scope for purposes of the cumulative impact analysis may be larger or smaller than this area, and may be defined by local, regional, or state agency jurisdiction or by other environmental factors. One example is the geographic scope of cumulative air quality impacts, defined by the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties and is spread across 25,000 square miles of Central California. Whereas the geographic scope of cumulative construction noise impacts is limited to within a few hundred feet of the Project's construction activity in areas immediately adjacent to the Project site.

The analyses in Sections 4.1 through 4.19 of this Draft EIR address whether, after adoption of Project-specific mitigation, the residual impacts of the proposed Project would (1) contribute considerably to an existing/anticipated (with the Project) cumulatively significant effect; or (2) cause a new cumulatively significant impact. A cumulative impact is not considered significant if the impact can be mitigated to below the level of significance through mitigation. This Draft EIR examines "reasonable options for mitigating or avoiding any significant cumulative effects of a proposed project" (14 CCR 15130[a][3] and 15130[b][5]).

5.1.1.1 Aesthetics

Projects contributing to a cumulative aesthetic impact include those within the Project viewshed. The viewshed encompasses the geographic area within which the viewer is most likely to observe the proposed Project and surrounding uses. Typically, this is delineated based on topography, as elevated vantage points, such as from scenic vistas, offer unobstructed views of expansive visible landscapes.

Cumulative aesthetic impacts would occur if projects combine to result in substantial adverse impacts to the visual quality of the environment and/or increase sources of substantial lighting and glare. The Project site is located within unincorporated Tulare County (County) but is proposing to be annexed to the City of Tulare (City). Thus, it would be designed and constructed according to the design guidelines and standards outlined in the City's Development Standards, General Plan, Zoning Ordinance, and other development regulations. All projects located within the City would be subject to these design guidelines and standards, which include recommendations for the architectural character of new buildings to maximize views of the landscape while taking inspiration from surrounding natural elements.

Related development in the City and surrounding areas would introduce new sources of light in a setting that includes large areas of undeveloped land. However, Project lighting would comply with existing requirements (i.e., lighting would be consistent with the City standards for safety and proper roadway illumination, consistent with other streetlights throughout the City to ensure lighting has a minimal effect on the overall night sky and reduce the potential for glare. Other projects located throughout the City would similarly be required to comply with these regulations. Therefore, compliance with these regulations would ensure that lighting and glare impacts would be less than cumulatively considerable.

5.1.1.2 Agriculture and Forestry

Cumulative projects in the County would have the potential to continue to convert agricultural lands and resources to non-agricultural uses, resulting in a significant cumulative impact. The County General Plan EIR found a significant and unavoidable impact for conversion of farmland due to development that may occur in the County (Tulare County 2012). The General Plan EIR identifies a significant impact at both the county level, and in the Project area. As part of the County's discretionary review process, all future projects would be evaluated under CEQA and would be required to implement feasible measures to minimize impacts to forest land or timberland, as necessary. Although implementation of the proposed Project would not conflict with zoning for, or cause rezoning of, forest land or timberland or timberland zoned for timber production, off-site. As such, no impacts would occur related to the conversion or loss of land zoned for forest land or timberland production. In the occurrence that the Project does conflict with a Williamson Act Contract and results in the permanent conversion of farmland to non-agricultural uses. Ultimately even with implementation of MM-AG-1 and MM-AG-2, the proposed Project when combined with the projects in the County would be cumulatively significant and unavoidable for agriculture resources.

5.1.1.3 Air Quality

A project's emissions may be individually limited but cumulatively considerable when taken in combination with past, present, and future development within the SJVAB. If a project would result in a significant impact based on the SJVAPCD annual thresholds of significance for criteria pollutants, then the project would also be considered cumulatively significant. However, even if project emissions are below the annual significance thresholds for criteria pollutants, the impact may still be cumulatively significant. For instance, if a project results in criteria pollutant concentrations that exceed any of the federal health-based ambient air concentration standards or causes a worsening of areas already exceeding those standards, the project's impacts would be considered individually significant and cumulatively significant. In addition, the combined emissions of a project and cumulative development located within the same area could potentially cause or worsen an exceedance of the concentration standards, whereby the project would have a cumulatively significant impact (SJVAPCD 2015). In regard to TACs, because impacts are localized and the SJVAPCD thresholds of significance for TACs have been established at an extremely conservative level, risks that equal or exceed the individual thresholds of significance are also considered cumulatively significant (SJVAPCD 2015). No other cumulative risk thresholds would apply. The SJVAPCD has not established cumulative significance thresholds regarding odor impacts.

Construction-related impacts would be less than significant. However, the Project is in excess of the operational VOC, NO_x, CO, and PM_{10} thresholds. The Project would exceed the 24-hour PM2.5 Level 2 AAQA standard during construction even with the incorporation of MM-AQ-1 and MM-AQ-2. The Project would exceed the 1-hour NO_2 and 24-hour $PM_{2.5}$ Level 2 AAQA significance thresholds during operations even with the incorporation of MM-AQ-3 through MM-AQ-5. Therefore, the Project's cumulative impacts with respect to such emissions would remain significant and unavoidable.

5.1.1.4 Biological Resources

Potential impacts to special-status wildlife species, such as burrowing owl, Swainson's hawk, San Joaquin kit fox and nesting birds and raptors would be reduced to less than significant through Project implementation of MM-BIO-1 through MM-BIO-12. Implementing these mitigation measures would reduce potential impacts to less than significant and would significantly reduce the potential for direct or indirect impacts to special-status species. Therefore, there would not be a cumulatively considerable impact on any special-status species.

Potential impacts to jurisdictional waters of the state, if necessary, would be reduced to less than significant through implementation of MM-BIO-5 (Compliance Monitoring), MM-BIO-6 (Education Program), MM-BIO-7 (Construction Monitoring), MM-BIO-7 (Hazardous Waste), and MM-BIO-12 (Aquatic Resources Mitigation). Implementing these mitigation measures would reduce potential impacts to less than significant and would significantly reduce the potential for direct or indirect impacts to waters of the state. Therefore, there would not be a cumulatively considerable impact to waters of the state.

Additionally, the Project would not result in a significant impact to wildlife corridors and linkages, nor to local policies and regional conservation plans. Therefore, the impacts would be less than cumulatively considerable and would not contribute to a cumulative impact on these resources.

5.1.1.5 Cultural and Tribal Cultural Resources

The Project would be less than significant with the implementations of MM-CUL-1 (Workers Environmental Awareness Program (WEAP) Training), MM-CUL-2 (On-Call Archaeological Construction Monitoring), MM-CUL-3 (Inadvertent Discovery of Archaeological Resources), MM-CUL-4 (Inadvertent Discovery of Human Remains). The Project would be implementing the discussed mitigations, General Plan, regulations, and in compliance with AB 52 and SB 18, assuming the surrounding projects would have similar mitigations and implement General Plan regulations. However, cumulatively with surrounding projects the impacts would be less than cumulatively considerable.

5.1.1.6 Energy

The geographic area considered for the analysis of cumulative energy impacts is Tulare County. Potential cumulative impacts on energy would result if the Project, in combination with past, present, and future projects, would result in the wasteful or inefficient use of energy. Significant energy impacts could result from development that would not incorporate sufficient building energy efficiency features or would not achieve building energy efficiency standards, or if projects result in the unnecessary use of energy during construction or operation.

The Project would not result in wasteful, inefficient, or unnecessary use of energy during construction or operations, nor would it conflict with an applicable plan. Cumulative projects within the County would have a construction period during which electricity, natural gas, and petroleum would be used; however, it is expected that such usage would be temporary and would not constitute a wasteful, inefficient, or unnecessary consumption of energy. Additionally, although some of the cumulative projects within the County could result in increases in energy consumption during their operation, the increased demand is anticipated to be minimal relative to statewide energy usage and, in combination with the Project, would not contribute to any potentially significant cumulative energy impacts. Furthermore, any commercial and residential cumulative projects that may take place in the County that include long-term energy demand would be subject to CALGreen, which provides energy efficiency standards. In addition, cumulative projects would be required to meet or exceed the Title 24 building standards, as applicable, further reducing the inefficient use of energy. Future development would also be required to meet even more stringent requirements, including the objectives set forth in the AB 32 Scoping Plan, which seek to make all newly constructed residential homes produce a sustainable amount of renewable energy through the use of on-site photovoltaic solar systems. Furthermore, various federal and state regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would serve to reduce the transportation fuel demand of cumulative projects.

For the reasons above, the Project, together with the cumulative projects, would not result in wasteful, inefficient, or unnecessary use of energy, or conflict with applicable plans. Therefore, the Project, in combination with past,

present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to energy, and the impacts would be less than cumulatively considerable.

5.1.1.7 Geology and Soils

The County is relatively flat topography and there are no known active or potentially active Alquist-Priolo Earthquake Fault Zones, which minimizes the potential for soil erosion or loss of topsoil and/or landslides. The Project would implement the 2019 CBC design therefore minimizes the long-time effects of the potential for structure distress as a result of seismically induced ground shaking. However, construction can potentially expose soils to erosion or loss of topsoil therefore, a Stormwater Pollution Prevention Plan (SWPPP) would be submitted prior to construction to incorporate BMPs to ensure that potential water quality impacts during construction from erosion would be minimized. Therefore, by implementing the 2019 CBC design and submitting a SWPPP the Project in combination with the impacts of other projects in the region would be less than cumulatively considerable.

In addition, although paleontological findings were not encountered during the paleontological records search to the Natural History Museum of Los Angeles County. However, by implementing MM-GEO-1 in case any paleontological resources are unearthed during grading, the Project in combination with the impacts of other projects in the region would be less than cumulatively considerable with regard to paleontological resources.

5.1.1.8 Greenhouse Gas Emissions

As discussed in Section 4.8.1, Existing Conditions, GHG emissions inherently contribute to cumulative impacts, and, thus, any additional GHG emissions would result in a cumulative impact. The Project is consistent with the City's CAP and the TCAG 2022 RTP/SCS, which both promote economic growth while achieving greater energy efficiency. However, the Project would be inconsistent with the CARB Scoping Plan. Furthermore, the Project's emissions will exceed the efficiency metric developed for the City. Therefore, impacts would be cumulatively significant and unavoidable even with implementation of MM-GHG-1 through MM-GHG-6.

5.1.1.9 Hazards and Hazardous Materials

During the construction of the Project, impacts related to transport, disposal, and handling of hazardous material would occur. However, the implementation of the Hazardous Materials Business Plan (HMBP), the federal, state, and local health and safety laws and regulations would remove the hazard for Project operation. The site would require the demolition of onsite structures; therefore, a pre-demolition survey and abatement are required with the implementation of MM-HAZ-1 and MM-HAZ-2 during the construction phase of the proposed Project and impacts would be less than significant. The Project site adjoins Mission Oak High School and College of the Sequoias, however potential impacts would be mitigated by MM-HAZ-1 and zoned accordingly to the City and County zoning ordinances and General Plans. Therefore, impacts would be less than cumulatively considerable.

5.1.1.10 Hydrology and Water Quality

The Project would result in potentially less than significant cumulative impacts with regard to hydrology and water quality. The implementation of City's Stormwater Management Plan, National Pollutant Discharge Elimination System (NPDES) permit, and Stormwater Pollution Prevention Plan (SWPPP) would require water quality BMPs and storm drainage system design measures to minimize the potential for erosion, siltation, flooding, or the deposition of mud, debris, or construction-related pollutants. Post-construction requirements of the City's

Stormwater Management Plan would be implemented, and water supply would be provided by the City, therefore the Project minimizes the effect on groundwater recharge and would have a decline for ground water demand. The Project and cumulative projects would implement the City and County's plans and regulations; therefore, impacts would be less than cumulatively considerable.

5.1.1.11 Land Use and Planning

The proposed General Plan Amendment and Zone Change would allow for the development of the proposed residential community. Implementation of the Project's proposed General Plan Amendment and Zone Change would eliminate any inconsistencies between the proposed land use and the site's existing General and Specific Plan land use designations and zoning code, respectively. Presumably, as development occurs elsewhere throughout the City and the larger Tulare County area, any proposal to change the underlying land use or development intensity for a specific property would similarly be resolved through an amendment to the applicable land use plan. Given that amendments to land use plans are discretionary in nature, any action involving an amendment would be subject to CEQA and reviewed on a case-by-case basis. Should any amendment result in a significant environmental effect, mitigation measures would be identified to reduce those impacts. Additionally, the periodic and frequent nature of regional planning efforts such as updates to Connect SoCal Plan and AQMP allow for changes in land use to be integrated into a regional planning context, thereby accounting for ever-changing land use patterns. Given these factors, the Project would not result in any cumulatively considerable land use and planning conflicts in the context of compliance with applicable environmental plans, policies, and regulations beyond those identified in other sections of this EIR.

5.1.1.12 Mineral Resources

Cumulative projects could cause significant cumulative impacts if they caused a loss of availability of a known mineral resource valuable to the region and the state or caused a loss of availability of an important mining site delineated in a local general plan or other land use plan. Urbanization and growth in the jurisdictions adjacent to the unincorporated areas of the County could have the potential to result in land uses that are incompatible with mining and resource recovery and would result in a cumulative loss of available resources. Adjacent jurisdictions have therefore included protections in their general plans or other planning documents to protect these and other mineral resources. It is noted that all the mineral resource zone areas (MRZ-2a, MRZ-2b and MRZ-3a) identified in the County are within unincorporated parts of the County. Cumulative impacts would therefore be less than significant.

5.1.1.13 Noise

Based on comparison of the Year 2040 and Year 2040 Plus Project traffic noise levels, the Project would not result in traffic noise level increases greater than FICON significance thresholds. Consequently, the Project's contribution to potential cumulative traffic noise impacts would remain less than significant.

Temporary changes to the outdoor sound environment could occur not only due to Project construction noise that has already been presented herein, but as a cumulative result of potential concurrent Project construction activity noise and the noise emission from construction of other projects in the vicinity.

Due to the decrease in noise levels with distance and the presence of physical barriers (i.e., intervening buildings and topography), noise due to construction of other projects would not meaningfully combine with that of the proposed Project and produce a cumulative noise effect during construction. By way of illustration, if there are two

concurrent construction projects of comparable sound emission intensity, and the activity nearest to a common studied noise-sensitive receptor is compliant with the aforementioned 80 dBA 8-hour L_{eq}, then the other activity could be no closer than three times the distance of the receptor to the nearest activity and not make a cumulatively measurable contribution to the total noise exposure level. If, on the other hand, two concurrent projects were comparably close to a receptor, the cumulative noise would be one of the following:

- The louder (in dBA) of the two concurrent activities; or
- a logarithmic sum of the two activity noise levels that, per acoustic principles, cannot be more than 3 dBA greater than the louder of the two individual noise-producing activities.

In sum, cumulative construction noise is likely to be dominated by the closest or loudest activity to the receptor, and the combination will be no more than a barely perceptible difference (i.e., up to a 3 dBA change). On the basis of such a barely perceptible cumulative construction noise level occurring due to the proposed Project and what may be a nearby concurrent construction activity, the impact would be considered less than significant.

Akin to the preceding discussion of cumulative construction noise, operation noise from stationary equipment attributed to the proposed Project (as already presented herein) and any others potentially operating in the future and in the vicinity of a common offsite noise-sensitive receptor would need to be compliant with the City's applicable standards. Cumulative contribution of the proposed Project to this future aggregate noise level from multiple established projects or facilities assumed to have comparable individual noise emission from stationary sources would be bounded by the same potential outcomes as follows:

- The louder (in dBA) of the two concurrently operating projects or facilities; or
- a logarithmic sum of the two operation noise levels that, per acoustic principles, cannot be more than 3 dBA greater than the louder of the two individual levels.

In summary, cumulative operation noise is likely to be dominated by the closest or loudest project to the receptor, and the combination will be no more than a barely perceptible difference (i.e., up to a 3 dBA change). On the basis of such a barely perceptible cumulative operation noise level occurring due to the proposed Project and what may be nearby and concurrent operation of offsite stationary noise sources, the impact would be considered less than significant.

The Project has virtually no potential to contribute to cumulative vibration impacts, as vibration levels with the potential to result in human annoyance would be limited to a distance of 26 feet from any construction. At this distance, it is highly unlikely that other vibration sources would be present in order to exacerbate existing ambient vibration levels.

5.1.1.14 Population and Housing

Cumulatively, growth in the Tulare County region has the potential to result in significant environmental impacts. The County planning documents, such as the Final Regional Housing Needs Plan for Tulare County 2014-2023 *and* the general plans for the incorporated cities within the County, have been prepared to be consistent with the population forecasts identified for the region. As mentioned above, the proposed Project would result in a direct and indirect population growth. Although the Project is expected to lead to direct population growth, new residents are anticipated to be current residents of the City. In terms of indirect impacts, perimeter improvements may allow future growth to occur in undeveloped areas. However, those improvements would not be designed to

extend services to non-Project-related undeveloped areas and would not service demand for utilities not associated with Project operations. Additionally, the proposed Project would accommodate for the housing needs identified in the County's RHNA plan. As such, impacts related to population and housing would not be cumulatively considerable.

The proposed Project would not displace a significant number of homes and instead add up to 1,176 homes to a vacant area. Therefore, the proposed Project would not contribute to a cumulative housing displacement impact and impacts would not be cumulatively considerable.

Any future development would be required to comply with applicable federal, state, and local regulations related to population and housing. Required compliance with these regulations would ensure impacts related to population and housing would be less than significant. Therefore, impacts related to population and housing would not be cumulatively considerable.

5.1.1.15 Public Services

Fire Protection

Fire protection services within the region often cross jurisdictional boundaries. Cumulative growth within the Project site at buildout would result in a need for additional fire protection services to serve new development. Cumulative projects proposed under general plans of surrounding cities and counties, such as commercial, residential, or industrial projects, would require fire protection services from fire agencies within the region. In order to maintain adequate travel times to serve cumulative projects, the construction or expansion of fire protection facilities would be required, which would have the potential to result in an adverse impact on the environment. While the majority of cumulative projects involve discretionary actions and therefore would be required to demonstrate compliance with CEQA and/or NEPA prior to project approval, they would incrementally increase the need for fire services. However, these impacts would be mitigated through the compliance with the County Fire Code and the Development Impact Fees to fund the purchase of fire station sites, the construction of new stations, and capital equipment and services related to fire watch, fire clearances, inspections, or investigations. Therefore, cumulative impacts would be less than significant.

Law Enforcement

Cumulative growth within the Project site at buildout would require increased law enforcement services to serve new development. Additionally, future commercial, residential, or industrial projects, would also require law enforcement services. The increase in demand for law enforcement services from implementation of cumulative projects would have the potential to result in the need to construct or expand existing police facilities, which would have the potential to create an adverse impact on the environment. While the majority of cumulative projects require discretionary actions and would be required to demonstrate compliance with CEQA and/or NEPA prior to project approval, they would incrementally increase the need for law enforcement services. Operational funding for the Tulare Police Department and other police stations in the County is derived from the Development Impact Fees pursuant to Chapter 8.56 of the City's Municipal Code. Provided that staff and facilities are expanded to serve future development in the Project site and cities, a less than significant cumulative impacts to law enforcement are anticipated.

School Services

Cumulative growth within the Project site at buildout may result in an increase in the public school population in the region and require the construction or expansion of school facilities off-site so that adequate service ratios are maintained. While the majority of cumulative projects require discretionary actions and would be required to demonstrate compliance with CEQA and/or NEPA prior to project approval, they would incrementally increase the need for school facilities. As discussed above, under state law, development projects are required to pay established school impact fees in accordance with SB 50 at the time of building permit issuance. The funding program established by SB 50 has been found by the Legislature to constitute "full and complete mitigation of the impacts of any legislative or adjudicative act…on the provision of adequate school facilities" (Government Code Section 65995[h]). The fees authorized for collection under SB 50 are conclusively deemed full and adequate mitigation of impacts on school district facilities. Therefore, the increase in the demand for school facilities and services due to cumulative development would be adequately mitigated to a less than significant level by the payment of SB 50 fees.

Library Services

The Tulare Public Library serves the Project site. Cumulative growth within the Project site at buildout may increase the population of library users and result in an increase in demand for library services. This could result in the need to construct additional or expand existing library facilities, which would create an adverse impact on the environment. While the majority of cumulative projects require discretionary actions and would be required to demonstrate compliance with CEQA and/or NEPA prior to project approval, they would incrementally increase the need for library facilities and materials.

Future cumulative development would generate new tax revenues, and as noted above, funding sources for the county library and city libraries consist of non-profit organizations such as Tulare Library Foundation and Tulare Friends of the Library. In order to minimize potentially adverse effects, future projects would be required to pay DIFs to account for library-related construction and acquisition costs. Requiring payment of this fee in effect would mitigate cumulative impacts on the County Library to a less-than-significant level.

5.1.1.16 Recreation

Cumulative projects in the City would have the potential to result in a significant cumulative impact if they would, in combination, result in the deterioration of parks and recreational facilities due to increased usage. The geographic boundary for this cumulative analysis includes all parks and recreational facilities within the City. Some cumulative projects, such as residential developments, would have the potential to increase the demand for recreational facilities, which could result in deterioration of existing facilities. However, the deterioration that would occur to parks and recreational facilities from regional population growth would be offset with funding from new development, such as in-lieu fees for parks, or donation of parkland pursuant to the Quimby Act. In addition, grants from state and County bond sources are available to fund park and recreational facilities in urban areas, and funding for maintenance of those facilities would be provided through property assessments and taxes.

The proposed Project would include the recreational resources necessary to serve the needs of the proposed community, and residents would not likely use any pre-existing, off-site pocket, neighborhood, or community parks. Additionally, off-site state and federal recreational areas plan for long-term growth, and their projections are consistent with the potential increased usage associated with implementation of the proposed Project. Therefore, the proposed Project's contribution would not be cumulatively considerable.

5.1.1.17 Transportation

Multiple intersections the vicinity of the Project site are expected to experience periodic queuing issues during peak hours, which can lead to potential safety concern if a significant speed differential exists between queue vehicles and vehicles proceeding beyond the queue. The Project would result in additional traffic that would exacerbate these conditions under the Opening Year (2032) plus Project traffic conditions and Horizon Year (2040) plus Project conditions (queueing issues would continue to occur without Project-generated traffic for many intersections regardless of the Project). As such, improvement measures required to mitigate the Project's level of service and queuing impacts would include fair-share contributions these intersections as detailed in MM-TRA-1. The City does not have jurisdiction over state facilities (SR-137 and SR-99); therefore, these improvements cannot be assumed to be in place prior to Project's occupancy. Therefore, the Project's impact to increase in hazardous conditions (i.e., queuing) would be partially mitigated with implementation of MM-TRA-1, but impacts would remain significant and unavoidable.

5.1.1.18 Utilities and Service Systems

The Project would not cumulatively impact the utilities and service systems. The Project would be implementing the General Plan policies LU P11.7 and P11.8, design plans, and Project construction would occur in accordance with all applicable regulatory requirements, including accordance with Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings. Project would result in less-than-significant cumulative impacts related to utilities and service systems.

5.1.1.19 Wildfire

Any future development would be required to comply with applicable federal, state, and local regulations related to emergency response and wildland fires. Required compliance with these regulations would ensure impacts related to emergency response and wildfire would be less than significant. Therefore, impacts related to emergency response and wildfires would not be cumulatively considerable.

5.2 References

Tulare County. 2012. General Plan 2012. http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/000General%20Plan%202030%20Part%20I%20and%20Part%20II/GENERAL%20PLAN%202012.pdf.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Accessed August 2017. http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

INTENTIONALLY LEFT BLANK

6 Other CEQA Considerations

Section 15126 of the State California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the environmental impact report (EIR) must also identify (1) significant environmental effects of the proposed project, (2) significant environmental effects that cannot be avoided if the proposed project is implemented, (3) significant irreversible environmental changes that would result from implementation of the proposed project, (4) growth-inducing impacts of the proposed project, and (5) alternatives to the proposed project (evaluated in Chapter 7, Project Alternatives).

The Chandler Grove Master Plan and Annexation Project (Project or proposed Project) includes annexing approximately 864 acres into the City of Tulare (City), including the 231-acre Chandler Grove Master Plan and Annexation Project site. However, no change in existing land use is proposed for the remaining 632 acres. In addition, at the time of annexation proceedings by Tulare County Local Agency Formation Commission (LAFCO) for the proposed project, LAFCO will consider including additional land west of the project site for inclusion with the project. This area is not being requested for inclusion by the project applicant or the City of Tulare but may be required by LAFCO. If included, no additional development of this area is proposed at this time. Therefore, the Draft EIR is focused on the construction and operation of the proposed Chandler Grove Master Plan, which is referred to as the proposed Project.

6.1 Significant Environmental Effects

Chapter 1, Executive Summary, and Sections 4.1 through 4.19 in Chapter 4, Environmental Analysis, of this Draft EIR provide a comprehensive overview of the proposed Project's significant environmental effects, including the level of significance both before and after mitigation.

6.2 Significant and Unavoidable Environmental Impacts

Pursuant to State CEQA Guidelines Section 15126.2(b), an EIR must describe any significant environmental impacts that cannot be avoided, even with the implementation of feasible mitigation measures. As discussed throughout Chapter 4, Environmental Analysis of this Draft EIR, the Project would result in significant and unavoidable impacts related to agriculture and forestry resources (Project and Cumulative), air quality (Project and Cumulative), greenhouse gas emissions (Project and Cumulative), and transportation (Project and Cumulative). Because these impacts cannot feasibly be mitigated to a less-than-significant level, they would remain significant and unavoidable. The remainder of all Project impacts can be mitigated to a less-than-significant level through the adoption of recommended mitigation measures.

6.3 Significant Irreversible Environmental Impacts

The State CEQA Guidelines require that an EIR address any significant irreversible changes that would be caused by implementation of a project. According to Section 15126.2(d), a project would result in significant irreversible changes if:

- The primary and secondary impacts would generally commit future generations to similar uses (such as highway improvement that provides access to a previously inaccessible area);
- The project would involve a large commitment of nonrenewable resources (CEQA Guidelines Section 15126.2(c));
- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project;
- The project would involve a large commitment of nonrenewable resources; or
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Implementation of the Project would result in the long-term commitment of resources of the Project site to urban land use. The development of the Project would likely result in or contribute to the following irreversible environmental changes:

- Conversion of approximately 231 acres of undeveloped land to urban uses, thus precluding other alternate land uses in the future.[1]
- Irreversible consumption of energy and natural resources associated with the future use of the site.

Development of the Project would result in the commitment of approximately 231 acres to urban development, thereby precluding other uses for the lifespan of the Project. Restoration of the site to pre-developed conditions would not be feasible given the degree of disturbance, the urbanization of the area, and the level of capital investment.

Resources that would be permanently and continually consumed by Project implementation include water, electricity, natural gas, and fossil fuels. Commitment of nonrenewable resources includes issues related to increased energy consumption, loss of agricultural lands, and lost access to mining reserves. There would be an irretrievable commitment of labor, capital, and materials used during the construction and operation of the Project. Nonrenewable resources would primarily be committed in the form of fossil fuels such as fuel, oil, natural gas, and gasoline used by equipment associated with construction of the Project. Consumption of other nonrenewable or slowly renewable resources would also occur. These resources would include lumber and other forest products, sand and gravel, asphalt, and metals such as steel, copper, and lead.

With respect to operational activities, compliance with all applicable state and local building codes, as well as mitigation measures, City of Tulare zoning regulations, and standard conservation features would ensure that resources are conserved to the maximum extent feasible. The Project would incorporate a number of sustainable practices that reduce the consumption of energy. Nonetheless, construction and operation of the Project would result in irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels, natural gas, and gasoline and diesel for automobiles and construction equipment.

[1] No change in the existing land use for the remaining approximately 632 acres proposed for annexation if proposed.

The State CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by environmental accidents associated with the project. While the Project would result in the use, transport, storage, and disposal of minor amounts of hazardous materials during project construction and operation as described in Section 4.9, Hazards and Hazardous Materials, all such activities would comply with applicable local, state, and federal laws related to the use, storage and transport of hazardous materials, which would significantly reduce the likelihood and severity of accidents that could result in irreversible environmental damage. The Project itself does not include any uniquely hazardous uses that would require any special handling or storage. Further, the Project does not contain any industrial uses that would use or store acutely hazardous materials.

The proposed Project would result in the long-term commitment of resources to urban development. The most notable significant irreversible impacts include the use of non-renewable and/or slowly renewable natural and energy resources, such as lumber and other forest products and water resources during construction activities. Operations associated with future uses would also consume water, natural gas, and electricity. These irreversible impacts, which are unavoidable consequences of urban growth, are described in detail in the appropriate sections of this Draft EIR (see Chapter 4).

To ensure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (California Public Resources Code Section 21100[b][3]). Energy conservation implies that a project's cost-effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, cost-effectiveness may be determined more by energy efficiency than by initial dollar costs. A lead agency may consider the extent to which an energy source serving a project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production.

Consistent with California Public Resources Code Section 211009(b)(3), CEQA Guidelines Appendix G, and a ruling set forth by the court in *California Clean Energy Committee v. City of Woodland*, potentially significant energy implications of a project must be considered in an EIR to the extent relevant and appliable to that project. Accordingly, based on the energy consumption thresholds set forth in both Appendix F and Appendix G of the CEQA Guidelines, the Project's estimated energy demands (both short-term construction and long-term operational demands) were evaluated (see Section 4.6, Energy, of this Draft EIR). The overall purpose of the energy analysis was to evaluate whether the Project would result in the wasteful, inefficient, or unnecessary consumption of energy.

As further assessed in the energy analysis, compliance with California Title 24 energy efficiency requirements is considered demonstrable evidence of efficient use of energy. The Project would provide for and promote energy efficiencies beyond those required under other applicable federal and state standards and regulations, and in doing so would meet or exceed all Title 24 standards. On this basis, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy.

6.4 Growth-Inducing Impacts

As stated in Section 15126.2(e) of the State CEQA Guidelines, an EIR must also discuss ways 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. Also, the EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, such as through the elimination of obstacles to growth,

the stimulation of economic activity within the region, or the establishment of policies or other precedents that directly or indirectly encourage additional growth. Under CEQA, this growth is not to be considered necessarily detrimental, beneficial, or of significant consequence. Induced growth would be considered a significant impact if it can be demonstrated that the potential growth, directly or indirectly, significantly affects the environment.

These circumstances are described below.

- **Elimination of Obstacles to Growth:** This refers to the extent to which a proposed project removes infrastructure limitations or provides infrastructure capacity or removes regulatory constraints that could result in growth unforeseen at the time of project approval.
- **Economic Effects:** This refers to the extent to which a proposed project could cause increased activity in the local or regional economy. Economic effects can include such effects as the "multiplier effect." A "multiplier" is an economic term used to describe interrelationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of each project is not the complete picture of growth caused by the project.

Elimination of Obstacles to Growth

The elimination of either physical or regulatory obstacles to growth is considered to be a growth-inducing effect, though not necessarily a significant one. A physical obstacle to growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines into areas that are not currently provided with these services would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

Removal of Infrastructure Limitations or Provision of Capacity

The proposed Project includes the construction of new water supply infrastructure, roadways, telecommunication facilities, electrical utility infrastructure, and a natural gas pipeline to service the Project site, consistent with the City's approved infrastructure master plans. (See Chapter 3, Project Description, for a more detailed description of proposed infrastructure improvements.) The new infrastructure improvements would extend through and connect to the City's existing infrastructure to the west of the Project site. The Project site is located in the City of Tulare's approved Sphere of Influence (SOI) and the Project is proposing to annex approximately 863 acres, including the 231-acre Project site. The remaining approximately 490 acres of land includes the existing College of the Sierras Tulare Campus and approximately 142 acres of land currently used as a groundwater recharge basin owned by the Kaweah-Delta Water Conservation District. No changes to the existing land use in these areas are proposed at this time.

Existing development or areas planned for development are located to the west and east of the Project site Undeveloped land in the County is located to the north of the Project site, which could feasibly be developed in the future. However, this land is currently zone and used for agricultural purposes. In addition, the land south of the Project site comprises the College of the Sequoia's campus and additional development of the campus is not expected to occur. Development of infrastructure to accommodate the Project could be considered growth inducing because it would extend services into a previously undeveloped area. Additionally, improvements would be sized to serve the Project itself and future development of areas to the north of the Project site, should the

area be developed in the future per the TOD Plan. Improvements may also be sized and located to serve existing residents to the west of the project site should the City pursue annexation of the area in the future. Therefore, the Project would encourage future growth in these areas due to expansion of services and development of the Project site.

Development of the Project site, which would include fair-share payment for intersection improvements and other services to support development would not; however, enable land in the County to easily be developed. If, in the future development is proposed north of the Project site within the unincorporated County it would require annexation into the City, a general plan amendment, rezone, and environmental review under CEQA, as well as other permits and approvals prior to approval. The City has determined future growth can be accommodated within City or within its SOI, so it is not anticipated the City would expand their SOI to accommodate additional demand for growth in the foreseeable future.

6.4.1 Economic Effects

The proposed Project would affect the local economy by the construction of new residences and neighborhood-serving commercial uses that would encourage people to live in the City of Tulare and would help encourage people to stay in the City to take advantage of proximity to the College of the Sequoias, local businesses, and other amenities in nearby downtown.

The Project would require a temporary construction workforce and a permanent operational workforce, both of which could potentially induce population and economy in the Project site. The temporary workforce would be needed to construct the residential, commercial center, public/quasi-public school, central park, and associated improvements. The number of construction workers needed during any given period would largely depend on the specific stage of construction but would likely range from a dozen to several dozen workers on a daily basis.

Because the future tenants of the commercial center are unknown, the number of jobs that would be generated cannot be precisely determined. However, the Project would create new employment opportunities that could be filled by Project residents or non-Project residents in the vicinity of the site. In addition, the new housing and commercial uses would generate demand for such services as retail, landscaping, home cleaning, and maintenance which would contribute to the local economy.

Additional local employment can be generated through the multiplier effect, as discussed previously in this chapter. The multiplier effect tends to be greater in regions with larger, diverse economies due to a decrease in the requirement to import goods and services from outside the region.

Two different types of additional employment are tracked through the multiplier effect. Indirect employment includes those additional jobs that are generated through the expenditure patterns of direct employment associated with the Project. Indirect jobs tend to be in relatively close proximity to the places of employment and residence.

The multiplier effect also calculates induced employment. Induced employment follows the economic effect beyond the expenditures of the residents within the Project site to include jobs created by the stream of goods and services necessary to support residences within the proposed Project. When a manufacturer buys or sells products, the employment associated with those inputs or outputs are considered induced employment.

For example, when an employee of the Project goes out to lunch, the person who serves the employee lunch holds a job that is indirectly related to the proposed Project. When the server then goes out and spends money in the economy, the jobs generated by this third-tier effect are considered induced employment.

The multiplier effect also considers the secondary effect of employee expenditures. Thus, it includes the economic effect of the dollars spent by those employees and residents who support the employees of the Project.

Increased future employment generated by employee and resident spending ultimately results in physical development of space to accommodate those employees. It is the characteristics of this physical space and its specific location that determine the type and magnitude of environmental impacts of this additional economic activity. Although the economic effect can be predicted, the actual environmental implications of this type of economic growth are too speculative to predict or evaluate, since they can be spread throughout the City, the County, and beyond.

Impacts of Induced Growth

The growth induced directly and indirectly by the proposed Project could contribute to the environmental impacts, discussed in Chapter 4, in the City and the County, as well as the greater regional area. As discussed above, 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. An example of this indirect effect would be the expansion of water or wastewater infrastructure, which might allow for more development to be served by access to these services. The Project would not require the extension of any existing roadways but would require construction of on-site roads and perimeter improvements such as sidewalks, curbs, and gutters, utilities and other infrastructure as well as fair-share contributions for intersection improvements for queuing impacts in the vicinity of the Project site. More specifically, implementation of the proposed Project would include the construction of new water supply and wastewater infrastructure, internal roadways, telecommunication facilities, electrical utility infrastructure, and natural gas pipelines to service the Project site. The new infrastructure improvements would extend through and connect to the City's existing infrastructure near the Project site. The proposed infrastructure improvements would be sized to serve the Project itself and to serve future development of areas to the north of the Project site, should the area be developed in the future per the TOD Plan. Improvements may also be sized and located to serve existing residents to the west of the project site should the City pursue annexation of the area in the future. Development of the proposed Project site is identified as a planned improvement in the City's Transit Oriented Development Plan. Under CEQA, growth is not considered necessarily detrimental or beneficial.

Indirect and induced population growth in the City could further contribute to the loss of open space because it may encourage the conversion of undeveloped land to urban uses for additional housing and infrastructure. However, it is assumed this new growth would occur within areas of the City designated and zoned for development or planned for potential future urban development. Again, however, the particular open space that might get converted cannot be predicted with any certainty, all such conversions to urban land use would occur within areas planned for growth in the City's General Plan. Development of the property to the north and south of the Project site is not currently proposed for future development by either the City or the County. However, as noted above, if development is proposed in the future by the City, it would require an annexation into the City, a general plan amendment, rezone, and environmental review under CEQA prior to approval.

In summary, although the proposed Project can be said to induce growth, this growth in not unplanned. The proposed Project would develop a portion of the TOD Plan and any growth induced by the Project is consistent with that analyzed in the City's General Plan and TOD Plan for the College of the Sequoia area. No growth beyond what was already analyzed would occur and the City is not planning on extending its Urban Development

Boundary. Furthermore, due to existing General Plan and TOD Plan goals, policies and actions that support planned growth the proposed Project would not result in a significant growth inducing impact. Growth inducement, as it pertains to CEQA and this document, generally denotes growth that is not planned. Because the growth that would be induced by the Project was previously planned and analyzed, growth-inducing effects would be considered **less than significant.**

INTENTIONALLY LEFT BLANK

7 Alternatives

7.1 Introduction

Pursuant to the State California Environmental Quality Act (CEQA) Guidelines, environmental impact reports (EIRs) are required to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (14 CCR 15126.6(a)). This alternatives analysis is prepared in support of CEQA's goals to foster informed decision making and public participation (14 CCR 15126.6(a)). An EIR is not required to evaluate the environmental impacts of alternatives at the same level of detail as the proposed project, but it must include enough information to allow meaningful evaluation, analysis, and comparison with the proposed project.

Section 15126.6(a) of the State CEQA Guidelines requires the following:

> An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR should consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selection of a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

The alternatives analysis is required even if the alternatives "would impede to some degree the attainment of the project objectives or would be more costly" (14 CCR 15126.6(b)). An EIR must evaluate "only those alternatives necessary to permit a reasoned choice" (14 CCR 15126.6(f)) and does not need to consider "every conceivable alternative" to a project (14 CCR 15126.6(a)). The alternatives evaluated should be "potentially feasible" (14 CCR 15126.6(a)), but inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact "feasible." The final decision regarding the feasibility of alternatives lies with the decision makers for a given project who must make the necessary findings addressing the feasibility of alternatives for avoiding or substantially reducing a project's significant environmental effects (California Public Resources Code, Section 21081; see also 14 CCR 15091).

Section 15364 of the Guidelines defines "feasibility" 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."

As discussed throughout Chapter 4, Environmental Analysis, of this Draft EIR, the Chandler Grove Master Plan and Annexation Project (Project or proposed Project) would result in the following significant and unavoidable impacts.

Agricultural Resources

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

Air Quality

- 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 non-attainment under an applicable federal or state ambient air quality standard (construction only)
- Cumulative effect to air quality resources

Greenhouse Gas Emissions

- 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
- Cumulative effect on greenhouse gas emissions

Transportation

- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Cumulatively considerable transportation impacts

The Alternatives analysis also considers those significant impacts of the Project that could be reduced to less-than-significant levels with mitigation, as listed in Table 1-1, Summary of Project Impacts, in Chapter 1, Executive Summary. These topics were considered in the development of viable Project Alternatives that could lessen environmental effects of the Project. To a lesser extent, the Alternatives analysis also considers those impacts of the proposed Project in which mitigation is not necessary.

7.2 Project Objectives

Section 15124(b) of the CEQA Guidelines requires that an EIR include a statement of the project objectives that "include the underlying purpose of the project and may discuss the project benefits." The following objectives have been identified for the Project:

Provide housing opportunities that are consistent with the City's Housing Element and the College of the Sequoias (COS) North Transit Oriented Development Plan Area, including having access to a robust transit

network, a mix of land uses (housing types as well as business and public uses), as well as available pedestrian and bicycle facilities, while minimizing environmental effects.

Create a new community to serve existing and future Tulare residents as well as the COS community, by providing a plan that includes child- and family-oriented neighborhood amenities in a central location within the development where residents can access many of their basic activities and needs via walking or biking.

2. Provide functional compatibility with existing residential neighborhoods and development while enhancing the City's ability to provide for fiscally positive development.

Develop homes on a site that can be served by existing utilities, services, and street access.

3. Amend the City's jurisdictional boundary to include the Project site and adjacent property to be consistent with the Tulare County Local Agency Formation Commission's (LAFCO) mission to encourage the logical and orderly development of cities and to promotes the efficient extensions of municipal services.

4.

5.

7.3 Alternatives Considered and Rejected

An EIR is required to identify any alternatives that were considered by the lead agency but were rejected as infeasible. Among the factors described under Section 15126.6(c) of the Guidelines in determining whether to exclude alternatives from detailed consideration in an EIR are failure to meet most of the basic objectives of the project, infeasibility, or inability to avoid significant environmental impacts.

With respect to the feasibility of potential alternatives, Section 15126.6(f)(1) states the following:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries … and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.

In determining an appropriate range of project alternatives to be evaluated in this EIR, the following possible alternatives were initially considered and then rejected. These alternatives were rejected because they could not accomplish the basic objectives of the Project, would not have resulted in a reduction of significant adverse environmental impacts, and was considered infeasible to construct or operate.

Alternate Sites

CEQA does not require that an analysis of an alternate or off-site alternative be included in an EIR. However, if the surrounding circumstances make it reasonable to consider an alternate site, then a project alternative should be considered and analyzed in the EIR. Pursuant to CEQA Guidelines Section 15126.6(f)(2), in making the decision to include or exclude analysis of an alternate site, the "key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR."

An off-site alternative was rejected as infeasible because the Project applicant does not own any other property that would be feasible for this Project and cannot "reasonably acquire, control or otherwise have access to [an] alternative site" (refer to Section 15126.6[f][1] of the CEQA Guidelines). In addition, the proposed Project is not unique in that development of a similar project elsewhere would not preclude nor eliminate demand for the

development of the Project on this site. In addition, development of the Project in an alternate location would have similar impacts as would occur with implementation of the Project at its proposed location. Thus, moving the Project to an alternative site – assuming that another 231-acres of property exists within the County and City of Tulare is available – would merely displace environmental impacts instead of avoiding or minimizing them. Thus, this alternative was eliminated from further consideration.

All-Residential Alternative

Senate Bill 8 Housing Crisis Act of 2019 (SB 8), was approved by Governor Newsom in September 2021 in order to increase housing in California, and to have the approval of housing development projects within local governments. Therefore, an All-Residential Alternative would develop the entire site with a combination of low, medium, and high residential units, remove the 10.8 acres of neighborhood commercial, reduce the size of the 14.1-acre central park, and eliminate the 4.9-acre school site and community center. Because the site would be fully developed in a manner similar to that of the proposed project, impacts from implementation of this alternative would remain same. In addition, while this alternative would bring more housing to the County and the City of Tulare, it would not meet the project's objectives of developing a transit-oriented community. Project impacts related to air quality, greenhouse gases, energy, and traffic would likely be greater than those of the proposed project since residences of the community would need to use personal vehicles and travel greater distances for services and educational needs. Because of these reasons, the All-Residential Alternative was eliminated from further consideration.

7.4 Alternatives Analyzed

This section provides an evaluation of the environmental effects of each alternative relative to the environmental effects of the proposed project. These conclusions are listed in the alternatives summary matrix provided at the end of this discussion.

The alternatives to be analyzed in comparison to the proposed Project include:

Alternative 1: No Project/No Development Alternative. This alternative assumes no development would occur, and the site would remain under the jurisdiction of Tulare County and in its current undeveloped condition and no land would be annexed.

Alternative 2: Reduced Development per the 2013 Tulare Transit-Oriented Development (TOD) Plan. This alternative assumes development of the site as described in the 2013 TOD Plan for the COS North Plan area. Similar to the proposed project, this alternative would include development of high, medium, and low density residential, a park, school, neighborhood commercial, and an area for public/cultural/community use.

Alternative 3: Development of Commercial Area Only. This alternative assumes only the 10.8-acre neighborhood commercial center would be developed and the remaining approximately 210 acres of the site would remain in agricultural production. No residential areas, school, central park, bike trails, or community center would be developed as part of this alternative.

The alternatives are summarized below and compared with the proposed Project. The analysis considers the issue areas evaluated in Chapter 4, Environment Analysis, and Chapter 5, Cumulative Effects. In many cases, the Project and a Project alternative may share the same level of significance (i.e., both scenarios would result in a less-than-significant impact). However, although they might share the same level of significance under CEQA, the

actual degree of impact may be slightly different for each scenario, and this relative difference is the basis for a conclusion of greater or lesser impacts as compared to the Project.

An environmentally superior alternative is identified among the alternatives evaluated in this Draft EIR. An alternative would be environmentally superior to the Project if it would result in fewer or less significant environmental impacts while achieving most of the Project objectives. The environmentally superior alternative is provided at the end of this chapter.

7.4.1 Alternative 1: No Project/No Development

CEQA Guidelines, Section 15126.6(e), requires every EIR to include a "No Project Alternative" which is intended to allow decision-makers to compare the impacts of approving the proposed Project with the impacts of not approving the Project. In cases where the project constitutes a land development project, the No Project Alternative is the "circumstance under which the project does not proceed." For many projects, the No Project Alternative represents a "No Development" or an "Existing Conditions" scenario, in which the project site remains in its existing condition and no new development occurs for the foreseeable future. However, CEQA Guidelines Section 15126.6(e)(3)(B) establishes that "If disapproval of the project under consideration would result in predictable actions by others such as the proposal of some other project, this 'no project' consequence should be discussed." This EIR considers both situations. Alternative 1, No Project/No Development assumes no grading or development would occur on the Project site and the existing site conditions would remain. The site would remain under the jurisdiction of Tulare County and not be annexed into the City.

Comparative Analysis of Environmental Effects

Under Alternative 1, construction or operation of the Project would not occur. The Project site would remain as agricultural, effectively eliminating the Project impacts discussed in this Draft EIR. Under the No Project/No Development Alternative, no demolition, construction, or ground disturbance would occur so there would be no changes to visual conditions, biological resources, cultural and tribal cultural resources, ambient noise, or effects to existing resources in the project area. There would be no air emissions or greenhouse gas (GHG) emissions associated with construction and operation activities, and no new vehicle trips. No new utilities, or services would be needed to serve new residents or land uses. No residents or structures would be affected by any potential hazards including wildfires, or other natural disasters. All impacts that would occur from the proposed Project would be avoided under this Alternative.

Relationship to Proposed Project Objectives

The No Project/No Development Alternative would preserve agriculture land and open space areas but would otherwise fail to achieve the proposed project objectives such as meeting the needs of the Housing Element or North Transit Oriented Development Plan, such as creating a specific plan that is beneficial to the community and economically viable, providing housing to the area and new employment opportunities through commercial uses.

7.4.2 Alternative 2: Reduced Development per the 2013 Tulare TOD Plan

Description

Under the Reduced Development per the 2013 Tulare TOD Plan Alternative, the project site would be annexed into the City and developed in a similar manner as the proposed Project as shown in Table 7-1, below and on Figure 7-1, 2013 TOD Plan for the Project Site. A maximum development of 1,577 residential units would be constructed on a total of 113 acres under this Alternative. In addition, a maximum of 23.5 acres of other development would occur, including a neighborhood commercial center, Park, school, and community use area. As such, a reduction in the overall development area would be reduced under Alternative 2 and approximately 84 acres of land in the norther portion of the project area would remain in agricultural production.

Table 7-1. Comparison of Proposed Project Development and Alternative 2 Development

Proposed Project				Alternative 2: Development per 2013 Tulare TOD Plan		
Land Use	Total Land Use Acreage	Total Units	Density (DU/Acre)	Total Land Use Acreage	Total Units	Density (DU/Acre)
Residential Development						
Low Density Residential	100.3	364	3.6	50	158-342	3.1-7
Medium Density Residential	32.9	281	8.5	42	310-612	7.1-14
High Density Residential	29.9	552	18.5	21	303-623	14.1-29
Residential Total	**163.1**	**1,197**		**113**	**771 to 1,577**	
Other Development						
Parks and Recreation (Central Park)	14.1				15.8 acres	
Natural Areas	12.3					
Neighborhood Commercial Center	10.8				41,800-92,000 sq ft (0.96-2.11 ac)	
Perimeter Right-of-Way	10.3					
Public/Quasi-Public (School)	4.9				4.9 ac	
Public/Quasi- Public (Community Center)	0.78				15,000-30,000 sq ft (0.34 – 0.69 ac)	
Other Development Total	**53.18**				**22 to 23.5**	

Source: City of Tulare Final Transit-Oriented Development Plan.

Comparative Analysis of Environmental Effects

Under Alternative 2, it is assumed that development in the project area would occur consistent with the TOD land use assumptions that would result in a smaller development footprint of approximately 84 acres when compared to the proposed project. The reduced scale of development would result in impacts that are less severe or similar to the those of the proposed project as detailed below. It is assumed that all mitigation required for the project would be implemented for this Alternative.

Aesthetics

The overall development of the Alternative 2 project area would be reduced by approximately 84 acres when compared to the proposed project. As noted on Figure 7-1, this Alternative would develop land uses in a similar manner to those of the project, however, the area along Avenue 228 would remain largely in agricultural production, with the exception of the construction of a pedestrian/bike connection running north/south through the project site. As such, impacts related to aesthetic resources would be less than significant and less than those proposed by the project as the view of the project site along Avenue 228 would remain unchanged.

Agriculture and Forestry

The project site under Alternative 2 has been actively farmed in the last 10 years and has a developed water supply that is dependable. The Alternative 2 project site has lands that are designated as "Prime Farmland" and "Unique Farmland" and is entirely within an active Williamson Act Contract. Similar to the proposed project, the project proponent would be required to implement Mitigation Measures (MM)-AG-1 and MM-AG-2 which require the mitigation of the loss of agricultural land at a ratio of 1:1 through implementation of a conservation easements and submit proof of cancellation or exchange of the active Williamson Act lands to the City of Tulare. Despite implementation of mitigation and preservation of 84 acres of existing farmland under a Williamson Act Contract, impacts related to agricultural resources would remain significant and unavoidable; however, impacts would be less than those of the proposed project.

Air Quality

The SJVAB has been designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under national and/or California standards. Because development of Alternative 2 is similar in nature to the proposed project, it is assumed that Alternative 2's annual construction emissions would not exceed the SJVAPCD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. In addition, this Alternative's combined annual area, energy, and mobile source emissions would not be expected to exceed the SJVAPCD's operational thresholds for CO, SO_x, or $PM_{2.5}$. However, it is anticipated this Alternative would exceed the SJVAPCD's operational threshold for VOC, NO_x, and PM_{10}. Similar to the proposed project, MM-AQ-1 through MM-AQ-4 would be implemented during project operation, however, Alternative 2 would have significant and unavoidable impacts related to criteria air pollutant emissions during operational activities. However, due to the reduction in project size, these impacts would be less when compared to the proposed project.

Biological Resources

Development of the site has a low to moderate potential to impact burrowing owl, Swainson's Hawk, and San Joaquin kit fox. Similar to the proposed project, impacts to biological resources from implementation of Alternative 2 are anticipated to be less than significant with the incorporation of MM-BIO-1 through MM-BIO-12.

Because the developed portion of the project site would be reduced by 84 acres under this alternative, impacts to biological resources would be less than those of the proposed project.

Cultural and Tribal Cultural Resources

Like the proposed project, impacts to cultural and tribal cultural resources from implementation of Alternative 2 would be less than significant with the incorporation of MM-CUL-1 through MM-CUL-4. Incorporation of these measures would protect historical and archaeological resources, as well as human remains, in the unlikely event they are discovered during project construction. Because the development of Alternative 2 would occur on the same site as the proposed project but 84 acres less would be developed, impacts are anticipated to be similar, but less than those of the proposed project.

Energy

Implementation of Alternative 2 is not anticipated to result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation and impacts would be less than significant. Energy uses during construction would be temporary and required to comply with applicable energy standards and regulations. Similarly for operations, energy use would be required to comply with the applicable energy standards and regulations, and usage would be decreased through green building standards. Additionally, as part of a TOD Plan, residents and employees would be encouraged to use walking/biking trails and mass transit to go about their daily activities as opposed to using a personal vehicle. Because the intensity of development would be less than that of the proposed project, impacts would be similar, but less than those of the proposed project.

Geology and Soils

Similar to the proposed project, implementation of Alternative 2 would result in less than significant impacts related to geology and soils with mitigation. This alternative would adhere to the 2019 CBC design standards which would minimize the long-time effects of the potential for structure distress as a result of seismically induced ground shaking. A Stormwater Pollution Prevention Plan (SWPPP) would be submitted prior to construction to incorporate BMPs to ensure that potential water quality impacts during construction from erosion would be minimized. Similar to the proposed project, no paleontological findings were noted during the paleontological records search to the Natural History Museum of Los Angeles County. MM-GEO-1 would be required in case any paleontological resources are unearthed during grading. Due to the reduced development intensity of Alternative 2 when compared to the proposed project, impacts would be similar, but less than those of the proposed project.

Greenhouse Gas Emissions

Construction of Alternative 2 would result in GHG emissions primarily associated with the use of off-road construction equipment, haul trucks, on-road vendor trucks, and worker vehicles. GHG emissions generated during construction of the Alternative 2 would be short term, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Operation of the Project would generate GHG emissions through passenger vehicles to and from the Project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the Project); solid waste disposal; generation of electricity associated with water and wastewater use. As the project is similar in size and development, it is assumed that this Alternative's efficiency metric would exceed the 2033 efficiency metric of 1.62 MT CO_2e. Similar to the proposed project, this Alternative would implement GHG Emission reduction

measures recommend by the SJVAPCD and MM-GHG-1 through MM-GHG-9. Despite implementation of MM-GHG-1 through MM-GHG-9, it is assumed impacts related to GHG emissions would remain significant and unavoidable for Alternative 2. However, Alternative 2 would reduce development of the project site by approximately 84 acres. As such, impacts would be similar, but less than, those of the proposed project.

Hazards and Hazardous Materials

During the construction of Alternative 2, impacts related to transport, disposal, and handling of hazardous material would occur similar to those of the proposed project. Implementation of the Hazardous Materials Business Plan (HMBP), the federal, state, and local health and safety laws and regulations would remove the potential for hazards related to Project operation. The site would require the demolition of onsite structures; therefore, a pre-demolition survey and abatement are required with the implementation of MM-HAZ-1 and MM-HAZ-2 during the construction phase of Alternative 2, and impacts would be less than significant. The Alternative 2 project site adjoins Mission Oak High School and College of the Sequoias, however potential impacts would be mitigated by MM-HAZ-1 and zoned accordingly to the City of Tulare and County of Tulare zoning ordinances and General Plans. However, Alternative 2 would reduce development of the project site by approximately 84 acres. As such, impacts would be similar, but less than, those of the proposed project.

Hydrology and Water Quality

Implementation of Alternative 2 would result in less than significant impacts with regard to hydrology and water quality. The implementation of City's Stormwater Management Plan, National Pollutant Discharge Elimination System (NPDES) permit, and Stormwater Pollution Prevention Plan (SWPPP) would require water quality BMPs and storm drainage system design measures to minimize the potential for erosion, siltation, flooding, or the deposition of mud, debris, or construction-related pollutants. Post-construction requirements of the City's Stormwater Management Plan would be implemented, and water supply would be provided by the City, therefore Alternative 2 would minimizes the effect on groundwater recharge and would have a decline for ground water demand. Alternative 2 would reduce development of the project site by approximately 84 acres. As such, impacts would be similar, but less than, those of the proposed project.

Land Use and Planning

Implementation of Alternative 2 would result in less than significant impacts with regard to land use and planning. Similar to the proposed project, discretionary actions for the Alternative 2 development area would include approval of a zone amendment (pre-zoning for anticipated annexation), general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925, and annexation of the property from the County of Tulare to the City of Tulare. No land use changes would be implemented for the approximately 84 acres of existing agricultural land; however, this area would also be included in the annexation area. Impacts related to land use and planning would be similar for Alternative 2 as those of the proposed project.

Mineral Resources

Implementation of Alternative 2 would result in less than significant impacts related to mineral resources with the implementation of mitigation. The Alternative 2 site does not contain MRZ-2a, MRZ-2b and MRZ-3a zones and there are no oil, gas, or geothermal wells onsite. However, in the unlikely event that unknown wells are discovered during project development, MM-MIN-1 would be implemented. However, because the development area is less

than the proposed project by 84 acres, there is less likelihood of encountering an unknown well and therefore, impacts would be less for Alternative 2 when compared to the proposed project.

Noise and Vibration

Implementation of Alternative 2 would result in less than significant impacts related to noise and vibration with the implementation of mitigation. Similar to the proposed project, implementation of Alternative 2 would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the alternative in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies with the incorporation of MM-NOI-1. Long-term operation of Alternative 2 would not be anticipated to generated significant noise impacts or perceptible vibration levels. As shown in Figure 7-1, development of the commercial area would be directly adjacent to the established residential neighborhood directly east of the site. While not anticipated to create significant impacts, noise from customers and traffic have the potential to impact those adjacent homes. As such, implementation of Alternative 2 would have impacts that are similar, but greater than those of the proposed project.

Population and Housing

Alternative 2 proposes to add a maximum of 1,577 residential units to an area currently in agriculture production. All development would be required to comply with applicable federal, state, and local regulations related to population and housing and impacts would be less than significant. Similar to the proposed project, Alternative 2 would include perimeter improvements such as sidewalks, curbs, and gutters. Development under this alternative would be required to pay fair share costs for intersection improvements in the vicinity of the project site for queuing impacts directly related to implementation of the Alternative. The proposed infrastructure improvements would be adequately sized to serve the proposed Alternative only. The proposed infrastructure would not be oversized to accommodate any growth beyond the Alternative site into areas that were not previously served. As such, implementation of Alternative 2 would have impacts that are similar to those of the proposed project.

Public Services

Implementation of Alternative 2 would result in less than significant impacts with regard to public services. Similar to the proposed project, development under this alternative would also be subject to the payment of Development Impact Fees (DIFs), as per Chapter 8.56 (Development Impact Mitigation Fees) of the City's Municipal Code. This fee would be used for future facility improvements necessary to ensure that the Project contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City. The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development, which varies in proportion to specific land uses. As such, impacts related to public services would be the similar for Alternative 2 as those of the proposed project.

Recreation

Implementation of Alternative 2 would result in less than significant impacts with regard to recreation. Similar to the proposed project, Alternative 2 would include the recreational resources necessary to serve the needs of the proposed community, and residents would not likely use any pre-existing, off-site pocket, neighborhood, or community parks. The goals, policies, and actions in the City of Tulare General Plan and the Tulare Transit-Oriented Development (TOD) Plan and other applicable standards would guide the development of the recreational facilities at the site. Development of this Alternative's recreational facilities itself would not have a

significant impact on the environment due to the already disturbed nature of the site and the lack of sensitive resources on the project site. As such, impacts related to recreation would be similar for Alternative 2 as those of the proposed project.

Transportation

Similar to development of the proposed project, intersections the vicinity of the Alternative 2 site are expected to experience periodic queuing issues during peak hours, which can lead to potential safety concern if a significant speed differential exists between queue vehicles and vehicles proceeding beyond the queue. It can be assumed, that similar to the proposed project, Alternative 2 would result in additional traffic that would exacerbate these conditions under the Opening Year (2032) plus Project traffic conditions and Horizon Year (2040) plus Project conditions (queueing issues would continue to occur without Alternative 2-generated traffic for many intersections). As such, improvement measures are assumed to be required to mitigate this alternative's level of service and queuing impacts that would include fair-share contributions these intersections as detailed in MM-TRA-1. The City does not have jurisdiction over state facilities (SR-137 and SR-99); therefore, these improvements cannot be assumed to be in place prior to project's occupancy. Therefore, Alternative 2's impact related to the increase in hazardous conditions (i.e., queuing) would be partially mitigated with implementation of MM-TRA-1, but impacts would remain significant and unavoidable. However, Alternative 2 would reduce development of the project site by approximately 84 acres. As such, transportation impacts would be similar, but less than, those of the proposed project.

Utilities and Service Systems

Similar to development of the proposed project, impacts related to utilities and service systems for Alternative 2 would be less than significant. Under this alternative, design and construction would occur in accordance with all applicable regulatory requirements, including accordance with Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings. Construction of water, wastewater treatment, stormwater drainage, electric power, natural gas, and telecommunications facilities would occur to service the project area. However, tie-ins to these existing services are near the immediate vicinity of the Alternative 2 site and capacity exists to adequately serve development of the site. However, Alternative 2 would reduce development of the project site by approximately 84 acres. As such, impacts would be similar, but less than those of the proposed project.

Wildfire

Impacts related to wildfire would be less than significant for Alternative 2. The site is undeveloped, and the vegetation community is dominated by orchards. According to the *Fire Hazard Severity Zones* map, the Alternative 2 site is not classified as being within a high fire hazard severity zone. In addition, the site is flat which poses less of a threat as wildfires typically burn up slopes faster and more intensely than along flat ground. Flat areas do not typically present an increased wildfire risk. Moderate or steep slopes greater than 20%, are considered a higher risk for wildfires. The prevailing winds typically come from the northwestern direction. Alternative 2 is not expected to impair evacuation procedures as evacuation routes are not pre-determined in the County's General Plan or Strategic Plan. As such, impacts related to wildfire would be the similar for Alternative 2 and the proposed project.

Relationship to Proposed Project Objectives

The Reduced Development per the 2013 TOD Plan Alternative would fully achieve all of the project objectives, but in a reduced manner. This alternative would be generally similar to the proposed project as a planned, "complete"

community with a variety of land uses such as residential, commercial, school, community center, parks, and safe pedestrian and bike trials. A reduction in the total development acreage by 84 acres would not achieve the intent of the project objectives to provide housing and develop employment opportunities to the extent that the proposed project would.

7.4.3 Alternative 3: Development of Commercial Area Only

Description

Under the Development of Commercial Area Only Alternative, the project site would not be annexed into the City and only the 10.8-acre neighborhood commercial center would be constructed and operated at the corner of S. Oakmore Street and E. Bardsley Avenue. No residential areas, school, central park, bike trails, or community center would be developed as part of this alternative. Approximately 210 acres of the site would remain in agricultural production and the three residential homes and agricultural outbuildings would remain on-site.

Comparative Analysis of Environmental Effects

Under Alternative 3, it is assumed that development in the project area would occur on 10.8 acres in the southwest corner of the site. The reduced scale of development would result in impacts that are less severe or similar to the those of the proposed project as detailed below. It is assumed that all mitigation required for the project would be implemented for this Alternative.

Aesthetics

The overall development of the Alternative 3 project area would be reduced substantially when compared to the proposed project. Only 10.8 acres of the site would be developed as a neighborhood commercial center and the remaining 210 acres would remain unchanged. The views would remain largely unchanged from what is existing. As such, impacts related to aesthetic resources would be less than significant and less than those proposed by the project.

Agriculture and Forestry

The project site under Alternative 3 has been actively farmed in the last 10 years and has a developed water supply that is dependable. The Alternative 3 project site has lands that are designated as “Prime Farmland” and “Unique Farmland” and is entirely within an active Williamson Act Contract. Similar to the proposed project, the project proponent would be required to implement Mitigation Measures (MM)-AG-1 and MM-AG-2 which require the mitigation of the loss of agricultural land at a ratio of 1:1 through implementation of a conservation easements and submit proof of cancellation or exchange of the active Williamson Act lands to the City of Tulare for the 10.8 acres of land that would be converted to non-agricultural use. The remaining approximately 210 acres would remain in agricultural production. As such, the minor conversion of agricultural lands under Williamson Act to non-agricultural uses would not likely result in a significant impact. As such, impacts related to agricultural resources would be less than significant and less than those of the proposed project.

Air Quality

The SJVAB has been designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under national and/or California standards. Due to the development of only 10.8 acres of land to commercial uses, it is assumed that Alternative

3's annual construction emissions would not exceed the SJVAPCD significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. In addition, it is assumed that the combined annual area, energy, and mobile source emissions would not be expected to exceed the SJVAPCD's operational thresholds. However, the SJVAPCD is in a nonattainment area for the State 1-hour 03, 8-hour 03, PM10, and PM2.5 standards and is a nonattainment area for National 8-hour 03 and PM2.5 standards. As such, despite air quality impacts being less than significant at a project level, due to the SJVAPCD being in a nonattainment status, cumulative impacts would be significant and unavoidable. However, due to the reduction in project size and development, these impacts would be less when compared to the proposed project.

Biological Resources

Development of the 10.8-acre site has a low to moderate potential to impact burrowing owl, Swainson's Hawk, and San Joaquin kit fox. Similar to the proposed project, impacts to biological resources from implementation of Alternative 3 are anticipated to be less than significant with the incorporation of MM-BIO-1 through MM-BIO-12. Because the developed portion of the project site would be limited to 10.8 acres under this alternative, impacts to biological resources would be less than those of the proposed project.

Cultural and Tribal Cultural Resources

Like the proposed project, impacts to cultural and tribal cultural resources from implementation of Alternative 3 would be less than significant with the incorporation of MM-CUL-1 through MM-CUL-4. Incorporation of these measures would protect historical and archaeological resources, as well as human remains, in the unlikely event they are discovered during project construction. Because the development of Alternative 3 would only develop 10.8 acres on the same site as the proposed project, impacts are anticipated to be similar, but less than those of the proposed project.

Energy

Implementation of Alternative 3 is not anticipated to result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation and impacts would be less than significant. Energy uses during construction would be temporary and required to comply with applicable energy standards and regulations. Similarly for operations, energy use would be required to comply with the applicable energy standards and regulations, and usage would be decreased through green building standards. Because development would only be over 10.8 acres, impacts related to energy would be less than that of the proposed project, and would be similar, but less than those of the proposed project.

Geology and Soils

Similar to the proposed project, implementation of Alternative 3 would result in less than significant impacts related to geology and soils with mitigation. This alternative would adhere to the 2019 CBC design standards which would minimize the long-time effects of the potential for structure distress as a result of seismically induced ground shaking. A Stormwater Pollution Prevention Plan (SWPPP) would be submitted prior to construction to incorporate BMPs to ensure that potential water quality impacts during construction from erosion would be minimized. Similar to the proposed project, no paleontological findings were noted during the paleontological records search to the Natural History Museum of Los Angeles County. MM-GEO-1 would be required in case any paleontological resources are unearthed during grading. Due to development only occurring

over 10.8 acres, impacts related to Alternative 3 when compared to the proposed project, would be similar, but less than those of the proposed project.

Greenhouse Gas Emissions

Construction of Alternative 3 would result in GHG emissions primarily associated with the use of off-road construction equipment, haul trucks, on-road vendor trucks, and worker vehicles. GHG emissions generated during construction of the Alternative 3 would be short term, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Operation of the Project would generate GHG emissions through passenger vehicles to and from the Project site; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the Project); solid waste disposal; generation of electricity associated with water and wastewater use. Since Alternative 3 would only develop approximately 10.8 acres of land for commercial uses, it is assumed that operation of this Alternative would not result in long-term significant impacts related to GHG emissions. Because Alternative 3 would reduce development of the project site to approximately 10.8 acres. As such, impacts would be less than significant and less than those of the proposed project.

Hazards and Hazardous Materials

During the construction of Alternative 3, impacts related to transport, disposal, and handling of hazardous material would occur similar to those of the proposed project. Implementation of the Hazardous Materials Business Plan (HMBP), the federal, state, and local health and safety laws and regulations would remove the potential for hazards related to Project operation. With the implementation of MM-HAZ-1 and MM-HAZ-2 during the construction phase of Alternative 3, impacts would be less than significant. The Alternative 3 project site adjoins Mission Oak High School and College of the Sequoias, however potential impacts would be mitigated by MM-HAZ-1 and zoned accordingly to the City of Tulare and County of Tulare zoning ordinances and General Plans. However, Alternative 3 would reduce development of the project site to approximately 10.8 acres. As such, impacts would be similar, but less than, those of the proposed project.

Hydrology and Water Quality

Implementation of Alternative 3 would result in less than significant impacts with regard to hydrology and water quality. The implementation of City's Stormwater Management Plan, National Pollutant Discharge Elimination System (NPDES) permit, and Stormwater Pollution Prevention Plan (SWPPP) would require water quality BMPs and storm drainage system design measures to minimize the potential for erosion, siltation, flooding, or the deposition of mud, debris, or construction-related pollutants. Post-construction requirements of the City's Stormwater Management Plan would be implemented, and water supply would be provided by the City, therefore Alternative 3 would minimizes the effect on groundwater recharge and would have a decline for ground water demand. Alternative 3 would reduce development of the project site to approximately 10.8 acres. As such, impacts would be similar, but less than, those of the proposed project.

Land Use and Planning

Implementation of Alternative 3 would result in less than significant impacts with regard to land use and planning. Similar to the proposed project, discretionary actions for the Alternative 3 development area would include approval of a zone amendment, general plan amendment, exclusion from Agricultural Preserve Number 0002326, cancellation of Agricultural Preserve Contract 06925. No land use changes would be implemented for

the approximately 210 acres of existing agricultural land. As such impacts related to land use and planning would be less for Alternative 3 when compared to the proposed project.

Mineral Resources

Implementation of Alternative 3 would result in less than significant impacts related to mineral resources with the implementation of mitigation. The Alternative 3 site does not contain MRZ-2a, MRZ-2b and MRZ-3a zones and there are no oil, gas, or geothermal wells onsite. However, in the unlikely event that unknown wells are discovered during project development, MM-MIN-1 would be implemented. However, because the development area is reduced to 10.8 acres, there is less likelihood of encountering an unknown well and therefore, impacts would be less for Alternative 3 when compared to the proposed project.

Noise and Vibration

Implementation of Alternative 3 would result in less than significant impacts related to noise and vibration with the implementation of mitigation. Similar to the proposed project, implementation of Alternative 3 would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the alternative in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies with the incorporation of MM-NOI-1. Long-term operation of Alternative 3 would not be anticipated to generated significant noise impacts or perceptible vibration levels. However, because the development area is reduced to 10.8 acres of commercial development, impacts related to noise and vibration would be less for Alternative 3 when compared to the proposed project.

Population and Housing

Alternative 3 proposes only to develop the 10.8-acre neighborhood commercial portion of the project. No low, medium, or high-density residential development would occur and the majority of the project site would remain in agricultural production. Development under this alternative would be required to pay fair share costs for intersection improvements in the vicinity of the project site for queuing impacts directly related to implementation of the Alternative. The proposed infrastructure improvements would be adequately sized to serve the proposed Alternative only. The proposed infrastructure would not be oversized to accommodate any growth beyond the Alternative site into areas that were not previously served. As such, implementation of Alternative 3 would have no impact to population and housing and would be less than those of the proposed project.

Public Services

Implementation of Alternative 3 would result in less than significant impacts with regard to public services. Similar to the proposed project, development under this alternative would also be subject to the payment of Development Impact Fees (DIFs), as per Chapter 8.56 (Development Impact Mitigation Fees) of the City's Municipal Code. This fee would be used for future facility improvements necessary to ensure that the Project contributes its fair share of the cost of facilities and equipment determined to be necessary to adequately accommodate new development in the City. The DIF amount is determined through evaluation of the need for new public service facilities as it relates to the level of service demanded by new development, which varies in proportion to specific land uses. As such, impacts related to public services would be the similar for Alternative 3 as those of the proposed project.

Recreation

Implementation of Alternative 3 would result in no impacts with regard to recreation. No recreational facilities or uses requiring the development of recreational facilities would be developed under this alternative. Only a 10.8-acre neighborhood commercial site would be developed and the remaining approximately 210 acres would remain in agricultural production. As such, impacts related to recreation would be less for Alternative 3 when compared to the proposed project.

Transportation

Similar to development of the proposed project, intersections the vicinity of the Alternative 3 site are expected to xperience periodic queuing issues during peak hours, which can lead to potential safety concern if a significant speed differential exists between queue vehicles and vehicles proceeding beyond the queue. It can be assumed, that similar to the proposed project, Alternative 3 would result in additional traffic that would exacerbate these conditions under the Opening Year (2032) plus Project traffic conditions and Horizon Year (2040) plus Project conditions (queueing issues would continue to occur without Alternative 3-generated traffic for many intersections). As such, improvement measures are assumed to be required to mitigate this alternative's level of service and queuing impacts that would include fair-share contributions these intersections. The City does not have jurisdiction over state facilities (SR-137 and SR-99); therefore, these improvements cannot be assumed to be in place prior to project's occupancy. Therefore, Alternative 3's impact related to the increase in hazardous conditions (i.e., queuing) would be partially mitigated with implementation of MM-TRA-1, but impacts would remain significant and unavoidable. However, Alternative 3 would reduce development of the project site to only 10.8-acres of neighborhood commercial development and the remaining approximately 210 acres would remain in agricultural production. As such, transportation impacts would be similar, but less than, those of the proposed project as only a small portion of the project site would be developed and traffic numbers resulting from Alternative 3 would be greatly reduced when compared to the proposed project.

Utilities and Service Systems

Similar to development of the proposed project, impacts related to utilities and service systems for Alternative 3 would be less than significant. Under this alternative, design and construction would occur in accordance with all applicable regulatory requirements, including accordance with Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings. Construction of water, wastewater treatment, stormwater drainage, electric power, natural gas, and telecommunications facilities would occur to service the 10.8-acre project site. However, tie-ins to these existing services are near the immediate vicinity of the Alternative 3 site and capacity exists to adequately serve development of the site. As such, impacts for Alternative 3 would be similar, but less than those of the proposed project.

Wildfire

Impacts related to wildfire would be less than significant for Alternative 3. The site is undeveloped, and the vegetation community is dominated by orchards. According to the *Fire Hazard Severity Zones* map, the Alternative 3 site is not classified as being within a high fire hazard severity zone. In addition, the site is flat which poses less of a threat as wildfires typically burn up slopes faster and more intensely than along flat ground. Flat areas do not typically present an increased wildfire risk. Moderate or steep slopes greater than 20%, are considered a higher risk for wildfires. The prevailing winds typically come from the northwestern direction. Alternative 3 is not expected to

impair evacuation procedures as evacuation routes are not pre-determined in the County's General Plan or Strategic Plan. As such, impacts related to wildfire would be the similar for Alternative 3 and the proposed project.

Relationship to Proposed Project Objectives

The Commercial Area Only Alternative would only partially meet the objective of providing functional compatibility with existing residential neighborhoods and development while enhancing the City's ability to provide for fiscally positive development. The neighborhood commercial center would serve the surrounding neighborhoods and developments and provide additional job opportunities. However, this alternative would not develop a TOD plan area, nor would it meet the City's need for residential development.

7.5 Summary Matrix

A matrix displaying the major characteristics and significant environmental effects of each Alternative is provided in Table 7-2 to summarize the comparison with the proposed project.

Table 7-2, Alternatives Summary Matrix

Environmental Issue	Proposed Project Impacts	Alternative 1: No Project/No Development	Alternative 2: 2013 TOD Plan	Alternative 3: Commercial Area Only
Aesthetics	LTS	NI ▼	LTS ▼	LTS ▼
Agriculture and Forestry	SU	NI ▼	SU ▼	LTS ▼
Air Quality	SU	NI ▼	SU ▼	SU ▼
Biological Resources	LTSw/MM	NI ▼	LTSw/MM ▼	LTSw/MM ▼
Cultural and Tribal Cultural Resources	LTSw/MM	NI ▼	LTS w/MM ▼	LTSw/MM ▼
Energy	LTS	NI ▼	LTS ▼	LTS ▼
Geology and Soils	LTSw/MM	NI ▼	LTS w/MM ▼	LTS w/MM ▼
Greenhouse Gas Emissions	SU	NI ▼	SU ▼	LTS ▼
Hazards and Hazardous Emissions	LTSw/MM	NI ▼	LTS w/MM ▼	LTS w/MM ▼
Hydrology and Water Quality	LTS	NI ▼	LTS ▼	LTS ▼
Land Use and Planning	LTS	NI ▼	LTS –	LTS ▼
Minerals	LTSw/MM	NI ▼	LTSw/MM ▼	LTSw/MM ▼
Noise	LTSw/MM	NI ▼	LTSw/MM ▲	LTSw/MM ▼
Population and Housing	LTS		LTS –	NI ▼
Public Services	LTS	NI ▼	LTS –	LTS –
Recreation	LTS	NI ▼	LTS –	NI ▼
Transportation and Circulation	SU	NI ▼	SU ▼	SU ▼
Utilities and Service Systems	LTS	NI ▼	LTS ▼	LTS ▼
Wildfire	LTS	NI ▼	LTS –	LTS –

Notes:
▲ Alternative is likely to result in greater impacts to issue when compared to proposed project.
– Alternative is likely to result in similar impacts to issue when compared to proposed project.
▼ Alternative is likely to result in reduced impacts to issue when compared to proposed project.
NI = No impact

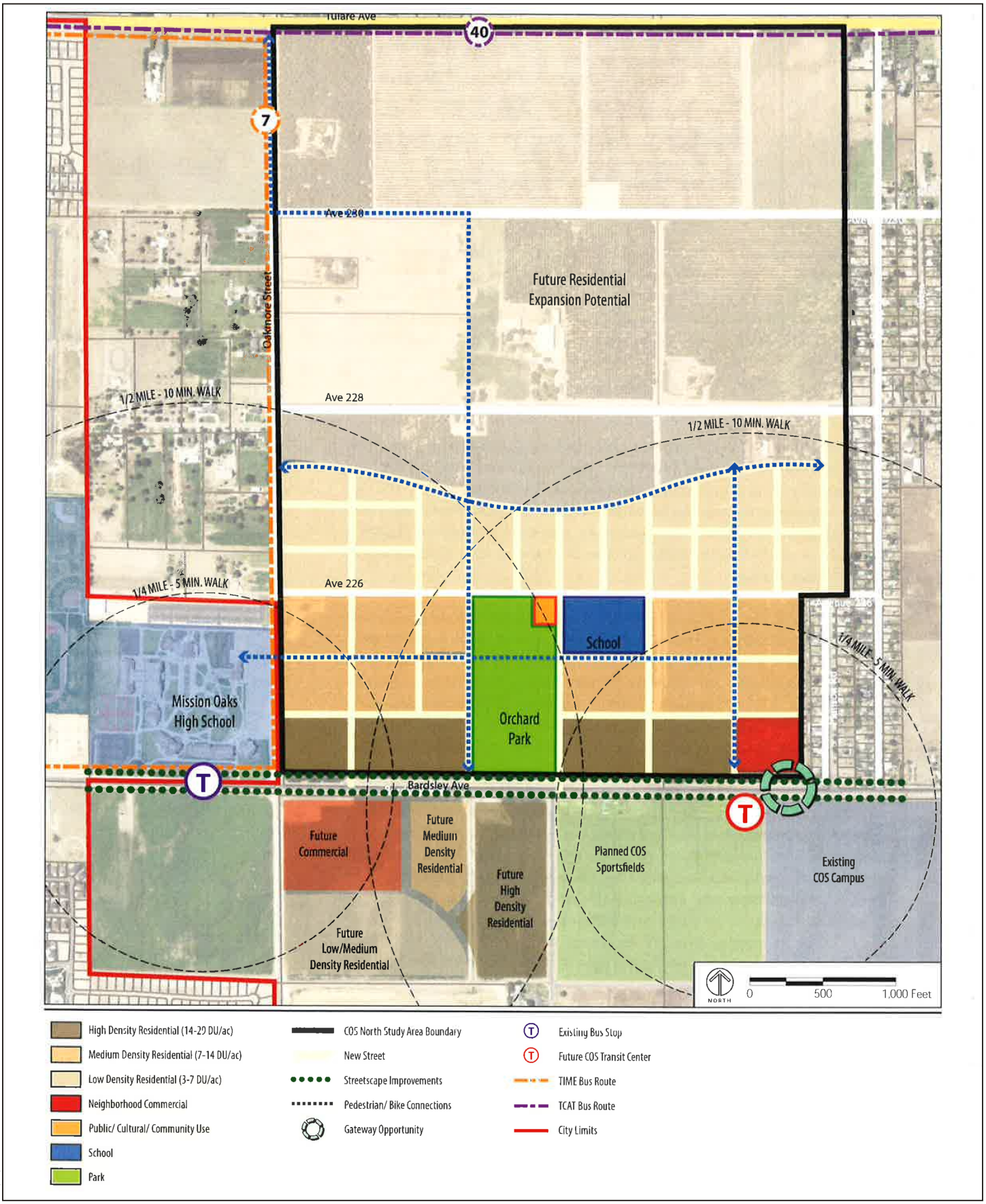
LTS = Less-than-significant impact
LTSw/MM = Less than significant impact with the incorporation of mitigation
SU = Significant and unavoidable impact

7.6 Environmentally Superior Alternative

Section 15126(e)(2) of the State CEQA Guidelines requires an EIR to identify an "environmentally superior alternative." If the No Project/No Development Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other Project alternatives.

Each of the three Project alternatives considered herein would lessen at least one environmental impact relative to the Project. As previously addressed, if the No Project/No Development Alternative is the environmentally superior alternative—which is the case in this analysis—the EIR must also identify another environmentally superior alternative among the remaining alternatives.

Based on a comparison of Alternative 2 and Alternative 3, all environmental impacts associated with development and operation would be less under Alternative 3 compared to Alternative 2. Alternative 3 would have a greater reduction to the significant and unavoidable impacts related to agricultural resources, air quality, greenhouse gas emissions, and transportation when compared to Alternative 2. Overall, based on these findings, Alternative 3 would be considered the environmentally superior alternative.



SOURCE: City of Tulare 2013

FIGURE 7-1

2013 TOD Plan for the Project Site

Chandler Grove Master Plan and Annexation Project

DUDEK

INTENTIONALLY LEFT BLANK

8 List of Preparers

8.1 City of Tulare

Mario A. Anaya, AICP – Community Development Director
Steven Sopp – Principal Planner

8.2 Dudek

Carey J. Fernandes, AICP – Principal in Charge
Ronelle Candia – Senior CEQA Project Manager
Clarisa Olaguez – Environmental Planner
Jason Greenstein – GIS Analyst
Jennifer Reed – Air Resources Specialist V
Adam Poll, LEED AP BD+C – Air Resources Specialist IV
Shane Russett – Air Quality Specialist
Keith Babcock – Senior Biologist
Russell Sweet – Biologist III
William Burns, RPA – Archaeologist III
Katie Haley, MA – Architectural Historian IV
Michael Williams, PhD – Paleontologist IV
Perry Russell, PG, CEG – Senior Geologist
Eric Schniewind – Environmental Geologist IV
Glenna McMahon, PE, CEM – Environmental Engineer VI
Audrey Herschberger, PE – Environmental Engineer III
Jonathan Leech, ACIP, INCE, PG – Practice Director
Dylan Duverge –Hydrologist
Cole Martin – Environmental Acoustician IV
Liza Valdez – Transportation Specialist IV
Amanda Meroux, EIT – Transportation Specialist II

INTENTIONALLY LEFT BLANK