Draft Environmental Impact Report

SCH No. 2021090399

534 Struck Avenue

City of Orange, California

Lead Agency:

City of Orange
300 East Chapman Avenue
Orange, CA 92866

March 2023

Draft Environmental Impact Report
SCH No. 2021090399

---

534 Struck Avenue

City of Orange, California

Lead Agency
City of Orange
300 East Chapman Avenue
Orange, CA 92866

CEQA Consultant
T&B Planning, Inc.
3200 El Camino Real, Suite 100
Irvine, CA 92602

Project Applicant
Prologis
17777 Center Court Drive North, Suite 100
Cerritos, CA 90703

Lead Agency Discretionary Permits
Conditional Use Permit No. 3137-21
Major Site Plan Review No. 1039-21
Design Review No. 5028-21
Environmental Review No. 1870-20

March 2023

TABLE OF CONTENTS

Section Name and Number **Page**

S.0 Executive Summary S-1

S.1 Introduction S-1
S.2 Project Overview S-2
S.2.1 Location and Setting S-2
S.2.2 Project Summary S-3
S.2.3 Project Objectives S-3
S.3 EIR Process S-3
S.4 Areas of Controversy and Issues to be Resolved S-4
S.5 Alternatives to the Proposed Project S-5
S.5.1 No Project/No Development Alternative S-5
S.5.2 No Project/Existing Zoning Alternative S-5
S.5.3 Reuse Alternative S-6
S.6 Summary of Impacts, Mitigation Measures, and Conclusions S-6

1.0 Introduction 1-1

1.1 Purposes of CEQA and Legal Authority for this Draft EIR 1-1
1.2 Summary of the Project Evaluated by this EIR 1-2
1.3 CEQA Process Overview 1-2
1.4 Project Background 1-4
1.4.1 Comments received during the MND Public Review Period 1-4
1.5 Draft EIR Scope, Format, and Content 1-7
1.5.1 Draft EIR Scope 1-7
1.5.2 Use of this EIR 1-11
1.5.3 Content and Organization of this Draft EIR 1-12
1.5.4 Incorporation by Reference 1-14
1.6 Responsible and Trustee Agencies 1-15
1.7 Areas of Controversy 1-16

2.0 Environmental Setting 2-1

2.1 Regional Setting and Location 2-1
2.2 Local Setting and Location 2-1
2.3 Surrounding Land Uses 2-1
2.4 Planning Context 2-6
2.4.1 City of Orange General Plan 2-6
2.4.2 Zoning 2-6
2.5 Existing Physical Site Conditions 2-6
2.5.1 Natural Resources and Topographic Features 2-6
2.5.2 Air Quality and Climate 2-9

2.5.3 Cultural Resources & Tribal Cultural Resources 2-9
2.5.4 Geology 2-9
2.5.5 Hydrology 2-10
2.5.6 Noise 2-10
2.5.7 Transportation 2-10
2.5.8 Utilities and Service Systems 2-11

3.0 Project Description 3-1

3.1 Regional Setting 3-1
3.2 Project Location and Setting 3-1
3.3 Statement of Objectives 3-1
3.4 Proposed Project 3-2
3.4.1 Building Characteristics and Operations 3-5
3.4.2 Traffic, Circulation and Parking 3-7
3.5 Project Construction Details 3-8
3.6 Summary of Requested Actions 3-12

4.0 Environmental Analysis 4-1

4.0.1 Summary of EIR Scope 4-1
4.0.2 Analysis Format 4-1
4.0.3 Scope of Cumulative Effects Analysis 4-2
4.0.4 Related Projects 4-5
4.1 Air Quality 4.1-1
4.1.1 Existing Conditions 4.1-1
4.1.2 Regulatory Framework 4.1-9
4.1.3 Methodology 4.1-13
4.1.4 Basis for Determining Significance 4.1-23
4.1.5 Impact Analysis 4.1-24
4.1.6 Cumulative Impact Analysis 4.1-33
4.1.7 Significance of Impacts Before Mitigation 4.1-34
4.1.8 Mitigation 4.1-34
4.2 Biological Resources 4.2-1
4.2.1 Existing Conditions 4.2-1
4.2.2 Regulatory Framework 4.2-2
4.2.3 Basis for Determining Significance 4.2-5
4.2.4 Impact Analysis 4.2-6
4.2.5 Cumulative Impact Analysis 4.2-8
4.2.6 Significance of Impacts Before Mitigation 4.2-9
4.2.7 Mitigation 4.2-9
4.2.8 Significance of Impacts After Mitigation 4.2-10
4.3 Cultural Resources 4.3-1
4.3.1 Existing Conditions 4.3-1
4.3.2 Regulatory Framework 4.3-3

4.3.3 Basis for Determining Significance 4.3-11
4.3.4 Impact Analysis 4.3-11
4.3.5 Cumulative Impact Analysis 4.3-12
4.3.6 Significance of Impacts Before Mitigation 4.3-13
4.3.7 Mitigation 4.3-13
4.3.8 Significance of Impacts After Mitigation 4.3-14
4.4 Energy 4.4-1
4.4.1 Existing Conditions 4.4-1
4.4.2 Regulatory Framework 4.4-2
4.4.3 Methodology 4.4-4
4.4.4 Basis for Determining Significance 4.4-5
4.4.5 Impact Analysis 4.4-5
4.4.6 Cumulative Impact Analysis 4.4-12
4.4.7 Significance of Impacts Before Mitigation 4.4-12
4.4.8 Mitigation 4.4-13
4.5 Geology and Soils 4.5-1
4.5.1 Existing Conditions 4.5-1
4.5.2 Regulatory Framework 4.5-3
4.5.3 Basis for Determining Significance 4.5-6
4.5.4 Impact Analysis 4.5-7
4.5.5 Cumulative Impact Analysis 4.5-11
4.5.6 Significance of Impacts Before Mitigation 4.5-12
4.5.7 Mitigation 4.5-13
4.5.8 Significance of Impacts After Mitigation 4.5-13
4.6 Greenhouse Gas Emissions 4.6-1
4.6.1 Existing Conditions 4.6-1
4.6.2 Regulatory Framework 4.6-8
4.6.3 Methodology 4.6-22
4.6.4 Basis for Determining Significance 4.6-25
4.6.5 Impact Analysis 4.6-26
4.6.6 Cumulative Impact Analysis 4.6-32
4.6.7 Significance of Impacts Before Mitigation 4.6-32
4.6.8 Mitigation 4.6-33
4.7 Hazards and Hazardous Materials 4.7-1
4.7.1 Existing Conditions 4.7-1
4.7.2 Regulatory Framework 4.7-3
4.7.3 Basis for Determining Significance 4.7-7
4.7.4 Impact Analysis 4.7-8
4.7.5 Cumulative Impact Analysis 4.7-15
4.7.6 Significance of Impacts Before Mitigation 4.7-16
4.7.7 Mitigation 4.7-17
4.7.8 Significance of Impacts After Mitigation 4.7-17

4.8 Hydrology and Water Quality 4.8-1
4.8.1 Existing Conditions 4.8-1
4.8.2 Regulatory Framework 4.8-3
4.8.3 Basis for Determining Significance 4.8-7
4.8.4 Impact Analysis 4.8-7
4.8.5 Cumulative Impact Analysis 4.8-15
4.8.6 Significance of Impacts Before Mitigation 4.8-17
4.8.7 Mitigation 4.8-17
4.9 Noise 4.9-1
4.9.1 Noise Fundamentals 4.9-1
4.9.2 Existing Noise Conditions 4.9-3
4.9.3 Regulatory Framework 4.9-5
4.9.4 Basis for Determining Significance 4.9-9
4.9.5 Impact Analysis 4.9-10
4.9.6 Cumulative Impact Analysis 4.9-20
4.9.7 Significance of Impacts Before Mitigation 4.9-22
4.9.8 Mitigation 4.9-23
4.10 Transportation 4.10-1
4.10.1 Environmental Setting 4.10-1
4.10.2 Regulatory Framework 4.10-5
4.10.3 Methodology 4.10-6
4.10.4 Basis for Determining Significance 4.10-7
4.10.5 Impact Analysis 4.10-7
4.10.6 Cumulative Impact Analysis 4.10-15
4.10.7 Significance of Impacts Before Mitigation 4.10-15
4.10.8 Mitigation 4.10-15
4.11 Tribal Cultural Resources 4.11-1
4.11.1 Existing Conditions 4.11-1
4.11.2 Regulatory Framework 4.11-1
4.11.3 Basis for Determining Significance 4.11-3
4.11.4 Impact Analysis 4.11-4
4.11.5 Cumulative Impact Analysis 4.11-4
4.11.6 Significance of Impacts Before Mitigation 4.11-5
4.11.7 Mitigation 4.11-5
4.11.8 Significance of Impacts After Mitigation 4.11-6

5.0 Other CEQA Considerations 5-1

5.1 Significant Environmental Effects that Cannot be Avoided if the Project is Implemented 5-1
5.2 Significant Irreversible Environmental Changes Which Would be Caused by the Project Should it be Implemented 5-1
5.3 Growth-Inducing Impacts of the Project 5-2

5.4 Effects Found not to be Significant During the EIR Preparation Process 5-4
5.4.1 Aesthetics 5-4
5.4.2 Agriculture and Forestry Resources 5-9
5.4.3 Land Use and Planning 5-10
5.4.4 Mineral Resources 5-11
5.4.5 Population and Housing 5-11
5.4.6 Public Services 5-12
5.4.7 Recreation 5-14
5.4.8 Utilities and Service Systems 5-15
5.4.9 Wildfire 5-20

6.0 Alternatives to the Project 6-1

6.1 Introduction 6-1
6.2 Project Objectives 6-2
6.3 Summary of Significant and Unavoidable Impacts 6-2
6.4 Alternatives Considered But Not Carried Forward for Detailed Analysis 6-3
6.4.1 Alternative Site 6-3
6.4.2 Alternative Development Project On-Site 6-4
6.4.3 Alternative Land Use 6-4
6.5 Alternatives Analysis 6-5
6.5.1 No Project/No Development Alternative 6-6
6.5.2 No Project/Existing Zoning Alternative 6-6
6.5.3 Reuse Alternative 6-7
6.6 Environmentally Superior Alternative 6-10

7.0 References 7-1

7.1 Persons Contributing to EIR Preparation 7-1
7.1.1 City of Orange 7-1
7.1.2 T&B Planning, Inc. 7-1
7.2 Documents Appended to this EIR 7-1
7.3 Documents Incorporated by Reference 7-3
7.4 Documents and Websites Consulted 7-4
7.5 Persons Consulted/Written or Verbal Communication 7-10
7.5.1 Public Service Correspondence 7-10
7.5.2 Tribal Consultation 7-10

LIST OF FIGURES

Figure Number and Name **Page**

Figure 2-1 Regional Location Map....2-2
Figure 2-2 Local Vicinity Map....2-3
Figure 2-3 USGS Topographic Map....2-4
Figure 2-4 Surrounding Land Uses....2-5
Figure 2-5 Existing General Plan Land Use Designations....2-7
Figure 2-6 Existing Zoning Designations....2-8
Figure 3-1 Existing Site Plan....3-3
Figure 3-2 Truck Terminal Site Plan....3-4
Figure 3-3 Architectural Elevation....3-6
Figure 3-4 Conceptual Landscape Plan....3-9
Figure 3-5 Proposed Grading Plan....3-10
Figure 4.0-1 Cumulative Development Location Map....4-6
Figure 4.1-1 Sensitive Receptor Locations....4.1-19
Figure 4.1-2 Modeled On-Site Emission Source....4.1-21
Figure 4.1-3 Modeled Off-Site Emission Sources....4.1-22
Figure 4.8-1 Existing Conditions Hydrology Map....4.8-2
Figure 4.9-1 Noise Measurement Locations....4.9-4
Figure 4.9-2 Receiver Locations....4.9-11
Figure 4.9-3 Operational Noise Source Locations....4.9-13
Figure 4.10-1 City of Orange General Plan Bike Network....4.10-2
Figure 4.10-2 Existing Pedestrian Facilities....4.10-3
Figure 4.10-3 Existing Transit Routes....4.10-4
Figure 4.10-4 Truck Routes....4.10-10
Figure 4.10-5 Project Driveway Truck Access....4.10-14

LIST OF TABLES

Table Number and Name **Page**

Table S-1 Mitigation Monitoring and Reporting Program S-7
Table 1-1 Summary of MND Comments 1-4
Table 1-2 Summary of NOP and Scoping Meeting Comments 1-8
Table 1-3 Location of CEQA Required Topics 1-14
Table 3-1 Construction Activity Phases and Durations 3-11
Table 3-2 Construction Equipment Requirements 3-12
Table 4.0-1 Cumulative Development Land Use Summary 4-5
Table 4.1-1 Ambient Air Quality Standards 4.1-6
Table 4.1-2 Attainment Status of Criteria Pollutants in the South Coast Air Basin 4.1-8
Table 4.1-3 Project Area Air Quality Monitoring Summary 2018-2020 ..... 4.1-9
Table 4.1-4 Maximum Daily Regional Emissions Thresholds 4.1-23
Table 4.1-5 Overall Construction Emissions Summary 4.1-26
Table 4.1-6 Summary of Peak Operational Emissions 4.1-26
Table 4.1-7 Localized Construction-Source Emissions 4.1-27
Table 4.1-8 Localized Significance Summary of Operations 4.1-29
Table 4.4-1 Construction Electricity Usage 4.4-6
Table 4.4-2 Project Generated Traffic Annual Fuel Consumption (All Vehicles) 4.4-8
Table 4.4-3 On-site Cargo Handling Equipment Fuel Consumption Estimates 4.4-9
Table 4.4-4 Project Annual Operational Energy Demand Summary 4.4-9
Table 4.6-1 GWP and Atmospheric Lifetime of Select GHGs 4.6-2
Table 4.6-2 Top GHG-Producing Countries and the European Union 4.6-5
Table 4.6-3 Amortized Annual Construction Emissions 4.6-26
Table 4.6-4 Project GHG Emissions 4.6-26
Table 4.6-5 2017 Scoping Plan Consistency Summary 4.6-27
Table 4.8-1 Project Peak Flows 4.8-13
Table 4.9-1 Indoor Ground-Borne Vibration (GBV) and Ground-Borne Noise Impact Criteria for General Vibration Assessment 4.9-6
Table 4.9-2 Construction Noise Level Compliance 4.9-12
Table 4.9-3 Reference Noise Level Measurements 4.9-14
Table 4.9-4 Operational Noise Level Compliance 4.9-16
Table 4.9-5 Existing with Project Traffic Noise Level Increases 4.9-17
Table 4.9-6 Opening Year Conditions with Project Traffic Noise Level Increases 4.9-18
Table 4.9-7 Project Construction Vibration Levels 4.9-19
Table 4.9-8 Cumulative Traffic Noise Level Increases 4.9-21
Table 5-1 General Plan Consistency Analysis 5-6
Table 5-2 Zoning Development Standards Consistency Analysis 5-7

TECHNICAL APPENDICES (BOUND SEPARATELY)

Appendix A1	**Written Comments on the Mitigated Negative Declaration**
Appendix A2	**Notice of Preparation (NOP) and Written Comments on the NOP**
Appendix B1	**Air Quality Impact Assessment**
Appendix B2	**Health Risk Assessment**
Appendix C	**Biological Technical Report**
Appendix D	**Cultural and Paleontological Resources Letter Report**
Appendix E	**Energy Analysis**
Appendix F	**Geotechnical and Infiltration Evaluation**
Appendix G	**Greenhouse Gas Analysis**
Appendix H1	**Phase I Environmental Site Assessment**
Appendix H2	**Limited Phase II Environmental Site Assessment**
Appendix H3	**Soil Management Plan**
Appendix I1	**Priority Water Quality Management Plan**
Appendix I2	**Preliminary Drainage Study**
Appendix J	**Noise and Vibration Analysis**
Appendix K1	**Traffic Analysis**
Appendix K2	**VMT Screening Evaluation**

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
§	Section
AB	Assembly Bill
AB 52	Native Americans: California Environmental Quality Act
AB 1493	Pavley Fuel Efficiency Standards
AB 2595	California Clean Air Act
ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
AFY	Acre Feet per Year
A-P Act	Alquist-Priolo Earthquake Fault Zoning Act
APN	Assessor Parcel Number
AQMP	Air Quality Management Plan
ASTM	American Society of Testing and Materials
ASTs	Above ground storage tanks
BAAQMD	Bay Area Air Quality Management District
BACM	Best Available Control Measure
BACT	Best Available Control Technology
BMPs	Best Management Practices
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod™	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CalFire	California Department of Forestry and Fire Protection
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen Code	California Green Building Standards Code
CalRecycle	California Department of Resources and Recycling
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CBSC	California Building Standards Code
CCR	California Code of Regulations

CD	consistency determination
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CH4	Methane
City	City of Orange
CIWQS	California Integrated Water Quality System
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO	Carbon Monoxide
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
COP	Conference of the Parties
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CTR	California Toxics Rule
CUP	Conditional Use Permit
CWA	Clean Water Act
DAMP	Drainage Area Management Plan
dB	Decibel
dBA	A-weighted Decibels
DMV	Department of Motor Vehicles
DOC	Department of Conservation
DOE	Determination of Eligibility
DOSH	Division of Occupational Safety and Health
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
ECHO	Enforcement and Compliance History Information
EDD	Employment Development Department
EDR	EDR Sanborn

EIR	Environmental Impact Report
EMFAC	Emission Factor Model
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
EV	Electric Vehicle
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
FHWA	Federal Highway Administration
FINDS	Facility Index System/Facility Registry System
FTA	Federal Transit Association
FYI	For Your Information
g	grams
GBV	ground-borne vibration
GBN	ground-based noise
GCC	Global Climate Change
GHG	Greenhouse Gas
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plan
GWP	Global Warming Potential
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
HHDT	Heavy Heavy Duty Trucks
HMTA	Hazardous Materials Transportation Act
HMTUSA	Hazardous Materials Transportation Uniform Safety Act
HSC	Health and Safety Code
HSWA	Hazardous and Solid Waste Amendments
HWCL	Hazardous Waste Control Law
HWTS	Hazardous Waste Transporter Database
I	Interstate
IPCC	Intergovernmental Panel on Climate Change
IRLR	Irvine Ranch Land Reserve
IRWD	Irvine Ranch Water District

ISO	Independent System Operator
ISTEA	Intermodal Surface Transportration Efficiency Act
kg	kilogram
kBTU	kilo-British thermal units
kWh	kilowatt-hour
LACNHM	Natural History Museum of Los Angeles County
LBNL	Lawrence Berkeley National Laboratory
lbs	pounds
LDA	Light duty autos
LDT	Light-duty trucks
Leq	equivalent continuous sound level
LHDT	light-heavy duty trucks
LI	Light Industrial
LIP	Local Implementation Plan
LOS	Level of Service
LSTs	Localized Significance Thresholds
LTL	Less than truckload
M-2	Industrial Manufacturing
MBTA	Migratory Bird Treaty Act
MCY	Motorcycles
MDV	Medium Duty Vehicles
MEIR	maximally exposed individual receptor
MGD	million gallons per day
MHDT	medium-heavy duty truck
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MMTs	million metric tons
MMTCO2e	million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MT	metric ton
MTCO2e	Metric Tons of Carbon Dioxide Equivalent
MWD	Metropolitan Water District
MWS	Modular wetland system
NAHC	Native American Heritage Commission

NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NCCP	Natural Community Conservation Planning
NDC	nationally determined contributions
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOX	Nitrogen Oxides
N2O	Nitrous Oxide
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NTR	National Toxic Rules
NVIA	Noise and Vibration Impact Assessment Manual
O2	Oxygen
O3	Ozone
OAL	Office of Administrative Law
OCFA	Orange County Fire Authority
OCFD	Orange City Fire Department
OCIWMD	Orange County Integrated Waste Management Department
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OCTAM	Orange County Transportation Analysis Model
ODC	Ozone Depleting Compounds
OEHHA	Office of Environmental Health Hazard Assessment
OMC	Orange Municipal Code
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Assessment
Pb	Lead
PFCs	Perfluorocarbons
PG & E	Pacific Gas and Electric
PM2.5	Fine Particulate Matter (2.5 microns or smaller)
PM10	Fine Particulate Matter (10 microns or smaller)
PPV	peak particle velocity
PRPA	Paleontological Resources Preservation Act

Qof	Old alluvial fan deposits
REL	Reference Exposure Level
ROGs	Reactive Organic Gasses
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SF/s.f.	square foot or square feet
SB	Senate Bill
SB 375	California Senate Bill 375, Sustainable Communities and Climate Protection Act of 2008
SB 1389	Integrated Energy Policy Report
SCAB	South Coast Air Basin
SCAG	Sothern California Association of Governments
SCAQMD	Southern Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCH	California State Clearinghouse (Office of Planning and Research)
SCRRA	Southern California Regional Rail Authority
SCS	Sustainable Communities Strategy
SDG&E	San Diego Gas and Electric
SDNHM	San Diego Natural History Museum
SF	square foot
SF6	Sulfur Hexafluoride
SGMA	Sustainable groundwater management act
SHA	Safe harbor agreement
SHMA	Seismic Hazards Mapping Act
SHPO	State Historic Preservation Officers
SHRC	State Historical Resources Commission
SIP	State Implementation Plan
SNUR	Significant New Use Rule
SO2	Sulfur Dioxide
SO4	Sulfates
SOC	Statement of Overriding Considerations
SoCal Gas	Southern California Gas Company
SR	State Route
SRA	Source Receptor Area

SRA	State Responsibility Area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Regional Control Board
TAC	Toxic Air Contaminants
TAZ	Traffic Analysis Zone
TEA-21	Transportation Equality Act for 21st Century
TSCA	Toxic Substance Control Act
UNFCCC	United Nations' Framework Convention on Climate Change
U.S.	United States
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
WDS	Waste Discharge System
WMI	Watershed Management Initiative
WQMP	Water Quality Management Plan
ZORI	Zones of Required Investigation

S.0 EXECUTIVE SUMMARY

S.1 INTRODUCTION

The California Environmental Quality Act (CEQA) as codified in Public Resources Code Section 21000, *et seq.* requires that before a public agency makes a decision to approve a project that could have one or more adverse effects on the physical environment, the agency must inform itself about the project's potential environmental impacts, give the public an opportunity to comment on the environmental issues, and take feasible measures to avoid or reduce potential harm to the physical environment.

A Mitigated Negative Declaration (MND) was originally prepared for the proposed 534 Struck Avenue Project. On September 23, 2021, the City circulated a Notice of Intent to Adopt Mitigated Negative Declaration No. 1870-20 for the Project. The MND was circulated for public review from September 23 to October 25, 2021. During the 30-day public review period, comments received requested additional technical analysis (e.g., air quality and noise modeling, traffic). Therefore, in order to address the environmental concerns raised, additional analyses were prepared and this EIR was prepared to provide comprehensive environmental review of the Project. The MND and written comments received by the City during the public review period are provided in *Technical Appendix A1* to this EIR.

This Environmental Impact Report (EIR), California State Clearinghouse (SCH) No. 2021090399, was prepared in accordance with CEQA Guidelines Article 9, Sections 15120-15132 to evaluate the potential environmental impacts associated with planning, constructing, and operating the proposed 534 Struck Avenue project (hereinafter, the "Project" or "proposed Project"). This EIR does not recommend approval or denial of the proposed Project; rather, this EIR is a source of factual information regarding potential environmental impacts that may result from implementation of the Project. The Draft EIR will be available for public review for a minimum period of 45 days. After consideration of public comment, the City of Orange (City) will consider certifying the Final EIR and adopting required findings.

The City in its capacity as Lead Agency for the proposed Project has determined that the Project clearly has the potential to result in significant environmental effects and that an EIR shall be prepared that addresses the 11 environmental topic areas list below in detail.

1. Air Quality
2. Biological Resources
3. Cultural Resources
4. Energy
5. Geology and Soils
6. Greenhouse Gas Emissions
7. Hazards and Hazardous Materials
8. Hydrology and Water Quality
9. Noise
10. Transportation
11. Tribal Cultural Resources

This EIR's scope was determined through the independent judgement of the City of Orange pursuant to CEQA Guidelines Section 15063, and in consideration of comments received by the City in response to the circulated Mitigated Negative Declaration, this EIR's Notice of Preparation (NOP) and the EIR Scoping Meeting. The NOP and written comments received by the City in response to the NOP, are attached to this EIR as *Technical Appendix A2*. As determined by the City and in consideration of public comment on the circulated MND and NOP, the 11 environmental subject areas listed above have reasonable potential to be significantly affected by planning, constructing, and/or operating the proposed Project and the potential effects resulting from the Project are analyzed herein.

Refer to EIR Section 4.0, *Environmental Analysis*, for a full account and analysis of the topic areas listed above. Topic areas for which the EIR concluded that impacts would clearly not be significant and that do not warrant detailed analysis in this EIR are addressed in EIR Section 5.0, *Other CEQA Considerations*. For each of the aforementioned subject areas, this EIR describes: 1) the physical conditions that existed at the approximate time this EIR's NOP was filed with the California State Clearinghouse (July 29, 2022); 2) discloses the type and magnitude of potential environmental impacts from Project planning, construction, and operation; and 3) if warranted, recommends feasible mitigation measures that would reduce or avoid significant adverse environmental impacts that the proposed Project may cause.

A summary of the Project's significant environmental impacts and the mitigation measures imposed by the City of Orange to lessen or avoid those impacts is included in this Executive Summary as Table S-1, *Mitigation Monitoring and Reporting Program*. The City applies mitigation measures that it determines 1) are feasible and practical for the Project Applicant to implement, 2) are feasible and practical for the City to monitor and enforce, 3) are legal for the City to impose, 4) have an essential nexus to the Project's impacts, and 4) would result in a benefit to the physical environment. CEQA does not require the Lead Agency to impose mitigation measures that are duplicative of mandatory regulatory requirements.

S.2 PROJECT OVERVIEW

S.2.1 LOCATION AND SETTING

The Project site is located at 534 Struck Avenue in the City of Orange, Orange County, California. The City is in the north-central portion of Orange County. The approximate 9.94-acre Project site (Assessor Parcel Number [APN] 375-331-04) is generally located north of Collins Avenue, east of Batavia Street, south of Struck Avenue, and west of the Orange County Transportation Authority/Southern California Regional Rail Authority (OCTA/SCRRA) Railroad. The Project site is developed with an approximate 40,000 square-foot (sf) concrete tilt-up building and parking lot and was occupied until the end of 2020 by Nursery Supplies, Inc. manufacturing facility. The site is accessed via three two-way driveways along Struck Avenue.

S.2.2 PROJECT SUMMARY

For purposes of this EIR, the term "Project" refers to the actions required to implement the proposed 534 Struck Avenue project, including planning, construction, and ongoing operation. The Project entails a proposed Conditional Use Permit No. 3137-21, Major Site Plan Review No. 1039-21, and Design Review No. 5028-21. The Project Applicant is proposing to redevelop the site with a 57,900 sf truck terminal, that includes 52,900 sf of warehouse space and 5,000 sf of office space, and a 5,400-sf maintenance building. Refer to EIR Section 3.0, *Project Description*, for a detailed description of the Project.

S.2.3 PROJECT OBJECTIVES

The fundamental purpose and goal of the Project is to accomplish the orderly development of an appropriately zoned and designated truck terminal in the City of Orange while also contributing to increased employment opportunities within the area. The project objectives have been refined throughout the planning and design process for the proposed Project and are listed below:

- Create a professional, well-maintained and attractive environment for the development of a truck terminal consistent with the underlying zoning adjacent to nearby transportation routes, including State Route 57 (SR-57) and Interstate 5 (I-5).

- Provide the entitlements and framework for the development of a truck terminal with warehouse and office spaces that are responsive to local and regional trade demands.

- Provide development that will enhance the City's economic well-being and employment opportunities for community residents.

- Develop the site with a use that has architectural design and operational characteristics that are compatible with other existing and planned developments in the local area.

- Provide a fully secured premise with active management to strengthen the security and safety for the local area.

- Redevelop the Project site with a new modern building that meet current California Building Code and California Green Building Code Stands with increased energy efficiency with existing available infrastructure.

S.3 EIR PROCESS

A MND was originally prepared for the proposed 534 Struck Avenue Project. On September 23, 2021, the City circulated a Notice of Intent to Adopt Mitigated Negative Declaration No. 1870-20 for the Project. The MND was circulated for public review from September 23 to October 25, 2021. During the 30-day public review period, comments received requested additional technical analysis (e.g., air

quality and noise modeling, traffic). Therefore, in order to address the environmental concerns raised, additional analyses were prepared and this EIR was prepared to provide comprehensive environmental review of the Project.

The City filed a NOP with the State Clearinghouse of the California Office of Planning and Research (State Clearinghouse) to indicate that an EIR would be prepared to evaluate the Project's potential to impact the environment. The NOP was filed with the State Clearinghouse and distributed to potential Responsible Agencies, Trustee Agencies, and other interested parties on July 29, 2022, for a 30-day public review period. The City received written comments on the scope of the EIR during those 30 days, which were considered by the City during the preparation of this EIR.

This EIR will be circulated for review and comment by the public and other interested parties, agencies, and organizations for a 45-day review period. During the 45-day public review period, public notices announcing availability of the Draft EIR will be mailed to interested parties, and copies of the Draft EIR and its Technical Appendices will be available for review at the locations indicated in the public notices.

After the close of the 45-day Draft EIR public comment period, the City will prepare and publish responses to written comments it received on the environmental effects of the Project. The Final EIR will be considered for certification by the City of Orange decision-makers. Certification of the Final EIR would be accompanied by the adoption of written findings and a statement of overriding considerations for any significant unavoidable environmental impacts identified in the Final EIR. In addition, pursuant to Public Resources Code Section 21081.6 and because the Project will include mitigation measures, the City must adopt a Mitigation, Monitoring, and Reporting Program (MMRP), which describes the process to ensure the Project's construction and operational activities will comply with the mitigation measure in the Final EIR.

S.4 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

CEQA Guidelines Section 15123(b)(2) requires the Lead Agency (City of Orange) to identify any known issues of controversy in the Executive Summary.

After consideration of all comments received in response to the NOP and during the Project's scoping meetings, the Lead Agency has identified environmental issues of concern relating to truck trips and travel, air quality, and noise impacts. No other areas of controversy associated with the proposed Project are known. Considering the foregoing, this EIR addresses all environmental issues that are known by the City and that were identified in the comment letters that the City received in response to the circulated MND and the NOP. Written comments received by the City in response to the circulated MND and the NOP are summarized in Section 1.0 of this EIR (refer to Table 1-1, *Summary of MND Comments*, and Table 1-2, *Summary of NOP and Scoping Meeting Comments*).

S.5 ALTERNATIVES TO THE PROPOSED PROJECT

CEQA requires that an EIR 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 but would avoid or substantially lessen any of the significant effects of the project. As demonstrated in Section 4.0 of this EIR, implementation of the Project would not result in significant adverse environmental effects that cannot be mitigated to below a level of significance after the implementation of Project design features, mandatory regulatory requirements, and feasible mitigation measures; thus, there is no need for the City to consider adoption of alternative development scenarios to the Project. Notwithstanding, the EIR does address the following alternative:

S.5.1 NO PROJECT/NO DEVELOPMENT ALTERNATIVE

The No Project/No Development Alternative considers no development on the Project site beyond what occurs on the site under existing conditions (as described in EIR Section 3.0). As such, the Project site would remain with an existing vacated 40,000 square foot concrete tilt-up manufacturing building. Under this alternative, no future operations or improvements would be made to the Project site and none of the Project's parking, utility, and infrastructure improvements would occur. The No Project/No Development Alternative would leave the site vacant with the existing manufacturing building and associated parking, therefore, no environmental impacts would occur. This alternative would eliminate the Project's construction-related impacts to biological resources, cultural resources, paleontological resources, and tribal cultural resources. However, this alternative would fail to meet all of the Project's objectives.

S.5.2 NO PROJECT/EXISTING ZONING ALTERNATIVE

The No Project/Existing Zoning Alternative considers redevelopment of the Project site with a warehouse building that would be allowed under the existing M-2 zoning. Under this alternative, the site would be redeveloped with a 201,520 square foot warehouse building which represents continuation of development consistent with the existing community development type and zoning designations. Because this alternative would result in redevelopment of the Project site, it would result in the same construction-related impacts to biological resources, cultural resources, paleontological resources, hazardous materials, and tribal cultural resources as the Project. The No Project/Existing Zoning Alternative would not avoid or substantially lessen any of the Project's significant impacts. This alternative would not fully meet Project Objectives 1 (Create a professional, well-maintained and attractive environment for the development of a truck terminal consistent with the underlying zoning adjacent to nearby transportation infrastructure such as the SR-57 and I-5) and 2 (Provide the entitlements and framework for the development of a truck terminal with warehouse and office spaces that are responsive to local and regional trade demands) because the site would not be developed with a truck terminal use. The remaining Project Objectives 3–6 would be attained with this alternative.

S.5.3 REUSE ALTERNATIVE

The Reuse Alternative assumes the Project does not proceed and the existing 40,000 square-foot concrete tilt-up manufacturing building and parking lot would remain and be reused by a future tenant. Until the end of 2020, the Project site was occupied by Nursery Supplies, Inc., a manufacturer of plastic nursery planting pots. Under the Reuse Alternative, the existing building and associated facilities on-site would be retained and reoccupied for use with a similar manufacturing use that is consistent with that allowed by-right pursuant to the M-2 zone. Because no grading would occur under the Reuse Alternative, impacts related to archaeological resources, biological resources, paleontological resources, hazardous materials, and tribal cultural resources would be eliminated. However, the Reuse Alternative would not result in remediation of the site in the event that unknown contaminated soils are present during grading. Additionally, this alternative would result in increased operational energy demand and GHG emissions compared to the Project, because it would not redevelop the Project site with a new modern building that meets current California Building Code and California Green Building Code standards with increased energy efficiency with existing available infrastructure. Moreover, the Reuse Alternative does not meet the overall intent of Project Objectives 1, 2, 3, 5, and 6; and only partially meets Project Objective 4.

S.6 SUMMARY OF IMPACTS, MITIGATION MEASURES, AND CONCLUSIONS

Table S-1, *Mitigation Monitoring and Reporting Program* provides a summary of the Project's environmental impacts, as required by CEQA Guidelines Section 15123(a). Also presented are the mitigation measures recommended by the Lead Agency to further avoid adverse environmental impacts or to reduce their level of significance. After the application of all feasible mitigation measures, the Project would not result in any significant and unavoidable environmental effects.

Table S-1 Mitigation Monitoring and Reporting Program

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.1 Air Quality					
Summary of Impacts					
Threshold a: Less-than-Significant Impact. The Project would not emit air pollutants that would contribute to a delay in the attainment of federal and State ozone standards in the SCAB. As such, the Project would not conflict with and could obstruct implementation of the AQMP, and impacts would be less than significant.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold b: Less-than-Significant Impact. Project-related activities would not exceed the applicable South Coast AQMD regional thresholds of significance during construction and operations. As such, Project-related emissions would not violate South Coast AQMD air quality standards or contribute to the non-attainment of ozone standards in the SCAB, and impacts would be less than significant	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold c: Less-than-Significant Impact. Implementation of the Project would not: 1) exceed applicable South Coast AQMD localized criteria pollution emissions thresholds during construction and operation; 2) would not expose sensitive receptors to toxic air contaminants (i.e., DPM) that exceed the applicable South Coast AQMD carcinogenic and non-carcinogenic risk significance thresholds; and 3) would not cause or measurably contribute to the formation of a CO "hot spot."	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Threshold d: Less-than-Significant Impact. Although short-term construction activities and long-term operational land uses could produce objectionable odors, compliance with standard construction requirements and regulations established by the City of Orange and South Coast AQMD would reduce odor impacts to less-than-significant levels. Near- and long-term odor impacts would be less than significant.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
4.2 Biological Resources					
Summary of Impacts					
Threshold a: No Impact. The Project site does not contain habitat that is suitable habitat for any plant or wildlife species identified as a candidate, sensitive, or special status species.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold b: No Impact. The Project site does not contain riparian and/or other sensitive natural habitats; therefore, the Project would have no impact on riparian or other sensitive habitats as classified by the CDFW or USFWS.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold c: No Impact. No State- or federally-protected wetlands are located on the Project site; therefore, no impact to wetlands would occur.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold d: Potentially Significant Direct Impact. There is no potential for the Project to interfere with the movement of fish or impede the use of a native wildlife nursery site. However, the Project has the potential to impact nesting migratory birds protected by the MBTA and California Fish and Game Code, should habitat removal occur during	**MM 4.2-1** In the event that vegetation and tree removal should occur between January 15 and September 15, the Project Applicant shall retain a qualified biologist to conduct a nesting bird survey no more than 3 days prior to commencement of construction activities. The biologist conducting the clearance survey shall document the negative results if no active bird nests are observed on the Project site or within the vicinity during the clearance survey with a brief letter report, submitted to the City of	Project Applicant, Project Biologist	City of Orange Community Development Department	Prior to construction	Less-than-Significant Impact with Mitigation

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
the nesting season and nesting birds be present.	Orange Community Development Department prior to construction, indicating that no impacts to active bird nests would occur before construction can proceed. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a 200-foot buffer around the active nest. For listed and raptor species, this buffer shall be 500-feet. A biological monitor shall be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Prior to the commencement of construction activities and the issuance of any permits, results of the pre-construction survey and any subsequent monitoring shall be provided to the City of Orange Community Development Department.				
Threshold e: Less-than-Significant Impact. The Project would not conflict with any local policies or ordinances protecting biological resources.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold f: No Impact. The Project impact area is not located within the boundaries of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, no impact would occur.	No mitigation is required.	N/A	N/A	N/A	No Impact
4.3 Cultural Resources					
Summary of Impacts					
Threshold a: No Impact. No historic resources, as defined by CEQA Guidelines Section 15064.5, are present on the Project site; therefore, no historic resources could be altered or destroyed by construction or operation of the Project.	No mitigation is required	N/A	N/A	N/A	No Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Threshold b: Significant Direct Impact. No known archeological resources are present on the Project site and the likelihood of uncovering buried prehistoric resources on the Project site is low due to the magnitude of historic ground disturbance on the Project site. Nonetheless, the potential exists for Project-related construction activities to result in a direct impact to significant subsurface archaeological resources should such resources to be discovered during Project-related grading activities.	**MM 4.3-1** In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers should avoid altering the materials until a qualified archaeologist who meets the Secretary of Interior's Professional Qualification Standards for archaeology has evaluated the resource. The Applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resource found during construction-related activities shall be recorded on the appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA criteria by a qualified archaeologist. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the resource is determined to be significant under CEQA Guidelines Section 15064.5, the qualified archaeologist shall prepare and implement a research design and archeological data recovery plan that will capture those categories of data for which the site is significant in accordance with Section 15064.5 of the State CEQA Guidelines. The archaeologist shall also perform appropriate technical analyses, prepare a comprehensive report complete with methods, results, and recommendations, and provide for the permanent curation or repatriation of the recovered resources in cooperation with the designated most likely descendant as needed. The report shall be submitted to the City of Orange, the South-Central Coastal Information Center, and the State Historic Preservation Office, if required.	Project Applicant/Project Archaeologist	City of Orange Community Development Department	In the event a potentially significant cultural resource is encountered during subsurface earthwork activities	Less-than-Significant Impact with Mitigation
Threshold c: Less-than-Significant Impact. In the unlikely event that human remains are discovered during Project grading or other ground disturbing activities, the Project would be required to comply with the	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
applicable provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097 et seq. Mandatory compliance with State law would ensure that any discovered human remains are appropriately treated and would preclude the potential for significant impacts.					
4.4 Energy					
Summary of Impacts					
Threshold a: Less-than-Significant Impact. The amount of energy and fuel consumed by construction and operation of the Project would not be inefficient, wasteful, or unnecessary. Furthermore, the Project would not cause or result in the need for additional energy facilities or energy delivery systems. Accordingly, the Project's impacts associated with energy consumption would be less than significant.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold b: Less-than-Significant Impact. The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency and impacts would be less than significant.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
4.5 Geology and Soils					
Summary of Impacts					
Threshold a: Less-than-Significant Impact. Implementation of the Project would not expose people or structures to substantial direct or indirect adverse effects related to liquefaction or fault rupture. The Project site is subject to seismic ground shaking associated with earthquakes; however, mandatory compliance with local and State regulatory requirements and building codes	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
would ensure that the Project minimizes potential hazards related to seismic ground shaking to less-than-significant levels.					
Threshold b: Less-than-Significant Impact. Implementation of the Project would not result in substantial soil erosion or loss of topsoil. The Project Applicant would be required to obtain a NPDES permit for construction activities and adhere to a SWPPP, and prepare an erosion control plan to minimize water and wind erosion. Following completion of development, the Project's owner or operator would be required by law to implement a SWQMP during operation, which would preclude substantial erosion impacts in the long-term.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold c: Less-than Significant Impact. There is no potential for the Project's construction or operation to cause, or be impacted by, on- or off-site landslides or lateral spreading. Potential hazards associated with unstable soils would be precluded through mandatory adherence to the recommendations contained in the site-specific geotechnical report during Project construction.	No mitigation is required.				Less-than-Significant Impact
Threshold d: Less-than-Significant Impact. The Project site contains soils with low susceptibility to expansion; therefore, the Project would not create substantial direct or indirect risks to life or property associated with the presence of expansive soils.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold e: No Impact. No septic tanks or alternative wastewater disposal systems are proposed to be installed on the Project site. Accordingly, no impact would occur	No mitigation is required.	N/A	N/A	N/A	No Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
associated with soil compatibility for wastewater disposal systems.					
Threshold f: Significant Direct Impact. The Project would not impact any known paleontological resource or unique geological feature. However, the Project site is underlain by older alluvium soils with a high sensitivity for paleontological resources. Accordingly, construction activities on the Project site have the potential to unearth and adversely impact paleontological resource that may be buried beneath the ground surface	**MM 4.5-1** Prior to the issuance of a grading permit, the Applicant shall provide written evidence to the Community Development Department that the Applicant has retained a qualified paleontologist to respond on an as-needed basis to address unanticipated paleontological discoveries. In the event that paleontological resources are encountered during ground-disturbing activities, all construction activities within 100 foot vicinity of the find shall halt until the qualified paleontologist identifies the paleontological significance of the find. If determined to be significant, the fossil shall be collected and prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of curation, a report of findings shall be prepared to document the results of the monitoring program. Construction shall not resume within the vicinity until the site paleontologist states in writing that the proposed construction activities would not significantly damage paleontological resources.	Project Applicant/Project Paleontologist	City of Orange Community Development Department	Prior to the issuance of a grading permit	Less-than-Significant Impact with Mitigation
4.6 Greenhouse Gas Emissions					
Summary of Impacts					
Threshold a: Less-than-Significant Impact. Project GHG emissions would not exceed the 3,000 MT CO2e per year threshold. Therefore, impacts are less than significant	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold b: Less-than-Significant Impact. The Project would not conflict with applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHG emissions.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
4.7 Hazards and Hazardous Materials					
Summary of Impacts					

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Threshold a: Significant Direct and Cumulatively-Considerable Impact. The Project site contains soils contaminated with VOC although not expected to pose a substantial risk to the environment or people on the Project site, could require remediation. Remediation of existing contamination would result in an improved long-term environmental condition at the Project site	**MM 4.7-1** The Project Contractor shall adhere to the protocols and performance standards stipulated in the SMP (*Technical Appendix H3*). Contractors working at the site follow all applicable Cal/OSHA regulations for construction safety. A Completion Report shall be prepared at the conclusion of grading activities. The report shall document field monitoring activities and visual observations made during grading/excavations, as well as soil sampling locations and results. The report shall include a description of the location of impacted soil encountered, actions taken to characterize and mitigate impacts, confirmation soil sampling results, and disposition of any excavated soil. In addition, the report shall include a description of encountered subsurface structures and steps to remove and close such structures. The report shall be reviewed and approved by the City of Orange Community Development Director, prior to issuance of building permits.	Project Contractor	City of Orange Community Development Department	Prior to issuance of building permits	Less-than-Significant Impact
Threshold b: Less-than-Significant Impact During Project construction and operations, mandatory compliance to federal, State, and local regulations would ensure that the proposed Project would not create a significant hazard to the environment due to routine transport, use, disposal, or upset of hazardous materials.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold c: No Impact. The Project site is not located within one-quarter mile of any existing or proposed school. Accordingly, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold d: Less-than-Significant Impact. The Project site is listed on the EnviroStor database sites; however, this listing	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
represents a historic REC at the site. The status of the site is listed as "refer: other agency" and no further action (NFA) was recommended for the site as "remediation of soil was completed by Orange County." With the consideration of the absence of reported violations, spills, or releases, the Project site is not considered to be a REC and would not create a significant hazard to the public or environment					
Threshold e: No Impact. The Project site is not within an airport land use plan or within 2 miles of a public airport or public use airport. As such, the Project would not result in an airport safety hazard for people residing or working in the Project area.	No mitigation is required.	N/A	N/A	N/A	No Impact
Threshold f: Less-than-Significant Impact. The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route. During construction and long-term operation, adequate emergency vehicle access is required to be provided. Accordingly, implementation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or an emergency evacuation plan.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold g: No Impact. The Project site is not located in close proximity to wildlands or areas with high fire hazards. Thus, the Project would not expose people or structures to a significant wildfire risk.	No mitigation is required.	N/A	N/A	N/A	No Impact
4.8 Hydrology and Water Quality					
Threshold a: Less-than Significant Impact. The Project would not violate any water	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Adherence to a SWPPP and SWQMP is required as part of the Project's implementation to address construction- and operational-related water quality					
Threshold b: Less-than Significant Impact. The Project would not physically impact any of the major groundwater recharge facilities in the Orange County Groundwater Basin. The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project would impede sustainable groundwater management of the Basin	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold c: Less-than Significant Impact. The Project would be required to comply with applicable water quality regulatory requirements to minimize erosion and siltation. Additionally, the Project would not result in flooding on- or off-site or impede/redirect flood flows. Lastly, the Project would not create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold d: Less-than Significant Impact. The Project site would not be subject to inundation from tsunamis, seiches, or other hazards.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold e: Less-than Significant Impact. The Project would not conflict with or obstruct implementation of a water quality	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
control plan or sustainable groundwater management plan.					
4.9 Noise					
Threshold a: Less-than Significant Impact. The Project would generate short-term construction and long-term operational noise but would not generate noise levels that exceed significance thresholds. The Project would not result in generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold b: Less-than-Significant Impact. The Project's construction and operational activities would not result in excessive groundborne vibration or groundborne noise levels.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold c: No Impact. The Project site is not located within two miles of a public airport or within an airport land use plan, nor is the Project site located within the vicinity of a private airstrip.	No mitigation is required.	N/A	N/A	N/A	No Impact
4.10 Transportation					
Threshold a: Less-than-Significant Impact. The Project would not conflict with a program, plan, policy addressing the circulation system such that the Project would result in a significant impact on the environment.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold b: Less-than-Significant Impact The Project meets the Low VMT Area screening criteria and would result in a less than significant VMT impact.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
Threshold c: Less-than-Significant Impact. The Project would not create or substantially	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
increase safety hazards due to a design feature or incompatible use.					
Threshold d: Less-than-Significant Impact. Adequate emergency access would be provided to the Project site during construction and long-term operation. The Project would not result in inadequate emergency access to the site or surrounding properties.	No mitigation is required.	N/A	N/A	N/A	Less-than-Significant Impact
4.11 Tribal Cultural Resources					
Threshold a: Potentially Significant Direct Impact: The Project site does not contain any recorded, significant tribal cultural resource sites; therefore, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources. Nonetheless, Project construction activities have the potential to unearth and adversely impact tribal cultural resources that may be buried at the Project site	**MM 4.11-1** Prior to the commencement of any ground disturbing activity at the project site, the Project Applicant shall retain a Native American Monitor approved by the Gabrieleno Band of Mission Indians-Kizh Nation – the tribe that consulted on this project pursuant to Assembly Bill A52 (the "Tribe" or the "Consulting Tribe"). A copy of the executed contract shall be submitted to the City of Orange Planning and Building Department prior to the issuance of any permit necessary to commence a ground-disturbing activity. The Tribal monitor will only be present on-site during the construction phases that involve ground-disturbing activities into areas of undisturbed soils. Ground disturbing activities are defined by the Tribe as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the Project site. The Tribal Monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities on the Project site are completed, or when the Tribal Representatives and Tribal Monitor have indicated that all upcoming ground-disturbing activities at the Project site have little to no potential for impacting Tribal Cultural Resources.	Project Applicant	City of Orange Community Development Department	Prior to ground-disturbing activities	Less-than-Significant Impact with Mitigation

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All Tribal Cultural Resources unearthed by project activities shall be evaluated by the qualified archaeologist and Tribal monitor approved by the Consulting Tribe. If the resources are Native American in origin, the Consulting Tribe will retain it/them in the form and/or manner the Tribe deems appropriate, for educational, cultural and/or historic purposes. If human remains and/or grave goods are discovered or recognized at the Project site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). Work may continue on other parts of the Project site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If a non-Native American resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource," time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources				

1.0 INTRODUCTION

This Draft Environmental Impact Report ("Draft EIR" or "EIR") is an informational document that represents the independent judgment of the City of Orange, acting as the Lead Agency pursuant to the California Environmental Quality Act (CEQA), and evaluates the physical environmental effects that could result from constructing and operating the proposed 534 Struck Avenue Project (hereafter, the "Project"). Discretionary actions and other related ministerial actions that are required to construct and operate the Project also are described in this EIR.

When the term "Project" is used in this EIR with the initial letter capitalized, the term shall mean all aspects of the planning, construction, and operation of the 534 Struck Avenue Project, including all discretionary and administrative approvals and permits required for its implementation. When the term "Project Applicant" is used with the initial letters capitalized, the term shall mean Prologis, L.P., which is the entity that submitted applications to the City of Orange to entitle the Project Site as proposed and as evaluated in this EIR.

1.1 PURPOSES OF CEQA AND LEGAL AUTHORITY FOR THIS DRAFT EIR

This Draft EIR has been prepared in compliance with the California Environmental Quality Act (Public Resources Code § 21000 et. seq. ("CEQA"), as amended, and the CEQA State Guidelines (Title 14 California Code of Regulations § 15000 et. seq.) ("CEQA Guidelines"), as amended. As stated by CEQA Guidelines § 15002(a), 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 land entitlement applications submitted by private parties);
- Identify the ways that environmental damage can be avoided or significantly reduced;
- 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; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if a project will be approved involving significant environmental effects.

Following preliminary review of the Project's application materials, the City of Orange concluded that the Project and its associated implementing actions have the potential to result in significant environmental effects; as such, the City proceeded with preparation of this EIR pursuant to CEQA Guidelines Section 15060(d). The City determined that a Project EIR, as described in CEQA Guidelines Section 15161, would be required. Accordingly, this document serves as a Project EIR. As required by CEQA Guidelines Section 15161, this Project EIR shall "…focus primarily on the changes in the environment that would result from the development project," and "…examine all phases of the

project including planning, construction, and operation." Also, in conformance with CEQA Guidelines Section 15121(a), the purposes of this EIR are to: (1) disclose information by informing public agency decision makers and the public generally of the significant environmental effects associated with all phases of the Project, (2) identify possible ways to minimize or avoid those significant effects, and (3) to describe a reasonable range of alternatives to the Project that would feasibly attain most of the basic Project objectives but would avoid or substantially lessen its significant environmental effects.

1.2 SUMMARY OF THE PROJECT EVALUATED BY THIS EIR

The City of Orange is the Lead Agency for the proposed Project, under whose authority this EIR has been prepared. The Project Applicant is proposing to redevelop the Site with a 57,900 sf Truck Terminal, that includes 52,900 sf of warehouse space and 5,000 sf of office space, and a 5,400-sf maintenance building. The proposed building would be built up to 45 ft and include 84 dock doors (cross-dock configuration). The Project would provide automobile parking stalls in excess of the requirements (47 automobile parking stalls) of the Orange Municipal Code (OMC). The Project would provide a total of 62 automobile parking stalls consisting of 59 standard parking stalls, 2-9 ft. by 18 ft. accessible parking stalls, and 1-12 ft by 18 ft accessible parking stall. Additionally, the Project would provide 188 trailer parking stalls. Ornamental landscaping, lighting, and walls would be installed per compliance with the OMC. The building would operate 24 hours a day, 7 days a week. It is anticipated that the facility would employ a total of 60 to 130 employees.

The redevelopment would require the demolition of the existing, 40,000 sf manufacturing facility, associated parking, and removal of an unused portion of the existing, privately owned railroad spur located on the east side of the site. Additionally, the Project would remove approximately 315 linear feet of on-street parking along Struck Avenue.

Specifically, the Project Applicant is requesting the following governmental approval from the City of Orange to implement the Project (refer to Chapter 3.0, *Project Description*, for a complete description of the Project's construction and operational characteristics):

- Conditional Use Permit No. 3137-21
- Major Site Plan Review No. 1039-21
- Design Review No. 5028-21
- Environmental Review No, 1870-20
- Demolition permits for on-site structures and other improvements
- Grading and Building Permits to grade and construct the Project

1.3 CEQA PROCESS OVERVIEW

The California Environmental Quality Act (CEQA) (Public Resources Code, §§ 21000- 21177) requires that all public agencies within the State of California, having land use approval over project activities that have the potential to affect the quality of the environment, shall regulate such activities

so that impacts to the environment can be prevented to the extent feasible. Such activity is reviewed and monitored through the CEQA process, as provided in the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, §§ 15000-15387). CEQA distinguishes varied levels of documentation and public review based on a project's anticipated level of effect on the environment.

When it is determined through preliminary review that a project may likely have one or more significant effects upon the environment, then an EIR must be prepared. The "scope" of the EIR may be determined through preparation of an Initial Study and a public scoping process. The EIR should consider both the potential project-specific (direct and indirect) and cumulative environmental impacts that could result from the implementation of the proposed project.

Pursuant to CEQA Guidelines § 15121, the EIR is primarily an informational document intended to inform the public agency decision-makers and the general public of the potentially significant effects of a proposed project. The EIR should disclose all known potentially significant impacts; identify feasible means to minimize or mitigate those effects; and, consider a number of feasible alternatives to the project that might further reduce significant impacts while still attaining the project objectives. The decision-makers must consider the information in an EIR before taking action on the proposed project. The EIR may constitute substantial evidence in the record to support the agency's action on the project.

The EIR is prepared by or under the direction of the Lead Agency, the City of Orange. The City of Orange ("City") is the public agency that has the primary responsibility for approving or carrying out the Project. Further, Responsible and Trustee Agencies, which are public agencies that have a level of discretionary approval over some component of the proposed Project, may rely upon the EIR prepared by the City.

An EIR is prepared in two key stages. First, a Draft EIR is prepared and distributed for public and agency review. Once comments on the Draft EIR are received, responses to those comments and any additional relevant project information are prepared and compiled in a Final EIR. Both of these documents (i.e., the Draft EIR and the Final EIR), along with any related technical appendices, represent the complete record of the EIR. Throughout this document, the terms Final EIR or Draft EIR may be used interchangeable since both are part of the ultimate EIR record; however, "Draft EIR" may be used specifically when referring to information provided in the volume made available for the CEQA-required 45-day public review period.

In accordance with CEQA Guidelines § 15087, this Draft EIR will be made available for review by the public and public agencies for a minimum period of 45 days to provide comments "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (CEQA Guidelines § 152049(a)). Responses to written comments received during the public review period will be included in the Final EIR ("FEIR"). During the decision-making process, the Project and its design features, objectives, merits, environmental consequences, and socioeconomic factors, among other information contained in the Project's administrative record will be considered by City of Orange

decision-makers. If the FEIR is certified and the Project approved, the City of Orange and other public agencies with permitting authority over all, or portions, of the Project would be able to rely on the FEIR as part of their permitting processes to evaluate the environmental effects of the Project as they pertain to the approval or denial of applicable permits.

1.4 PROJECT BACKGROUND

A Mitigated Negative Declaration (MND) was originally prepared for the proposed 534 Struck Avenue Project. On September 23, 2021, the City circulated a Notice of Intent to Adopt Mitigated Negative Declaration No. 1870-20 for the Project. The MND was circulated for public review from September 23 to October 25, 2021. During the 30-day public review period, comments received requested additional technical analysis (e.g., air quality and noise modeling, traffic). Therefore, in order to address the environmental concerns raised, additional analyses were prepared and this EIR was prepared to provide comprehensive environmental review of the Project.

1.4.1 COMMENTS RECEIVED DURING THE MND PUBLIC REVIEW PERIOD

As previously stated, the MND was circulated for public review from September 23 to October 25, 2021. The MND and written comments received by the City during the public review period are provided in *Technical Appendix A1* to this EIR. Please refer to Table 1-1, *Summary of MND Comments*, for comments received during MND public review period.

Table 1-1 Summary of MND Comments

Commenter	Date	Comment(s)	Response to Comments
John Miller	October 1, 2021	• Asks about entry and exit of the Project and raises concern regarding traffic on Struck Avenue	• As described in Section 3.0, *Project Description*, vehicular access to the Project Site would be provided via two driveways along the site's northern border along Struck Avenue. • As concluded in the Traffic Analysis (*Technical Appendix K1* to this EIR), the Project would not result in deficiencies at any of the 9 study area intersections analyzed, including Struck Avenue at Katella Avenue, Main Street, or Batavia.
		• Concerned about truck parking on Parker Street	• The Project would provide 188 trailer parking stalls and 84 dock doors to ensure adequate trailer truck parking on the Project site. Additionally, the Project would comply with Section 10.34.060, *Prohibited Parking — Trucks, Recreational Vehicles and Similar Vehicles*, of the City's Municipal Code regarding restrictive parking on public streets. Specifically, oversized vehicles

Commenter	Date	Comment(s)	Response to Comments
			shall not park on any public street or any public or dedicated alley, except while mechanically disabled, or while loading or unloading merchandise, goods, or building materials; or when such vehicle is parked in connection with, and in the performance of a service to or on a property in the block in which such vehicle is parked or left standing.
		• Raises concern on odor of diesel fuel due to truck idling for hours	• The Project would comply with California Code of Regulations Title 13, Division 3, Chapter 10, Article 1, Section 2485, "Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling," which limits nonessential idling to five minutes or less for commercial trucks.
		• Asks about the opportunity for public comments, copy of the site plan and truck yard orientation	• This EIR will be made available for review by the public and public agencies for a minimum period of 45 days to provide comments. Additionally, public comments can be made during the Planning Commission hearing for the Project. • As shown in Figure 3-2, *Site Plan*, the proposed building would be centered in the Project site with locking doors to the eastern and western end of the building (cross-dock) and parking surrounding the Project site.
		• Asks about plans for wall/foliage for screening between the Project site and adjacent property to the west	• The Project Applicant would install an approximately 8-foot-high tubular steel fencing along the site's perimeter to enclose the proposed building, parking area, truck court, and loading dock area.
Keith Early	October 25, 2021	• Raises concern on truck traffic on surrounding streets	• The Project truck trips would travel long City of Orange approved truck routes. As shown on Figure 4.10-4, *Truck Routes*, trucks would travel along Struck Avenue to State Route 57 (SR-57) or to Batavia Street, providing the most efficient access to regional transportation facilities. Trucks would not travel along Parker Street, which is not an approved truck route. • Moreover, data collected five facilities that are very similar in nature to the proposed use indicates most of the truck activity occurs outside of the typical morning and evening peak commute hours

Commenter	Date	Comment(s)	Response to Comments
			(7-9 AM and 4-6 PM; (*Technical Appendix K1* to this EIR).
		• Raises concern on exhaust fumes and noise from the Project	• As concluded in Section 4.1, *Air Quality*, the Project would not result in construction or operational air quality impacts prior to mitigation measures. Additionally, implementation of MM 4.1-1 would be required to decrease cancer risks. • As concluded in Section 4.9, *Noise*, the Project would generate short-term construction and long-term operational noise but would not generate noise levels that exceed the standards established by the Orange General Plan or Municipal Code at the nearby noise-sensitive receiver locations. Therefore, noise impacts would be less than significant.
		• Raises concern on the low amount of employment (10 jobs) that would be generated by the Project and the need for employment in the area.	• As shown in in the Project's Vehicle Miles Travel (VMT) Memorandum (*Technical Appendix K2* to this EIR), based on the employment density factors identified in the Southern California Association of Governments (SCAG) Employment Density Study, the Project is anticipated to generate approximately 60 to 130 employees. However, this comment is noted for the record.
		• Provide alternative to develop the Project site as small 10,000 sf buildings for small businesses	• Refer to Section 6.0, *Alternatives*, for an analysis of project alternatives.
		• Raises concern on the amount of tax revenue the proposed use would generate compared to other uses.	• This comment does not raise any issues with the environmental analysis provided in the EIR, thus, no further response is required.
Law Office of John P. Given on behalf of Mary's Kitchen	October 25, 2021	• Raises concern on the MND's inaccuracy in describing Mary's Kitchen and the Project's impacts to Mary's Kitchen	• As shown in Section 2.0, *Environmental Setting*, and Section 4.0, *Environmental Analysis*, the EIR accurate describes the operations and Project impacts to the former Mary's Kitchen site (now occupied by HUB OC.

Commenter	Date	Comment(s)	Response to Comments
		• Raises concern on the Project's Air Quality Impact Analysis and Mary's Kitchen not being listed as a sensitive receptor	• As shown in Figure 4.1-1, *Sensitive Receptors*, the Project's Air Quality Impact Analysis (*Technical Appendix B1* to this EIR) has been updated to include the former Mary's Kitchen site as a sensitive receptor R3.
		• Raises concern on the Project's air quality impacts to Mary's Kitchen	• As concluded in Section 4.1, *Air Quality*, the Project would not result in construction or operational air quality impacts to nearby sensitive receptors.
		• Raises concern on the Project's operational air quality impacts from traffic since trip generation was derived from two facilities of similar uses and future tenants are currently unknown	• As part of the updated Traffic Analysis (*Technical Appendix K1* to this EIR), the methodology to calculate trip generation was modified to include five local existing facilities that are very similar in nature to the proposed use. In order to calculate a rate for the Project that most closely reflects the anticipated operations, the 5 local sites were surveyed over 2 days to develop an average trip generation rate. Moreover, in an effort to conduct a conservative traffic assessment, no credit has been taken for the existing use.
		• Raises concern on the Project' Noise Impact Analysis and Mary's Kitchen not being listed as a sensitive noise receptor	• As shown in Section 4.9, *Noise*, the Project's Noise Impact Analysis (*Technical Appendix J* to this EIR) has been updated to include the former Mary's Kitchen site as a sensitive noise receptor.
		• Concludes that the MND is inadequate due to failure to analyze the Project's air quality, noise, and vibration impacts to Mary's Kitchen as a sensitive receptor and that an EIR may be required	• As discussed above, the Project's technical reports have been updated to include the former Mary's Kitchen site as a sensitive receptor and this EIR includes the results of the updated technical analyses.

1.5 DRAFT EIR SCOPE, FORMAT, AND CONTENT

1.5.1 DRAFT EIR SCOPE

The City filed a Notice of Preparation (NOP) with the State Clearinghouse of the California Office of Planning and Research (State Clearinghouse) to indicate that an EIR would be prepared to evaluate the Project's potential to impact the environment. The NOP was filed with the State Clearinghouse and distributed to potential Responsible Agencies, Trustee Agencies, and other interested parties on July 29, 2022, for a 30-day public review period. The NOP was distributed for public review to solicit

responses that would help the City identify the full scope and range of potential environmental concerns associated with the Project so that these issues could be fully examined in this EIR.

In addition, two publicly-noticed EIR Scoping Meetings were held on August 22, 2022. The scoping meetings were held at Orange City Hall Weimer Room, located at 300 E. Chapman Avenue Orange, CA 92866, and Shaffer Park Community Room, located at 190 N. Shaffer Street Orange, CA 92865. The EIR Scoping Meetings provided public agencies, interested parties, and members of the general public an additional opportunity to learn about the Project, the CEQA review process, and how to submit comments on the scope and range of potential environmental concerns be addressed in this EIR.

The NOP and written comments received by the City during the NOP public review period are provided in *Technical Appendix A2* to this EIR. Substantive issues raised in response to the NOP and during the Scoping Meetings are summarized below in Table 1-2, *Summary of NOP and* Scoping Meeting Comments. The purpose of Table 1-2 is to present a summary of the environmental topics that were identified by public agencies, interested parties, and members of the general public to be of primary interest. Regardless of whether or not an environmental or CEQA-related comment is listed in Table 1-2, all relevant comments received in response to the NOP and the EIR Scoping Meeting are addressed in this EIR.

Table 1-2 Summary of NOP and Scoping Meeting Comments

Commenter	Date	Comment(s)	Location in EIR Where Comment(s) Addressed
Comments Received at Scoping Meetings			
Keith Crane	August 22, 2022	• Raises concern on the location of the maintenance building due to close proximity to his property and its potential air quality and noise impacts • Raises concern on tree foliage and pine needles falling on adjacent property • Recommends trucks use Batavia and Katella/Main for truck route • Asks about measures to prevent trucks from traveling outside of designated routes • Recommends alternative to develop the Project site as buildings for small businesses • Raises concern on street parking and truck trips per day	Section 4.1, *Air Quality*, Section 4.9, *Noise*, Section 4.10, *Transportation*, and Section 6.0, *Alternatives*
John Miller		• Recommends block wall around the Project site instead of fencing • Raises concern on truck turning	Section 4.1, *Air Quality*, and Section 4.10, *Transportation*

Commenter	Date	Comment(s)	Location in EIR Where Comment(s) Addressed
		radius from Struck Avenue to Katella Avenue • Raises concern on overflow parking for employees and parking on Parker Street • Raises concern on trucks and pedestrian safety due to past accidents on Main/Collins • Request to consider cut-through traffic on Parker Street • Asks about clarifications on soil samples in the Phase II Environmental Site Assessment (ESA) and a copy of the results • Asks question about the new operation of Mary's Kitchen	
John		• Asks why the Project went from an MND to EIR • Raises concern on the safety of residential uses near the Project site • Asks about truck trips generated by the Project • Request to study traffic on Struck Avenue • Raises concern on pedestrian safety issues from homeless shelter	Section 1.0, *Introduction*, and Section 4.10, *Transportation*
Comments Received during NOP Public Review Period			
Native American Heritage Commission (NAHC)	August 11, 2022	• Provides information regarding required Native American consultation pursuant to Senate Bill 18 and Assembly Bill 52.	Section 4.3, *Cultural Resources*, and Section 4.11, *Tribal Cultural Resources*
Orange County Transportation Authority (OCTA)	August 29, 2022	• Requests to change any reference to BNSF to "OCTA/SCRRA"—the railroad is owned by OCTA and operated by the Southern California Regional Rail Authority (SCRRA) • Requests coordination with SCRRA is required on the abandonment of the industry track. • Requests to ensure drainage is designed to drain away from the tracks during construction and post-construction • Requests that lighting should be designed to keep light away from the	Section 4.8, *Hydrology and Water Quality*, Section 4.10, *Transportation*, Section 5.4.1, *Aesthetics*

Commenter	Date	Comment(s)	Location in EIR Where Comment(s) Addressed
		tracks • Requests that trees near the tracks should be maintained to avoid encroachment onto the railroad. • Expresses that a Right of Way Encroachment Agreement with SCRRA may be necessary during construction	
California Department of Transportation (Caltrans)	August 30, 2022	• Consider bicycle, pedestrian, electric vehicle charging, and ridesharing opportunities at the site including bicycle storage, accessible walkways, charging stations, and pick-up/drop-off locations. • Requests to provide discussion on active transportation. • Requests to include discussion about the City multimodal mobility strategies relating to existing bus and rail services for local and regional connectivity. • Requests to submit copies of all traffic related documents for review. • Requests to evaluate installation of electric vehicle charging infrastructure • Requests to identify, and seek to resolve (with appropriate local partners, including, but not limited to, the local government) any potential pedestrian or bicycling conflict points to, from, or within the Project site • Requests to ensure on-site truck parking facilities include adequate facilities for drivers • Requests to consider pricing strategies to incentivize and encourage greater use of ZEV trucks	Section 4.10, *Transportation*
Law Office of John P. Given on behalf of Mary's Kitchen	August 24, 2022	• Comments made were the same as the previous comment letter on October 25, 2021	Refer to Table 1-1, *Summary of MND Comments*
John Miller	N/A	• Raises concern on truck turning radius from Struck Avenue to Katella Avenue	Section 4.1, *Air Quality*, and Section 4.10, *Transportation*

Commenter	Date	Comment(s)	Location in EIR Where Comment(s) Addressed
		• Asks about clarifications on soil samples in the Phase II ESA and a copy of the results • Recommends block wall around the Project site instead of fencing • Raises concern on maintenance building and its emissions/odor into the air • Raises concern on overflow parking for employees	

In light of the comments received by the City in response to the circulated MND, NOP, and the EIR Scoping Meeting, Section 4.0 of this EIR evaluates the Project's potential to cause adverse effects to the following environmental issue areas:

- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation
- Tribal Cultural Resources

Based on the findings of the circulated MND, the following environmental topics were determined to be less than significant or no impact and will not be evaluated further in the EIR:

- Aesthetics
- Agriculture and Forestry Resources
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems
- Wildfire

1.5.2 Use of this EIR

This EIR will be made available for review by the public and public agencies for a minimum period of 45 days to provide comments "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated" (CEQA Guidelines § 152049(a)). During the decision-making process, the Project and its design features, objectives, merits, environmental consequences, and socioeconomic factors, among other information contained in the Project's administrative record, will be considered by City decision-makers.

1.5.3 CONTENT AND ORGANIZATION OF THIS DRAFT EIR

This Draft EIR contains all of the information required to be included in an EIR as specified by the CEQA Statutes and Guidelines (California Public Resources Code, Section 21000 et. seq. and California Code of Regulations, Title 14, Chapter 5). This Draft EIR is organized in the following manner:

- **Section S.0, Executive Summary**, provides an overview of the EIR document and CEQA process. The Project, including its objectives, is described, and the location and regional setting of the Project Site is documented. In addition, the Executive Summary discloses potential areas of controversy related to the Project, including those issues identified by other agencies and the public, and identifies potential alternatives to the proposed Project that would reduce or avoid significant impacts, as required by CEQA. Finally, the Executive Summary provides a summary of the Project's impacts, mitigation measures, and conclusions, in a table that forms the basis of the EIR's Mitigation, Monitoring, and Reporting Program.

- **Section 1.0, Introduction**, provides introductory information about the CEQA process and the responsibilities of the City, serving as the Lead Agency for this EIR; a brief description of the Project; the purpose of this EIR; applications proposed by the Project Applicant that would require discretionary City approvals; permits and approvals required by other agencies; and an overview of the EIR format.

- **Section 2.0, Environmental Setting**, describes the environmental setting, including an overview of the regional and local setting, as well as descriptions of the Project Site's physical conditions and surrounding context. The existing setting is defined as the condition of the Project Site and surrounding area at the approximate date this EIR's NOP was released for public review. The setting discussion also addresses the relevant regional planning documents that apply to the Project Site and vicinity.

- **Section 3.0, Project Description**, serves as the EIR's Project Description for purposes of CEQA and contains a level of specificity commensurate with the level of detail proposed by the Project, including the summary requirements pursuant to CEQA Guidelines § 15123. This section provides a detailed description of the Project, including its purpose and main objectives; design features; landscaping; site drainage; utilities; grading and construction characteristics; and operational characteristics expected over the Project's lifetime. In addition, the discretionary actions required of the City and other government agencies to implement the Project are discussed.

- **Section 4.0, Environmental Analysis**, provides an analysis of the potential direct, indirect, and cumulative impacts that may occur from implementing the proposed Project. The topics analyzed in this section include the topics summarized above under subsection 1.5.1. Topics that were found to have no potential of being significantly impacted are discussed in Section

5.0, *Other CEQA Considerations*. A conclusion concerning significance is reached for each discussion, and mitigation measures are presented as warranted. The environmental changes identified in Section 4.0 and throughout this EIR are referred to as "effects" or "impacts" interchangeably. The CEQA Guidelines also describe the terms "effects" and "impacts" as being synonymous (CEQA Guidelines § 15358).

In the environmental analysis subsections of Section 4.0, the existing conditions are disclosed that are pertinent to the subject area being analyzed, accompanied by a specific analysis of physical impacts that may be caused by implementing the proposed Project. Impacts are evaluated on a direct, indirect, and cumulative basis. Direct impacts are those that would occur directly as a result of the proposed Project. Indirect impacts represent secondary effects that would result from Project implementation. Cumulative effects are defined in CEQA Guidelines § 15355 as "…two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

The analyses in Section 4.0 are based in part upon technical reports that are appended to this EIR. Information also is drawn from other sources of analytical materials that directly or indirectly relate to the proposed Project and are cited in Section 7.0, *References*. Where the analysis demonstrates that a physical adverse environmental effect may or would occur without undue speculation, feasible mitigation measures are recommended to reduce or avoid the significant effect. Mitigation measures must be fully enforceable, have an essential nexus to a legitimate governmental interest, and be "roughly proportional" to the impacts of the Project. The discussion then indicates whether the identified mitigation measures would reduce impacts to below a level of significance. In most cases, implementation of the mitigation measures would reduce the adverse environmental impacts to below a level of significance. If mitigation measures are not available or feasible to reduce an identified impact to below a level of significance, the environmental effect is identified as a significant and unavoidable adverse impact, for which a Statement of Overriding Considerations (SOC) would need to be adopted by the City pursuant to CEQA Guidelines § 15093.

- **Section 5.0, Other CEQA Considerations**, includes specific topics that are required by CEQA. These include a summary of the Project's significant and unavoidable environmental effects, a discussion of the significant and irreversible environmental changes that would occur should the Project be implemented, as well as potential growth-inducing impacts of the proposed Project. Section 5.0 also includes a discussion of the potential environmental effects that were found not be significant during the preparation of this EIR.

- **Section 6.0, Project Alternatives**, describes and evaluates alternatives to the proposed Project that could reduce or avoid the Project's adverse environmental effects. CEQA does not require an EIR to consider every conceivable alternative to the Project but rather to consider a reasonable range of alternatives that will foster informed decision making and public participation. Three (3) alternatives are presented in Section 6.0.

- **Section 7.0, References**, cites all reference sources used in preparing this EIR and lists the agencies and persons that were consulted during preparation of this EIR. Section 7.0 also lists the persons who authored or participated in preparing this EIR.

CEQA requires that an EIR contain, at a minimum, certain specified content. Table 1-3, *Location of CEQA Required Topics*, provides a quick reference in locating the CEQA-required sections within this document.

Table 1-3 Location of CEQA Required Topics

CEQA Required Topic	CEQA Guidelines Reference	Location in this EIR
Table of Contents	§ 15122	Table of Contents
Summary	§ 15123	Section S.0
Project Description	§ 15124	Section 3.0
Environmental Setting	§ 15125	Section 2.0
Consideration and Discussion of Environmental Impacts	§ 15126	Section 4.0
Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented	§ 15126.2(b)	Section 4.0 & Subsection 5.1
Significant Irreversible Environmental Impacts Which Would be Involved in the Proposed Action Should it be Implemented	§ 15126.2(c)	Subsection 5.2
Growth-Inducing Impacts of the Proposed Project	§ 15126.2(d)	Subsection 5.3
Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects	§ 15126.4	Section 4.0 & Table S-1
Consideration and Discussion of Alternatives to the Proposed Project	§ 15126.6	Section 6.0
Effects Not Found to be Significant	§ 15128	Subsection 5.4
Organizations and Persons Consulted	§ 15129	Section 7.0 & Appendices
Discussion of Cumulative Impacts	§ 15130	Section 4.0
Energy Conservation	Appendix D	Subsection 4.3

1.5.4 Incorporation by Reference

CEQA Guidelines § 15147 states that the "information contained in an EIR shall include summarized… information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public," and that the "placement of highly technical and specialized analysis and data in the body of an EIR shall be avoided." CEQA Guidelines § 15150 allows for the incorporation "by reference all or portions of another document… [and is] most appropriate for including long, descriptive, or technical materials that provide general background but do not contribute directly to the analysis of a problem at hand." The purpose of incorporation by reference is to assist the Lead Agency in limiting the length of this EIR. Where this EIR incorporates a document by reference, the document is identified in the body of the EIR, citing the appropriate

section(s) of the incorporated document and describing the relationship between the incorporated part of the referenced document and this EIR.

Therefore, the detailed technical studies, reports, and supporting documentation that were used in preparing this EIR are bound separately as Technical Appendices. The Technical Appendices are available for review at the City of Orange, Planning Division, Community Development Department, 300 East Chapman Avenue, Orange, CA 92866, during the City's regular business hours and the City's website at: https://www.cityoforange.org/our-city/departments/community-development/planning-division/current-projects. The individual technical studies, reports, and supporting documentation that comprise the Technical Appendices are as follows:

A1. Written Comments on the Mitigated Negative Declaration
A2. Notice of Preparation (NOP) and Written Comments on the NOP
B1. Air Quality Impact Assessment
B2. Health Risk Assessment
C. Biological Technical Report
D. Cultural and Paleontological Resources Letter Report
E. Energy Analysis
F. Geotechnical and Infiltration Evaluation
G. Greenhouse Gas Analysis
H1. Phase I Environmental Site Assessment
H2. Limited Phase II Environmental Site Assessment
H3. Soil Management Plan
I1. Priority Water Quality Management Plan
I2. Preliminary Drainage Study
J. Noise and Vibration Analysis
K1. Traffic Analysis
K2. VMT Screening Evaluation

Other reference sources that are incorporated into this EIR by reference are listed in Section 7.0, *References*, of this EIR. In most cases, documents or websites not included in the EIR's Technical Appendices are cited by a link to the online location where the document/website can be viewed by the public. All references relied upon by this EIR are included as part of City's Administrative Record pertaining to the proposed Project.

1.6 RESPONSIBLE AND TRUSTEE AGENCIES

The California Public Resource Code (§ 21104) requires that all EIRs be reviewed by responsible and trustee agencies (see also CEQA Guidelines § 15082 and § 15086(a)). As defined by CEQA Guidelines § 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 § 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 the proposed Project, the Orange County Sanitation District (OCSD) is responsible for the issuance of a Municipal Stormwater Permit and the South Coast Air Quality Management District is responsible for construction related permits (if applicable). The Native American Heritage Commission (NAHC) is identified as a Trustee Agency for the proposed Project in their capacity to prevent irreparable damage to sacred sights and to prevent interference with Native American Religion in California. There are no other agencies that are identified as Responsible or Trustee Agencies for the proposed Project.

1.7 AREAS OF CONTROVERSY

After consideration of all comments received in response to the NOP and during the Project's scoping meetings, the Lead Agency has identified environmental issues of concern relating to truck trips and travel, air quality, and noise impacts (see Table 1-1 and Table 1-2). No other areas of controversy associated with the proposed Project are known.

2.0 ENVIRONMENTAL SETTING

2.1 REGIONAL SETTING AND LOCATION

The Project site is located at 534 Struck Avenue in the City of Orange, Orange County, California. The City of Orange (City) is in the north-central portion of Orange County. The city of Anaheim borders the City to the north and northwest. The city of Garden Grove borders the City to the west and the cities of Santa Ana and Tustin, and unincorporated Orange County border the City to the east and south. Interstate 5 (I-5) is located approximately 2.0 miles southwest of the Project site and State Route 57 (SR-57) is located approximately 1.26 to the west. Regional access to the Site is provided by SR-57 via Katella Avenue located approximately 1.26 miles west. The Site's location in a regional context is shown on Figure 2-1, *Regional Location Map*.

2.2 LOCAL SETTING AND LOCATION

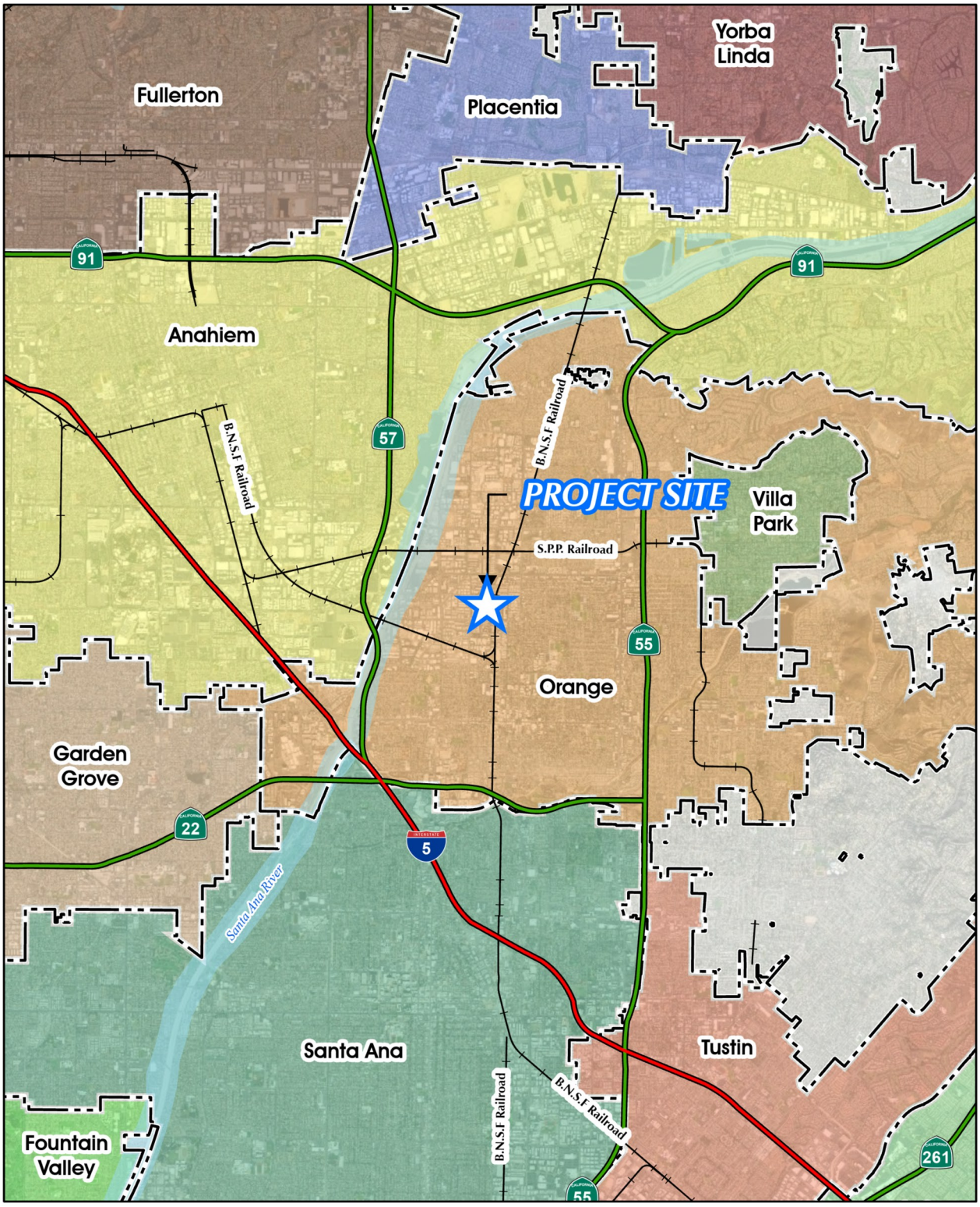
As shown on Figure 2-2, *Local Vicinity Map*, and Figure 2-3, *USGS Topographic Map*, the approximate 9.94-acre Project site (Assessor Parcel Number [APN] 375-331-04) is generally located north of Collins Avenue, east of Batavia Street, south of Struck Avenue, and west of the Orange County Transportation Authority/Southern California Regional Rail Authority (OCTA/SCRRA) Railroad. The Project site is developed with an approximate 40,000 square-foot concrete tilt-up building and parking lot and was occupied until the end of 2020 by Nursery Supplies, Inc. manufacturing facility. The site is accessed via three two-way driveways along Struck Avenue.

2.3 SURROUNDING LAND USES

The surrounding properties possess an urban and industrial character like the Project site. Existing land uses in the immediate vicinity of the Project site are illustrated on Figure 2-4, and are described below.

North: The property directly to the north of the Project site is designated for Public Facility uses and includes the City of Orange Corporate Yard and Public Works Department and the former Mary's Kitchen, a social services organization. The Mary's Kitchen site is now operated by HUB OC, a nonprofit organization that offers hot meals, showers, laundry, restroom, mail, and occasional social and medical services at 517 West Struck Avenue, Monday through Saturday from 9:00 am to 3:00 pm. The operation, known as the HUB Resource Center, is run by employees and volunteers. No overnight stays or services are provided. All of the services are currently operated outside or in a rented mobile trailer (i.e., an office trailer, laundry trailer, shower trailer, etc.). On average, the HUB Resource Center serves anywhere between 80-85 meals at breakfast and 85-90 meals at lunch.

Additionally, a future residential development project is proposed on the property immediately north of HUB OC. At the time environmental review commenced, the proposed residential project was not under construction.

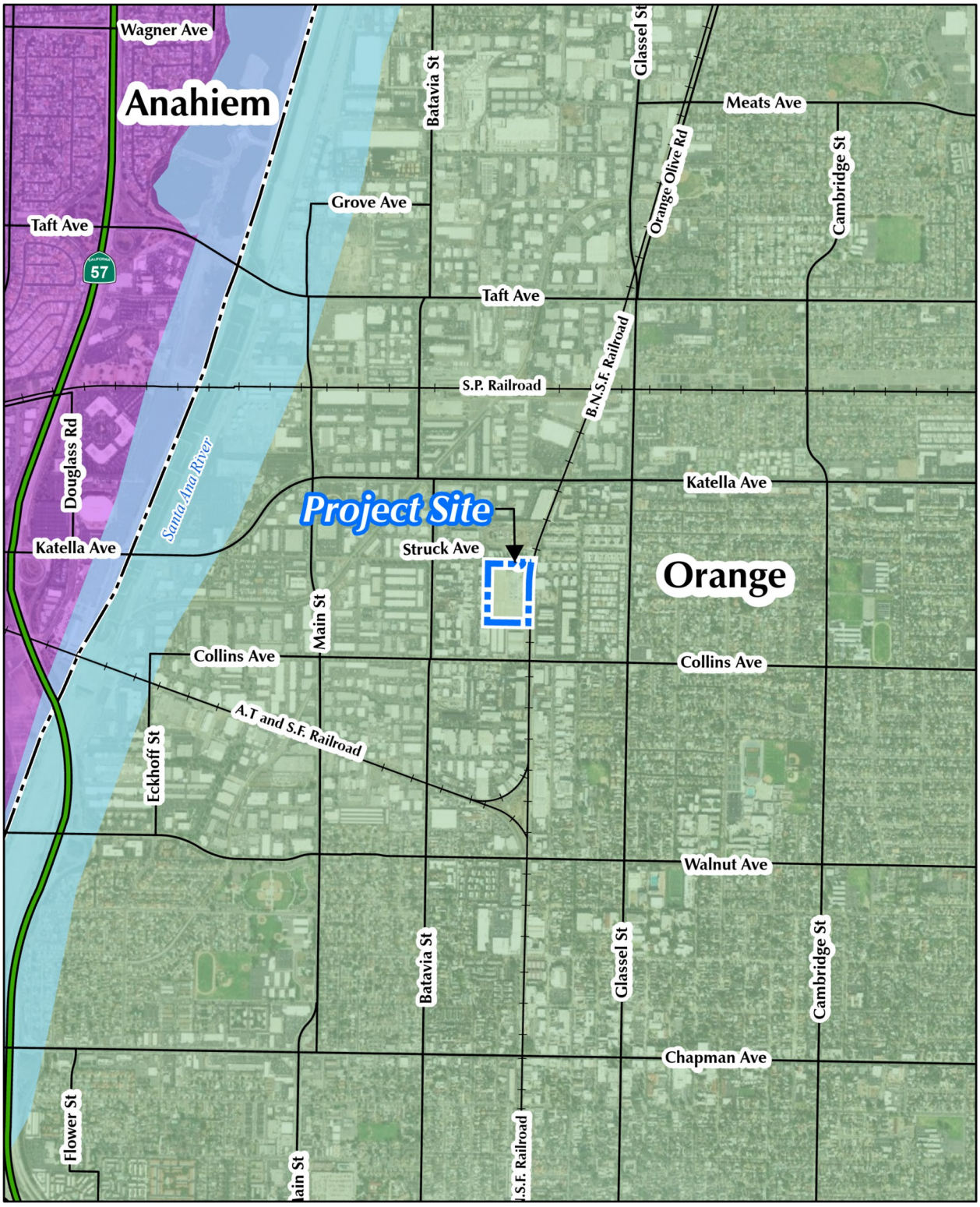


Source(s): Esri, OC Landbase (2019)

Figure 2-1

0 0.375 0.75 1.5 Miles

Regional Location Map

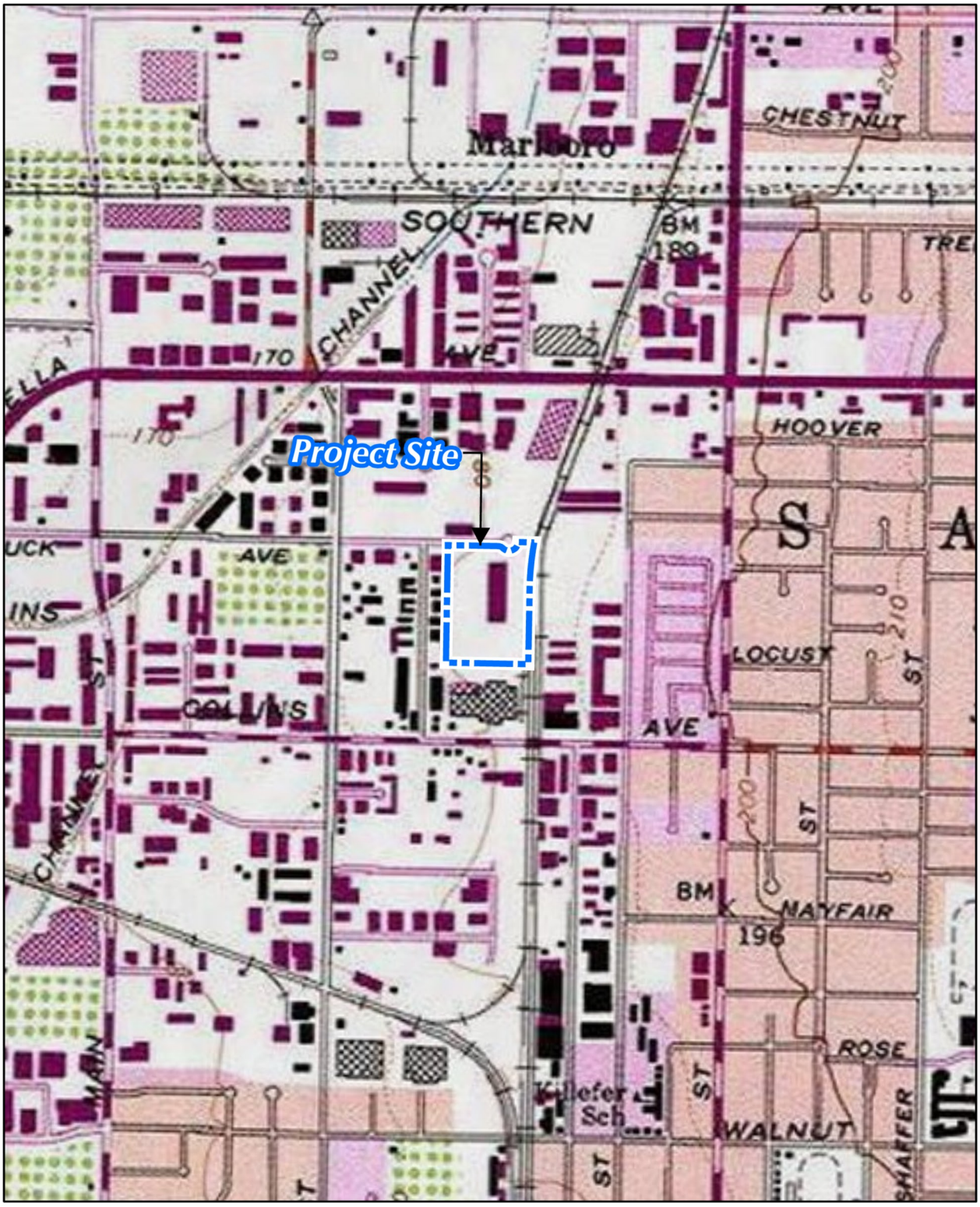


Source(s): Esri, Nearmap Imagery (2022), OC Landbase (2019)

Figure 2-2

0 500 1,000 2,000 Feet

Local Vicinity Map

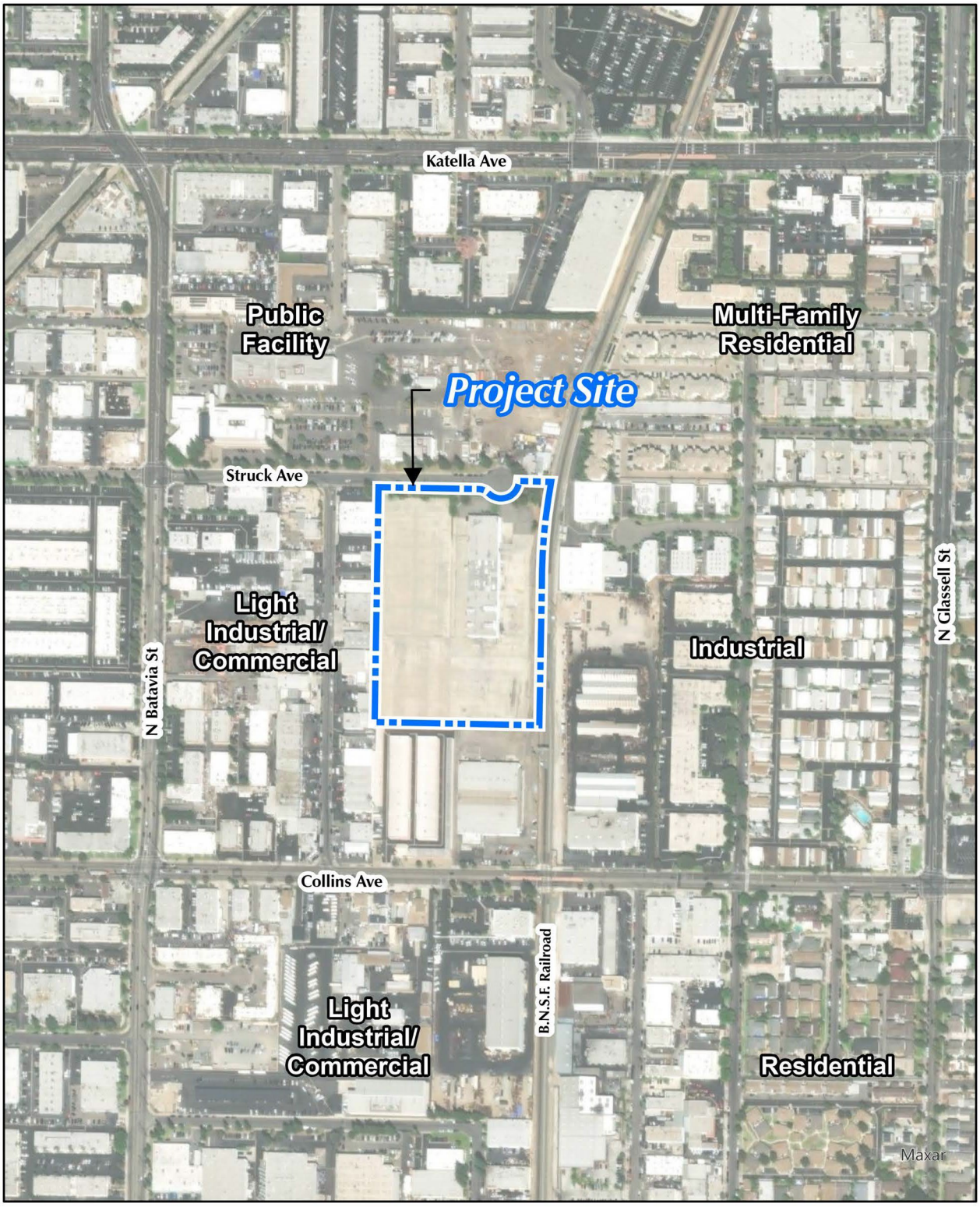


Source(s): Esri, USGS (2013)

Figure 2-3

0 250 500 1,000 Feet

USGS Topographic Map



Source(s): Esri, OC Landbase (2019)

Figure 2-4

0 125 250 500 Feet

Surrounding Land Uses

Northeast/East: The property northeast and east of the Project site, on the opposite side of the OCTA/SCRRA Railroad, is developed with multifamily and industrial uses, respectively. The area to the east contains industrial buildings and a storage yard containing various vehicles and storage facilities.

South/West: The properties to the immediate south and west are designated for light industrial uses, and include several industrial and commercial businesses.

2.4 PLANNING CONTEXT

2.4.1 CITY OF ORANGE GENERAL PLAN

The Project site is designated Light Industrial (LI) in the City of Orange General Plan, as depicted on Figure 2-5, *Existing General Plan Land Use Designations*. The Light Industrial designation allows for the manufacturing, processing, and distribution of goods. Wholesale activities associated with industrial operations, as well as small-scale, support retail, service commercial, and office use may also be established in areas with ready access to major circulation routes. A 3-story building height limit and maximum floor area ratio of 1.0 applies within the Light Industrial designation. (Orange, 2015a)

2.4.2 ZONING

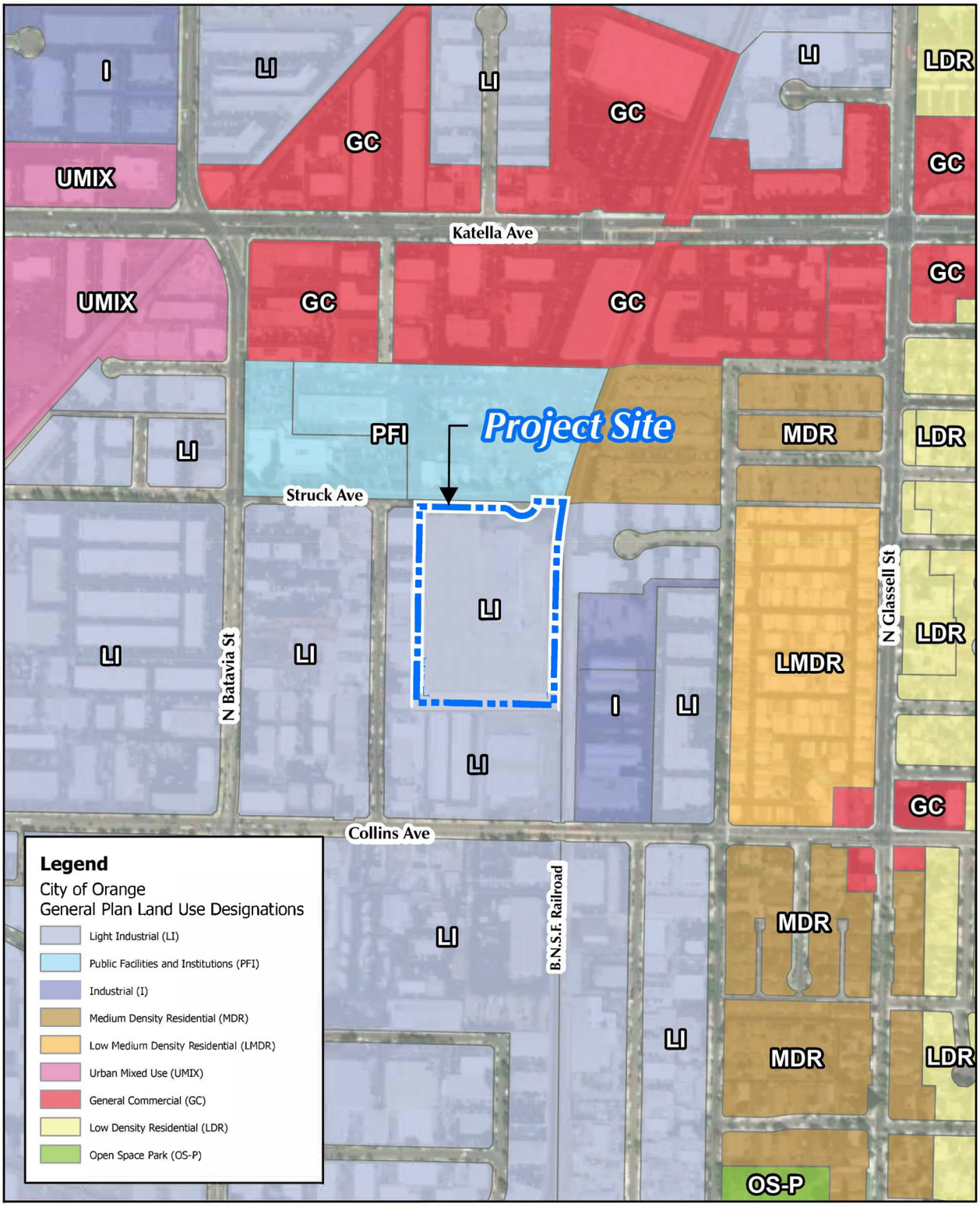
According to the City of Orange Zoning Map, and as shown on Figure 2-6, Existing Zoning Designations, the Project site is zoned as Industrial Manufacturing (M-2) (Orange, 2020). The M-2 zone intends to provide the continuation and development of heavy manufacturing industries in a location where they are compatible with and will not adversely impact adjacent land uses. This zone classification implements the Light Industrial General Plan land use designation.

2.5 EXISTING PHYSICAL SITE CONDITIONS

2.5.1 NATURAL RESOURCES AND TOPOGRAPHIC FEATURES

According to the Natural Resources Element of the City's General Plan, portions of the City of Orange are characterized by scenic vistas that include hillsides, ridgelines, or open space areas that provide a unifying visual backdrop to the urban environment. The Project site is within the western portion of the City, where the topography is relatively flat, and very little open space exists. The Project site does not contain any scenic resources and there are no scenic vistas within proximity to the site. The Project site is within a highly urbanized industrial area.

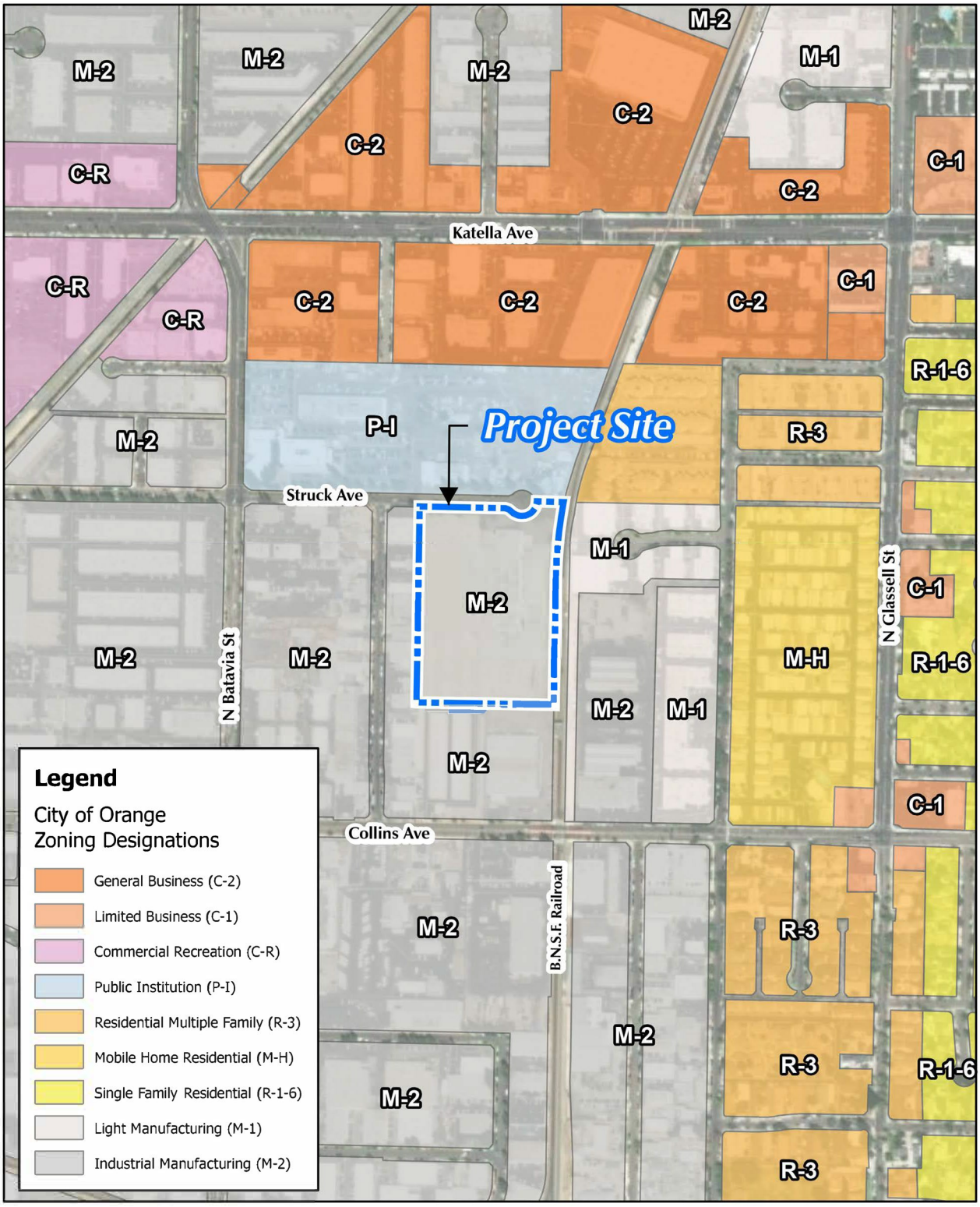
The City identifies significant wildlife habitat as being in the City's undeveloped hillside areas, East Orange, and park and open spaces (particularly near Santiago Creek, Santiago Oaks Regional Park, Irvine Regional Park, and Peters Canyon Regional Park) (Orange, 2015b).



Source(s): Esri, OC Landbase (2019), City of Orange (2022)

0 150 300 600 Feet

Figure 2-5
Existing General Plan Land Use Designations



Source(s): Esri, OC Landbase (2019), City of Orange (2022)

Figure 2-6

0 150 300 600 Feet

Existing Zoning Designations

The Project site is fully developed within an urbanized setting and there are no natural habitats on the Project site or immediately surrounding area. Additionally, the Project is located outside the identified wildlife corridors. According to the City's General Plan Environmental Impact Report (EIR), urbanized areas provide low habitat value for sensitive species. There are no sensitive species on the Project site or immediately surrounding area. Additionally, there are no areas within the Project's vicinity which could function as a wildlife corridor or nursery site for wildlife.

2.5.2 Air Quality and Climate

The Project site is within the South Coast Air Basin (SCAB) within the jurisdiction of the South Coast Air Quality Management District (South Coast AQMD). Under the Air Quality Management Act, the South Coast AQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and State air quality standards. The SCAB is a 6,745-square mile subregion of the South Coast AQMD that includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

Refer to EIR Subsections 4.1, *Air Quality*, and 4.6, *Greenhouse Gas Emissions*, for a more detailed discussion of the existing air quality and climate setting in the Project area.

2.5.3 Cultural Resources & Tribal Cultural Resources

The Project site is not designated as a historic resource nor is the site proposed as a historic resource; no listed or designated historical resources are in proximity to the Site (Orange, 2015c). Additionally, no cultural resources have been recorded within the Project site (Duke, 2021). However, two potential historic resources were recorded within one-half mile of the Project: P-30-176663 and P-30-159932. P-30-176663 is a portion of the OCTA/SCRRA Railroad located a one-half mile southwest of the Project site. This portion of the OCTA/SCRRA Railroad was determined ineligible for listing on the National Registry of Historic Places (NRHP) because it is currently in use and has had continual maintenance and upgrades necessary for modern rail and thus diminished the historic integrity. P-30-159932 consists of several buildings located in the Old Towne Orange Historic District and is listed on the NRHP (No. 97000617).

Refer to EIR Subsections 4.3, *Cultural Resources*, and 4.11, *Tribal Cultural Resources*, for a more detailed discussion of the existing cultural and tribal resources setting in the Project area.

2.5.4 Geology

The Project site is located within the highly seismic Southern California region within the influence of several fault systems. The Project site is not within a State of California Alquist-Priolo Earthquake Fault Zone. Additionally, the Project site is not within any other fault zone. The San Joaquin Hills and Elsinore fault zones are located approximately 7.5 miles to the south and 8.3 miles to the northeast, respectively, of the Project site (GeoTek, 2020a).

2.5.5 HYDROLOGY

The Project site is within the Santa Ana River Basin and within the Coastal Plain of Orange County Basin (Basin 8-1). Under existing conditions, the Project site slopes down at approximately 1 percent grade to the west. The existing drainage pattern for the site is characterized by draining south to north and east to west. Most of the on-site flows drain to a ribbon gutter located on the western side of the site that conveys flows off-site to Struck Avenue without mitigation or treatment. The eastern portion of the site, including the existing railroad track, drains south to north along an existing curb and gutter. All flows from the eastern portion of the Site also drain north towards Struck Avenue. Flows exiting the site are captured in a set of catch basins located at the Struck Avenue/Batavia Street intersection. From this catch basin flows are conveyed into an existing 33-inch storm drain, which transitions to a 36-inch storm drain just west of the site to Collins Channel and ultimately the Santa Ana River.

According to the Federal Emergency Management Agency (FEMA) flood map No. 06059C0161J, the Project site is within Zone X (Unshaded), an area of minimal flood hazard (FEMA, 2009). The Project does not have the potential to impede or redirect flood flows.

Refer to EIR Subsection 4.8, *Hydrology and Water Quality*, for a more detailed discussion of the Project's Site existing hydrology and water quality setting.

2.5.6 NOISE

Noise generated at the Project site under existing conditions is limited to surface street vehicle noise which includes auto and heavy truck activities on the surrounding roadways (Struck Avenue, Collins Avenue, Parker Street, and Brenna Lane) and the railroad tracks located east of the Project site.

Refer to EIR Subsection 4.9, *Noise*, for a more detailed discussion of the Project's Site existing noise setting.

2.5.7 TRANSPORTATION

As stated, the Project site is located south of Struck Avenue and east of North Parker Avenue. Struck Avenue is classified as a Collector Street (2 lanes undivided), Batavia Street (located approximately 0.1-mile west of the Project site) is classified as a Primary Arterial (4 lanes divided), and Katella Avenue (located approximately 0.2-mile north of the Project site) is classified as a Smart Street (6-8 lanes divided). Additionally, the Katella Avenue/Batavia Street intersection is identified as a critical intersection, which is an intersection that deviates from the City's typical design standards by increasing the number of lanes at an intersection beyond what typically would be required. By increasing capacity at the critical intersection, the circulation link increases overall system capacity (Orange, 2015d).

The Orange County Transit Authority (OCTA) provides bus service for the City (Orange, 2015d). The nearest bus stop to the Project site is the Route 50 Katella-Batavia bus stop operated by OCTA located approximately 0.2-mile (approximate 4-minute walk) northwest.

The Project site is not located in any of the key commercial corridors of the pedestrian-oriented streetscape master plan as identified by the City. The Project site is within an urbanized and industrial portion of the City that is not conducive to walking. Under existing conditions, sidewalks are provided along Struck Avenue, except along the Project's site frontage.

As previously discussed, the Project site is within an industrialized area of the City. There are no existing or proposed bicycle facilities in the Project area.

Refer to EIR Subsection 4.10, *Transportation*, for a more detailed discussion of the Project site's existing transportation setting.

2.5.8 Utilities and Service Systems

The City of Orange Water Division provides potable water service (water supplies include imported water, groundwater, and surface water) to over 139,000 residents within the City's 32 square-mile planning area, including the Project site. The Orange County Sanitation District (OCSD) provides wastewater services to the City and to the Project site.

Under existing conditions, the Project site is served by Southern California Edison (SCE) for electrical power, Southern California Gas Company (SoCal Gas) for natural gas, and AT&T for telephone and fiber optics.

3.0 PROJECT DESCRIPTION

This section will provide all of the information required for an EIR Project Description by CEQA Guidelines §15124, including a description of the Project's precise location and boundaries; a statement of the Project's objectives; a description of the Project's technical, economic, and environmental characteristics; and a description of the intended use of this EIR, including a list of the government agencies that are expected to use this EIR in their decision-making process; a list of the permits and approvals that are required to implement the project; and a list of related environmental review and consultation requirements.

3.1 REGIONAL SETTING

The Project site is located at 534 Struck Avenue in the City of Orange, Orange County, California. As shown in, Figure 2-1, *Regional Location Map*, the City of Orange (City) is in the north-central portion of Orange County. The city of Anaheim borders the City to the north and northwest. The city of Garden Grove borders the west and the cities of Santa Ana and Tustin, and unincorporated Orange County border the City to the east and south. Interstate 5 (I-5) is located approximately 2.0 miles southwest of the Project site and State Route 57 (SR-57) is located approximately 1.26 to the west. Regional access to the site is provided by SR-57 via Katella Avenue located approximately 1.26 miles west.

3.2 PROJECT LOCATION AND SETTING

As shown in Figure 2-2, *Local Vicinity Map*, the approximate 9.94-acre Project site (Assessor Parcel Number [APN] 375-331-04) is generally located north of Collins Avenue, east of Batavia Street, south of Struck Avenue, and west of the Orange County Transportation Authority/ Southern California Regional Rail Authority (OCTA/SCRRA) Railroad.

Until the end of 2020, the Project site was occupied by Nursery Supplies, Inc., a manufacturer of plastic nursery planting pots. Site improvements consist of an approximate 40,000 square-foot concrete tilt-up building and parking lot, as shown in Figure 3-1, *Existing Site Plan*. The Project site contains ornamental landscaping along the site's frontage at Struck Avenue.

The site is accessed via three two-way driveways along Struck Avenue. Additionally, there is an existing, private railroad track on the eastern portion of the Project site that connects to the OCTA/SCRRA Railroad track. Nursery Supplies Inc., did not utilize this the private railroad, but utilized the larger OCTA/SCRRA Railroad track located east of the on-site private railroad track.

3.3 STATEMENT OF OBJECTIVES

The fundamental purpose and goal of the Project is to accomplish the orderly development of an appropriately zoned and designated truck terminal in the City of Orange while also contributing to increased employment opportunities within the area. The project objectives have been refined throughout the planning and design process for the proposed Project and are listed below:

- Create a professional, well-maintained and attractive environment for the development of a truck terminal consistent with the underlying zoning adjacent to nearby transportation routes, including State Route 57 (SR-57) and Interstate 5 (I-5).

- Provide the entitlements and framework for the development of a truck terminal with warehouse and office spaces that are responsive to local and regional trade demands.

- Provide development that will enhance the City's economic well-being and employment opportunities for community residents.

- Develop the site with a use that has architectural design and operational characteristics that are compatible with other existing and planned developments in the local area.

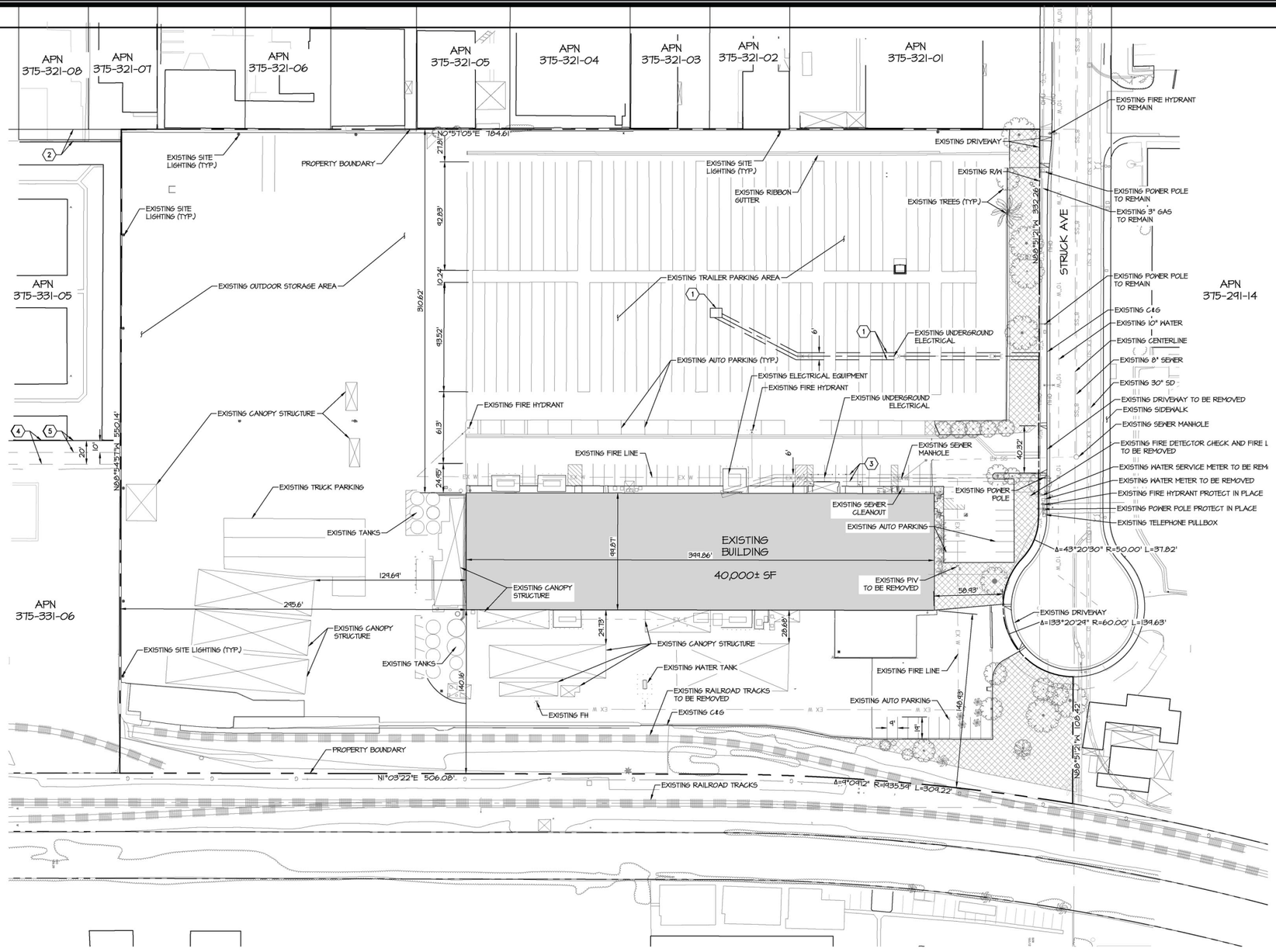
- Provide a fully secured premise with active management to strengthen the security and safety for the local area.

- Redevelop the Project site with a new modern building that meet current California Building Code and California Green Building Code Stands with increased energy efficiency with existing available infrastructure.

3.4 PROPOSED PROJECT

The purpose of the Project is to implement the City's vision of redeveloping underutilized parcels with intensified uses, such as truck terminal, warehousing, light industrial, manufacturing, and fulfillment centers. The Project involves the demolition of the existing 40,000 square foot (sf) manufacturing facility, see Figure 3-1, and redevelopment of the Project site. Redevelopment of the Project site would also include the removal of the existing, unused private railroad spur located on the east side of the site.

The Project entails a proposed Conditional Use Permit No. 3137-21, Major Site Plan Review No. 1039-21, and Design Review No. 5028-21. The Project Applicant is proposing to redevelop the site with a 57,900 sf truck terminal, that includes 52,900 sf of warehouse space and 5,000 sf of office space, and a 5,400-sf maintenance building as shown in Figure 3-2, *Truck Terminal Site Plan*. The proposed building would be 45 ft in height and include 84 dock doors in a cross-dock configuration. The Project would provide automobile parking stalls in excess of the requirements of the Orange Municipal Code (OMC), which require 47 automobile parking stalls. The Project would provide a total of 62 automobile parking stalls consisting of 59 standard parking stalls, 2 standard accessible parking stalls, and one 12 ft by 18 ft accessible parking stall. Additionally, the Project would provide 188 trailer parking stalls.



EASEMENT TABLE

1. AN EASEMENT IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY FOR UNDERGROUND ELECTRICAL SUPPLY SYSTEMS AND COMMUNICATION SYSTEMS AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 04, 1975 AS INSTRUMENT NO 1873, IN BOOK 11335, PAGE 31 OF OFFICIAL RECORDS. TO BE QUITCLAIMED.

2. AN EASEMENT IN FAVOR OF PLASTIC AND REALTY PROPERTIES COMPANY FOR PIPELINES, MAINS AND CONDUITS AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 15, 1974 AS INSTRUMENT NO. 1304, IN BOOK 11288, PAGE 672 OF OFFICIAL RECORDS.

3. AN EASEMENT IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY FOR UNDERGROUND ELECTRICAL SUPPLY SYSTEMS AND COMMUNICATION SYSTEMS AND INCIDENTAL PURPOSES, RECORDED APRIL 02, 1985 AS INSTRUMENT NO. 1985-115999 OF OFFICIAL RECORDS. TO BE QUITCLAIMED.

4. A NON-EXCLUSIVE EASEMENT FOR INGRESS AND EGRESS ON AND OVER THE WESTERLY 20 FEET OF PARCEL 2 OF PARCEL MAP NO. 84-757, IN THE CITY OF ORANGE AS SHOWN ON A MAP FILED IN BOOK 194, PAGES 5 AND 6 OF PARCEL MAPS, AS SET FORTH IN THAT CERTAIN DEED AND GRANT OF EASEMENT RECORDED APRIL 05, 1985 AS INSTRUMENT NO. 85-121284 OF OFFICIAL RECORDS OF THE COUNTY OF ORANGE

5. A NON-EXCLUSIVE EASEMENT FOR THE PLACEMENT AND INSTALLATION OF UTILITIES ON, IN AND OVER THE WESTERLY 10 FEET OF PARCEL 2 OF PARCEL MAP 84-757, IN THE CITY OF ORANGE AS SHOWN ON A MAP FILED IN BOOK 194, PAGES 5 AND 6 OF PARCEL MAPS, AS SET FORTH IN THAT CERTAIN DEED AND GRANT OF EASEMENT RECORDED APRIL 05, 1985 AS INSTRUMENT NO. 85-121284 OF OFFICIAL RECORDS OF THE COUNTY OF ORANGE.

LEGEND

EXISTING LANDSCAPED AREA

NOTE:

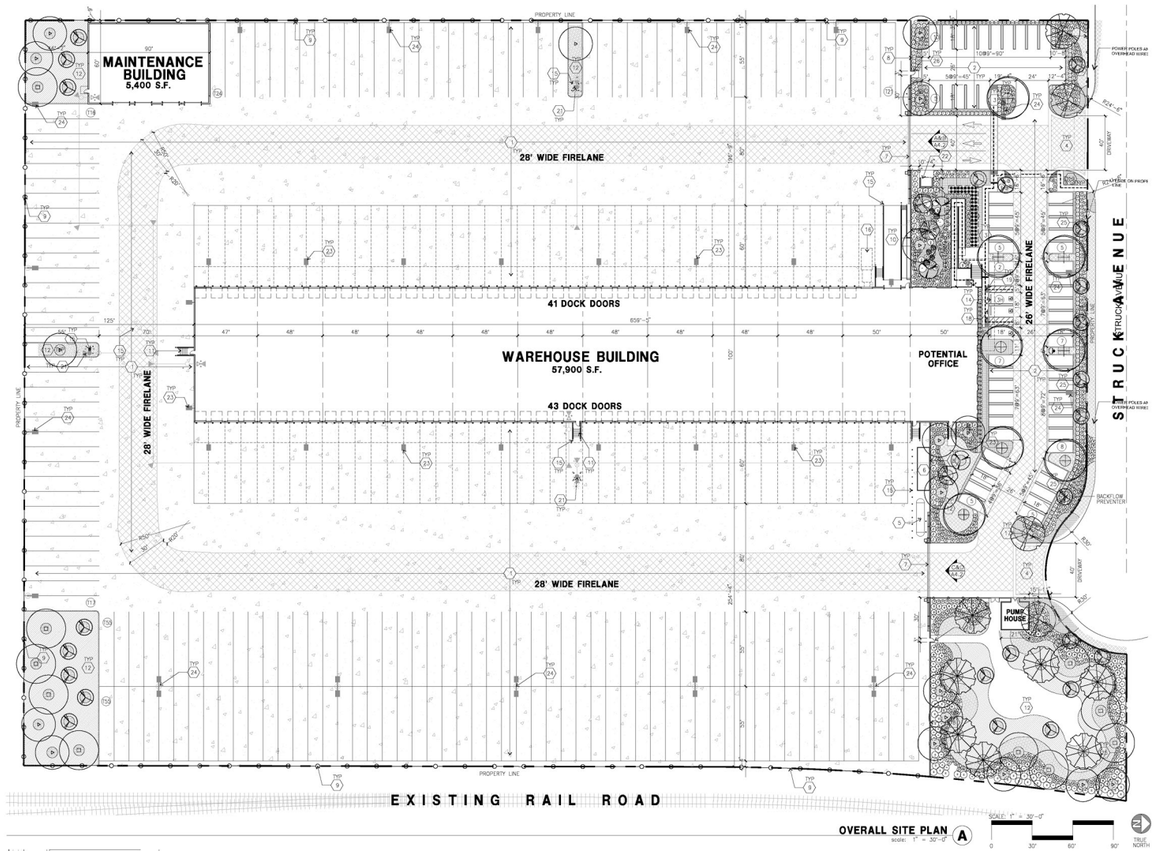
EXISTING BUILDING, SURROUNDING ON-SITE IMPROVEMENTS, AND UNDERGROUND UTILITES TO BE DEMOLISHED.

Source(s): Albert A. Webb and Associates (08-04-2021)

Figure 3-1

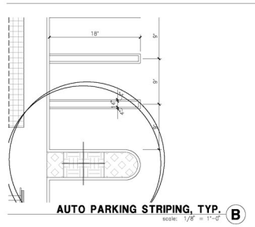
Not to Scale

Existing Site Plan



OVERALL SITE PLAN (A)
scale: 1" = 30'-0"

SCALE: 1" = 30'-0"
0 30' 60' 90'
TRUE NORTH



AUTO PARKING STRIPING, TYP. (B)
scale: 1/8" = 1'-0"

PROJECT INFORMATION

Project Address
534 W. STRUCK STREET
ORANGE, CA 92867

Assessors Parcel Number
375-331-04

Property Owner/Applicant
PROLOGIS
17777 CENTER COURT DR N, STE 100
CERRITOS, CA 90703
PHONE: (562) 467-5400
CONTACT: JOHN CARTER

Applicant's Representatives
HPA, INC.
18831 BARDEEN AVE. – STE #100
IRVINE, CA 92612
CONTACT: JAIME CRUZ
PHONE: (949)-862-2110

Zoning
M-2

LEGAL DESCRIPTION

SEE CIVIL PLANS

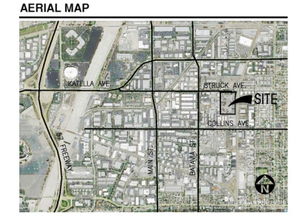
BUILDING USAGE

MAINTENANCE BUILDING USAGE CONSISTS OF SERVICING OF TENANT VEHICLES.

SITE PLAN KEYNOTES

1. CONCRETE PAVING, HEAVY DUTY. SEE "C" DRAWINGS.
2. CONCRETE PAVING, LIGHT DUTY. SEE "C" DRAWINGS.
3. CONCRETE WALKWAY, MEDIUM BROOM FINISH
4. DRIVEWAY APRONS TO BE CONSTRUCTED
5. APPROXIMATE LOCATION OF PROPANE GAS TANK.
6. APPROXIMATE LOCATION OF GENERATOR. CONTRACTOR TO VERIFY WITH S.C.E.
7. PROVIDE 8' HIGH METAL GATES W/ KNOX-BOX PER FIRE DEPARTMENT STANDARDS PER DRIVEWAY.
8. 8' HIGH CONCRETE TILT-UP SCREEN WALL.
9. 8' HIGH TUBE METAL FENCE.
10. CONCRETE RAMP W/ 42" HIGH CONCRETE WALL.
11. EXTERIOR CONCRETE STAIR.
12. LANDSCAPE. ALL LANDSCAPE AREAS INDICATED BY SHADING.
13. SMOKING AREA.
14. PRE-CAST CONCRETE WHEEL STOP.
15. CONCRETE FILLED GUARD POST 6" DIA. U.N.O. 42" H.
16. TRASH COMPACTOR.
17. ACCESSIBLE ENTRY SIGN.
18. ACCESSIBLE PARKING STALL SIGN.
19. TRUNCATED DOME.
20. MWS BOX. SEE "E" DWGS.
21. FIRE HYDRANT.
22. TRASH ENCLOSURE, 6' HIGH CONCRETE WALLS WITH SELF-LATCHING OPAQUE METAL GATES, PER CITY REQUIREMENTS.
23. WALL MOUNTED LIGHT FIXTURE.
24. EXTERIOR PARKING LIGHT POLE.
25. 8' HIGH TUBE STEEL FENCE PER CITY REQUIREMENTS.
26. 7' HIGH TUBE METAL MAN GATE WITH PANIC HARDWARE.

AERIAL MAP



TABULATION

SITE AREA	
In s.f.	432,780 s.f.
In acres	9.94 ac
BUILDING AREA	
Office	5,000 s.f.
Warehouse	52,900 s.f.
TOTAL	57,900 s.f.
Maintenance Building	5,400 s.f.
TOTAL	63,300 s.f.
COVERAGE	14.6%
AUTO PARKING REQUIRED	
Office: 1/250 s.f.	20 stalls
Whse: 1/2,000 s.f.	27 stalls
TOTAL	47 stalls
AUTO PARKING PROVIDED	
Standard (9' x 18')	59 stalls
Accessible (9' x 18')	2 stalls
Accessible (12' x 18')	1 stalls
TOTAL	62 stalls
TRAILER PARKING PROVIDED	
Trailer (10' x 55')	188 stalls
ZONING ORDINANCE FOR CITY	
Zoning Designation - Industrial (M-2)	
MAXIMUM BUILDING HEIGHT ALLOWED	
Height - 45'	
MAXIMUM FLOOR AREA RATIO	
FAR - .75	
SETBACKS	
Struct Ave. - 10'	
Interior side & Rear - 0'	

SITE PLAN GENERAL NOTES

1. THE SITE PLAN BASED ON THE SOILS REPORT PREPARED BY: GEOTEK, INC.
2. IF SOILS ARE EXPANSIVE IN NATURE, USE STEEL REINFORCING FOR ALL SITE CONCRETE.
3. ALL DIMENSIONS ARE TO THE FACE OF CONCRETE WALL, FACE OF CONCRETE CURB OR GRID LINE U.N.O.
4. SEE "C" PLANS FOR ALL CONCRETE CURBS, GUTTERS AND SWALES.
5. THE ENTIRE PROJECT SHALL BE PERMANENTLY MAINTAINED WITH AN AUTOMATIC IRRIGATION SYSTEM.
6. SEE "C" DRAWINGS FOR POINT OF CONNECTIONS TO OFF-SITE UTILITIES. CONTRACTOR SHALL VERIFY ACTUAL UTILITY LOCATIONS.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM BLDG. SEE "C" DRAWINGS.
8. CONTRACTOR TO REFER TO "C" DRAWINGS FOR ALL HORIZONTAL CONTROL DIMENSIONS. SITE PLANS ARE FOR GUIDANCE AND STARTING LAYOUT POINTS.
9. SEE "C"DRAWINGS FOR FINISH GRADE ELEVATIONS.
10. CONCRETE SIDEWALKS TO BE A MINIMUM OF 4" THICK W/ TOOLED JOINTS AT 8' O.C. EXPANSION/CONSTRUCTION JOINTS SHALL BE A MINIMUM 1/2" I.A. WAY. EXPANSION JOINTS TO HAVE COMPRESSIVE EXPANSION FILLER MATERIAL OF 1/4". FINISH TO BE A MEDIUM BROOM FINISH U.N.O.
11. PAINT CURBS AND PROVIDE SIGNS TO INFORM OF FIRE LANES AS REQUIRED BY FIRE DEPARTMENT.
12. CONSTRUCTION DOCUMENTS PERTAINING TO THE LANDSCAPE AND IRRIGATION OF THE ENTIRE PROJECT SITE SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AND APPROVED BY PUBLIC FACILITIES DEVELOPMENT PRIOR TO ISSUANCE OF BUILDING PERMITS.
13. PRIOR TO FINAL CITY INSPECTION, THE LANDSCAPE ARCHITECT SHALL SUBMIT A CERTIFICATE OF COMPLETION TO PUBLIC FACILITIES DEVELOPMENT.
14. ALL LANDSCAPE AND IRRIGATION DESIGNS SHALL MEET CURRENT CITY STANDARDS AS LISTED IN GUIDELINES OR AS OBTAINED FROM PUBLIC FACILITIES DEVELOPMENT.
15. ALL VERTICAL MOUNTING POLES OF CHAIN LINK FENCING SHALL BE CAPPED.
16. LANDSCAPED AREAS SHALL BE DELINEATED WITH A MINIMUM SIX INCHES (6") HIGH CURB.

SITE PLAN GENERAL NOTES

CONCRETE PAVING. SEE "C" DWGS. FOR THICKNESS
STANDARD PARKING STALL (9' X 18')
LANDSCAPED AREA
28' WIDE FIRELANE
HANDICAP PARKING STALL (9' X 18') W/ 5' ACCESSIBLE AISLE
HANDICAP PARKING STALL (VAN) (9' X 18') W/ 7'-6" ACCESSIBLE AISLE
PATH OF TRAVEL

Source(s): HPA (06-29-2022)

Figure 3-2

Not to Scale

Truck Terminal Site Plan

Ornamental landscaping, lighting, and walls would be installed per compliance with the OMC. The building would operate 24 hours a day, 7 days a week. It is anticipated that the facility would employ approximately 60 to 130 employees.

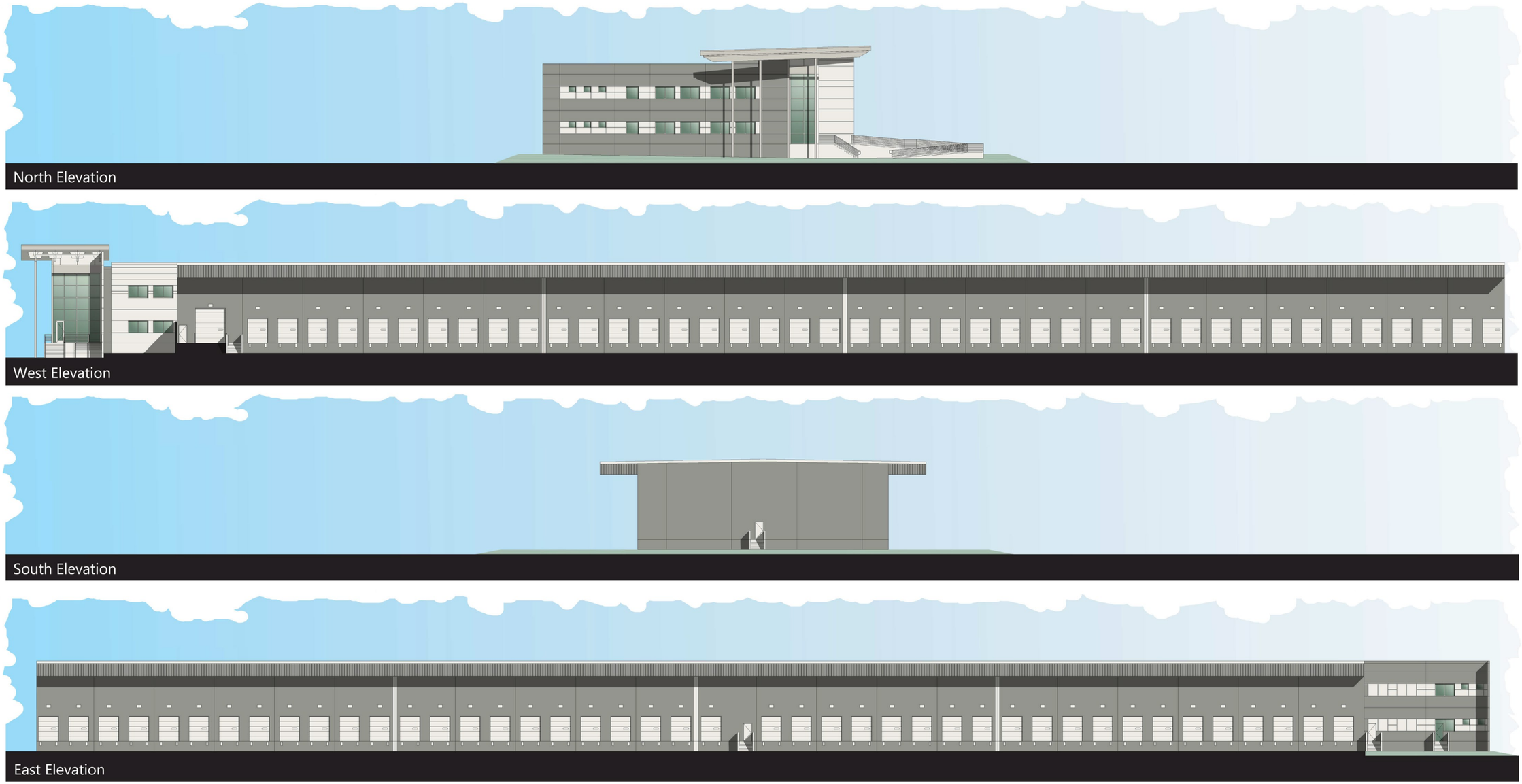
The Project would be developed in compliance with applicable provisions of the City's Municipal Code, including established development standards. A description of the Project components is provided below.

3.4.1 Building Characteristics and Operations

Development of the truck terminal would replace the existing building with a new modern building elevation. As shown in Figure 3-3, *Architectural Elevation*, the proposed building would consist of concrete tilt-up panels. The north elevation facing Struck Avenue would feature a neutral color palette consisting of grays and whites, dark green accents, and green reflective glazing. The east and west elevations consist of 84 dock doors. The 45-foot-tall building would be setback 10 feet from Struck Avenue. A maintenance building at the southwest portion of the property would be constructed behind the facility, out of sight from public views. The final design and architectural style of the proposed buildings are subject to review and approval by the City's Design Review Committee.

At the time this EIR was prepared, the future occupant(s) of the proposed buildings is unknown, but is expected to house a tenant that provides less than truckload (LTL) Freight services. For purposes of evaluation in this EIR, the Project is assumed to be operational 24 hours per day, 7 per week, with exterior loading and parking areas illuminated at night. The buildings are designed such that business operations would be conducted within the enclosed building, with the exception of traffic movement, parking, and the loading and unloading of tractor trailers at designated loading bays located to the east and west of the building. The outdoor cargo handling equipment used during loading, and unloading of trailers (e.g., yard trucks, hostlers, yard goats, pallet jacks, forklifts) is expected to be non-diesel powered per contemporary industry standards. As a practical matter, dock doors on warehouse buildings are not occupied by a truck at all times of the day. There are typically many more dock door positions on warehouse buildings than are needed for receiving and shipping volumes. The dock doors that are in use at any given time are usually selected based on interior building operation efficiencies. In other words, trucks dock in the position closest to where the goods carried by the truck are stored inside the warehouse. As a result, many dock door positions are frequently inactive throughout the day.

It should also be noted that pursuant to the CEQA, this Project EIR could have assumed the prior operator's activities in the existing baseline condition. For many decades the site was actively operated with manufacturing uses that created traffic, air emissions, etc. However, in an effort to be conservative, this Project EIR did not take credit for any historical operations and this EIR analyzes the proposed Project as if the site were vacant and as if all of the attendant impacts emanating from the Project site are new – when in fact this is not the case. Thus, the reader should note that the Project EIR reflects a highly conservative estimation of potential environmental impacts and likely overstates potential Project impacts.



Source(s): Prologis (07-13-2021

Not to Scale

Figure 3-3

Architectural Elevation

3.4.2 TRAFFIC, CIRCULATION AND PARKING

A. Traffic

Based on a Project-specific analysis conducted by Urban Crossroads, Inc. (*Technical Appendix K1*), and as discussed in Subsection 4.10, *Transportation*, to this EIR, the proposed Project is estimated to generate a total of 396 two-way daily trips with 26 AM peak hour trips and 23 PM peak hour trips.

B. Vehicle Circulation

Vehicular access to the site is currently provided via three two-way driveways along Struck Avenue. With the Project, vehicular access to the Project site would be provided via two driveways along the site's northern border along Struck Avenue. Emergency vehicle circulation will be provided from all site vehicular access areas.

The proposed building would generate truck-trailer trips, and trucks would be required to utilize City-designated truck routes to and from the Project site. The implementation of the Project would not require widening of surrounding roadways to accommodate truck-trailer traffic. Truck-trailers would travel to and from the site from the SR-57 and Katella Avenue. Katella Avenue adjacent to the Project is identified as a truck route. Truck-trailer travel would be limited to:

- Truck-trailers exiting the site would travel west on Struck Avenue, turn right onto northbound Batavia Street and turn left onto westbound Katella Avenue to access the SR-57.

- Truck-trailers entering the site would exit the SR-57 at Katella eastbound, turn right at Batavia Street southbound, and turn left onto Struck Avenue eastbound.

- Traveling eastbound from SR-57 on Katella Avenue, truck-trailers would be prohibited from turning right onto Struck Avenue to access the site. West of Batavia Street, all eastbound and westbound truck-trailer movement will occur on Katella Avenue.

C. Parking

Under existing conditions, the Project site contains 70 vehicular parking stalls and 81 trailer parking stalls (a total of 151 parking stalls). The Project would remove approximately 315 linear feet of on-street parking along Struck Avenue which equates to approximately 20 parking stalls (315 feet/16 feet) in accordance to the City's plans for Struck Avenue.

According to the OMC, Chapter 17.34, *Off-Street Parking and Loading*, the Project is required to provide 47 parking stalls. The Project would construct 62 passenger car parking stalls (including 3 accessible parking spaces) and 188 trailer parking stalls (for a total of 250 parking stalls) on-site.

D. Landscaping, Lighting, and Walls

As depicted in Figure 3-4, *Conceptual Landscape Plan*, the Project Applicant will incorporate ornamental landscaping at the site's frontage along Struck Avenue and add the southwest and southeast corners of the site. A comprehensive landscape plan will be provided for the Project, which includes a variety of new trees, shrubs, and groundcover. The Project is proposing to plant 78 trees (24-inch to 48-inch box) and would be required to comply with the landscape standards established in the OMC (Chapter 16.50, *Landscape Requirements*).

Exterior lighting would be installed on-site, as necessary, for safety and security. Decorative architectural lighting would also be installed to accent building entries as focal points throughout the site.

The Project Applicant would install an approximately 8-foot-high tubular steel fencing along the site's perimeter to enclose the proposed building, parking area, truck court, and loading dock area. The fence would also serve as a safety precaution to protect visitors and/or employees on-site from vandalism and theft and from traversing the OCTA/SCRRA Railroad track immediately east of the site.

3.5 PROJECT CONSTRUCTION DETAILS

A. Proposed Physical Disturbances

As shown in Figure 3-5, *Proposed Grading Plan*, approximately 3,799 cubic yards of imported soil is required to balance the site. To be conservative and for purposes of the analysis of construction-related impacts, approximately 1,000 cubic yards of soil export has been assumed. Soil haul would require 24 haul trips over a 25-day period[1]. Haul trucks would utilize Batavia and Katella to reach the SR-57 Freeway. Additionally, approximately 10,905 tons of concrete and asphalt will be crushed and reused onsite. Ground disturbance will involve approximately 20 feet in depth for the water quality BMPs in the northwest corner of the Project, 12 feet for utilities, and 5 feet in depth for the remainder of the Project.

[1] Based on the total import/export quantity of ~4,799 cubic yards, CalEEMod assumes a default of 16 cubic yard haul capacity per load (4,799 CY/16 CY x 2 (two-way trips) / 25 days = ~24 haul truck trips [two-way]).

PLANTING LEGEND

TREES

SYMBOL	BOTANICAL/COMMON NAME	SIZE	QTY	WUCOLS	REMARKS	MA HEIGHT
	Chitalpa tashkentensis Chitalpa	24" Box	7	L	Standard	30'
	Lagerstroemia i 'Muskogee' Crape Myrtle	36" Box 24" Box	2 22	M	Standard	25'
	Magnolia g. 'Samuel Sommer' Magnolia	48" Box	4	M	Standard	30'
	Pinus canariensis Canary Island Pine	24" Box	18	L	Standard	50'
	Pistacia chinensis Chinese Pistache	24" Box	8	L	Standard	30'
	Prunus c. 'Krauter Vesuvius' Purpleleaf Plum	36" Box	3	L	Standard	18'
	Rhus lancea African Sumac	24" Box	10	L	Standard	30'
	Tristania conferta Brisbane Box	24" Box	3	M	Standard	30'

Total Tree Count 78

SHRUBS

SYMBOL	BOTANICAL/COMMON NAME	SIZE	WUCOLS	SPACING
	Callistemon 'Little John' Dwarf Bottle Brush	5 Gal	L	3' OC
	Dianella tasmanica Dianella	5 Gal	0	M
	Elaeagnus pungens Silverberry	5 Gal	L	4' OC
	Lantana 'Gold Mound' Yellow Lantana	5 Gal	L	6' OC
	Ligustrum j. Texanum Texas Privet	5 Gal	M	3' OC
	Muhlenbergia capillaris Pink Muhly	5 Gal	M	3' OC
	Muhlenbergia rigens Deer Grass	5 Gal	M	4' OC
	Podocarpus gracilior Yew Pine	5 Gal	M	4' OC
	Rhaphiolepis i. 'Clara' Indian Hawthorn	5 Gal	M	3' OC
	Rhaphiolepis i. 'Springtime' Indian Hawthorn	5 Gal	L	3' OC
	Rhaphiolepis i. 'Snow White' Indian Hawthorn	5 Gal	L	3' OC
	Salvia leucantha Mexican Sage	5 Gal	L	4' OC
	Westringia fruticosa Coast Rosemary	5 Gal	L	5' OC
	Westringia f. 'Grey Box Dwarf Coast Rosemary	5 Gal	L	3' OC

ACCENTS

SYMBOL	BOTANICAL/COMMON NAME	SIZE	WUCOLS	SPACING
	Agave victoria-reginae Agave	5 Gal	L	3' OC
	Aloe striata Coral Aloe	1 Gal	L	2' OC
	Aloe vera Medicinal Aloe	1 Gal	L	2' OC
	Dasylerion wheeleri Desert Spoon	5 Gal	L	4' OC

GROUNDCOVER

SYMBOL	BOTANICAL/COMMON NAME	SIZE	SPACING	WUCOLS
	Acacia redolens 'Low Boy' Dwarf Acacia	1 Gal	8' O.C.	L
	Carissa m. 'Green Carpet' Prostrate Natal Plum	1 Gal	36" O.C.	M
	Rosmarinus o. 'Huntington Carpet' Prostrate Rosemary	1 Gal	48" O.C.	M
	Trachelopspermum jasminiodes Star Jasmine	1 Gal	24" O.C.	M

NO EXISTING LANDSCAPE TO REMAIN AND PROPOSED 28,000 S.F. 6.4% OF THE SITE

EXISTING TREES - all existing trees are to be removed due to proposed site conditions

#	Species	Trunk Diameter	Condition
1	Eucalyptus citriodora	3.5'	Healthy
2	Eucalyptus citriodora	3.5'	Healthy
3	Eucalyptus citriodora	3.5'	Healthy
4	Eucalyptus citriodora	3.5'	Healthy
5	Washingtonia robusta	40 bl	Healthy
6	Avacado	2'	Healthy
7	Cupaniopsis anacardioides	1.5'	Healthy
8	Cupaniopsis anacardioides	1.5'	Healthy
9	Cupaniopsis anacardioides	1.5'	Healthy
10	Cupaniopsis anacardioides	1.5'	Healthy
11	Cupaniopsis anacardioides	1.5'	Healthy
12	Cupaniopsis anacardioides	1.5'	Healthy
13	Cupaniopsis anacardioides	1.5'	Healthy
14	Eriobotrya japonica	1.5'	Healthy
15	Olea europaea	2.5'	Unhealthy
16	Fraxinus spp	1.5'	Healthy
17	Fraxinus spp	1.5'	Healthy
18-23	Archontophoenix cunninghamiana	15'	Healthy
24	Cupaniopsis anacardioides	1.5'	Healthy
25	Archontophoenix cunninghamiana	15'	Healthy
26	Syagrus romanoffiana	15'	Healthy
27	Eucalyptus citriodora	3.5'	Healthy
28	Psidium guajava	10"	Healthy
29	Psidium guajava	10"	Healthy
30	Fraxinus spp	1.5'	Unhealthy

GENERAL NOTES

A LANDSCAPE PLAN FOR ALL PROJECTS THAT INVOLVE NEW CONSTRUCTION OR BUILDING ADDITIONS MUST BE SUBMITTED FOR REVIEW AND APPROVAL (FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL PROJECTS, OVER 5,000 SQUARE FEET). IF YOUR PROJECT REQUIRES A WATER QUALITY MANAGEMENT PLAN (WQMP), PLEASE ENSURE YOUR LANDSCAPE ARCHITECT AND CIVIL ENGINEER COORDINATE PLANS. PLEASE CONTACT CITY'S SENIOR LANDSCAPE COORDINATOR IN THE COMMUNITY SERVICES DEPARTMENT AT (714) 532-6464 FOR FURTHER INFORMATION.

LANDSCAPE WAS INCLUDED TO CONTROL ACCESS TO GRAFFITI PRONE WALLS.

GRAFFITI RESISTANT SURFACES AND LANDSCAPING FOR EASY MAINTENANCE.

WATER DIVISION SHALL APPROVE THE TYPE AND LOCATION OF LANDSCAPING AND FIRE SERVICE (BACKFLOW PREVENTION) DEVICE FOR PROPOSED CITY SERVICES.

PRIOR TO CITY APPROVAL OF LANDSCAPE PLANS, THE APPLICANT SHALL REVIEW THE APPROVED WATER QUALITY MANAGEMENT PLAN AND ENSURE THE PROPOSED LANDSCAPE PLANS ARE CONSISTENT WITH THE PROJECT GRADING PLANS. THE PLANS MUST SHOW ANY PROPOSED STORM WATER TREATMENT BEST MANAGEMENT PRACTICES SUCH AS BIORETENTION PLANTERS, DRYWELLS, PERMEABLE PAVERS, OR ANY OTHER PROPOSED SURFACE WATER QUALITY BMPS.

ALL ABOVE GROUND EQUIPMENT IS TO BE SUFFICIENTLY SCREENED BY PLANT MATERIAL.

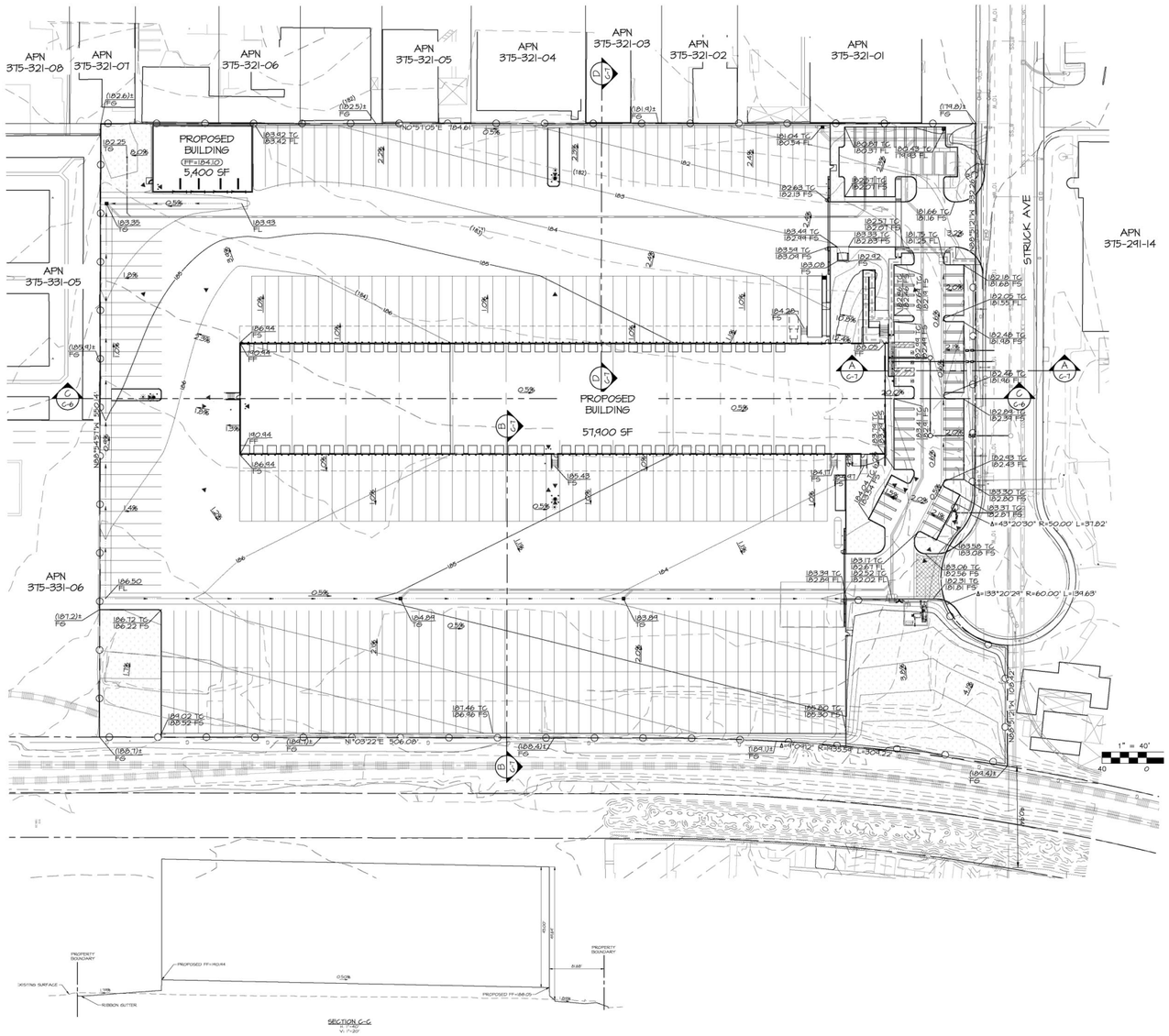
ALL PARKING VISIBLE TO PUBLIC SHALL BE SCREENED WITH 3' HIGH 5 GALLON SHRUBS AT 3' OC.

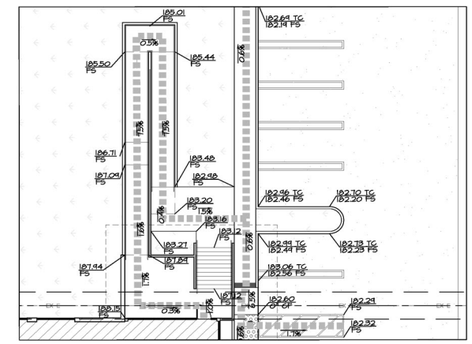
Source(s): Hunter Landscaping (06-27-2022)

Not to Scale

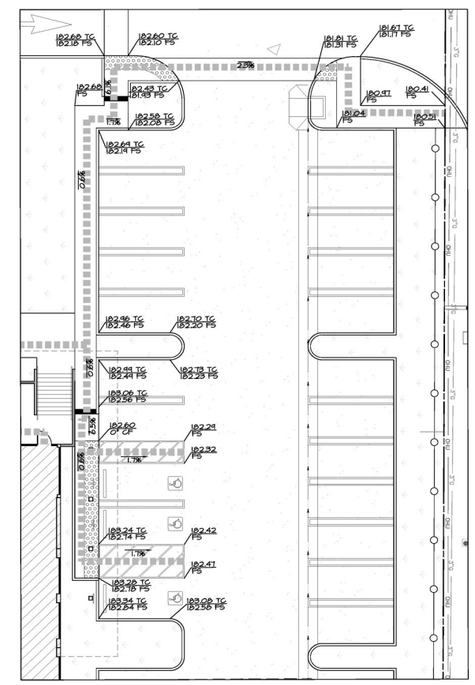
Figure 3-4

Conceptual Landscape Plan





NORTHERLY OFFICE ENTRANCE
1" = 10'



PATH OF TRAVEL TO R/W
1" = 10'

Source(s): Albert A. Webb and Associates (08-04-2021)

Figure 3-5

Not to Scale

Proposed Grading Plan

B. Timing of Construction Activities

The Project would be developed in one phase for a duration of 16 months. Construction is expected to commence in July 2023 and will last through November 2024. The construction schedule utilized in the analysis, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet. The anticipated duration of each phase of construction is identified in Table 3-1, *Construction Activity Phases and Durations*.

Table 3-1 Construction Activity Phases and Durations

Phase Name	Days
Demolition	90
Site Preparation	5
Grading	25
Building Construction	230
Paving	60
Architectural Coating	30

C. Anticipated Construction Equipment

For analytical purposes, the construction equipment list is be based on CalEEMod default settings and confirmed with the Project Applicant as being reasonable. According to the City, construction activities are allowed from 7:00 a.m. to 8:00 p.m. Monday through Saturday and are prohibited Sundays and federal holidays. Consistent with industry standards and typical construction practices, each piece of equipment will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code. It should be noted that most pieces of equipment would likely operate for fewer hours per day. The anticipated construction equipment requirements are identified in Table 3-2, *Construction Equipment Requirements.*

Table 3-2 Construction Equipment Requirements

Activity	Equipment	Number	Hours Per Day
Demolition	Concrete/Industrial Saws	1	8
	Excavators	3	8
	Rubber Tired Dozers	2	8
Site Preparation	Rubber Tired Dozers	3	8
	Tractors/Loaders/Backhoes	4	8
Grading	Excavators	1	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Tractors/Loaders/Backhoes	5	8
Building Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

3.6 SUMMARY OF REQUESTED ACTIONS

The City of Orange has primary approval responsibility for the proposed Project. As such, the City serves as the Lead Agency for this EIR pursuant to CEQA Guidelines § 15050. The role of the Lead Agency was previously described in detail in Section 1.0 of this EIR. As part of the approval process for the proposed Project, the City's City Council will hold public hearing to consider the certification of the EIR. The City Council will decide whether to approve, approve with changes, or deny this Project. The anticipated approvals required for the project are summarized below:

- Certification of the 534 Struck Avenue Project Environmental Impact Report
- Adoption of the Mitigation Monitoring and Reporting Program
- Approval of Conditional Use Permit No. 3137-21, Major Site Plan Review No. 1039-21, Design Review No. 5028-21, and Environmental Review No. 1870-20

4.0 ENVIRONMENTAL ANALYSIS

4.0.1 SUMMARY OF EIR SCOPE

In accordance with CEQA Guidelines Sections 15126-15126.4, this EIR Section includes analyses of potential direct, indirect, and cumulatively-considerable impacts that could occur from planning, constructing, and/or operating the proposed Project.

The City of Orange distributed a NOP for this EIR to public agencies and interested individuals and posted the NOP on its website to solicit input on the scope of environmental study for the Project. The City of Orange also held two EIR Scoping Meetings to solicit input from the general public on the scope of environmental analysis for the Project. Taking all known information and public comments into consideration, 11 primary environmental subject areas are evaluated in detail in this Section 4.0, as listed below. Each subsection evaluates several specific topics related to the primary environmental subject. The title of each subsection is not limiting; therefore, refer to each subsection for a full account of the subject matters addressed therein.

4.1 Air Quality
4.2 Biological Resources
4.3 Cultural Resources
4.4 Energy
4.5 Geology and Soils
4.6 Greenhouse Gas Emissions
4.7 Hazards and Hazardous Materials
4.8 Hydrology and Water Quality
4.9 Noise
4.10 Transportation
4.11 Tribal Cultural Resources

After conducting preliminary research and in consideration of all comments received by the City on the scope of this EIR and documented in the City's administrative record, the City determined that the Project clearly had no potential to result in significant impacts to nine (9) environmental subjects: Aesthetics, Agriculture and Forestry Resources; Land Use and Planning; Mineral Resources; Population and Housing; Public Services; Recreation; Utilities and Service Systems; and Wildfire. These nine subjects are discussed in Section 5.0, *Other CEQA Considerations*.

4.0.2 ANALYSIS FORMAT

Subsections 4.1 through 4.11 of this EIR evaluate the 11 environmental subjects warranting detailed analysis as determined by the City in consideration of preliminary research findings, public comments, and technical study. The format of discussion is standardized as much as possible in each section for ease of review. The environmental setting is discussed first, followed by a discussion of the potential environmental impacts that would result from implementation of the Project (which is based on specified thresholds of significance used as criteria to determine whether potential environmental effects are significant).

The thresholds of significance used in this EIR are based on the thresholds of significance identified in Appendix G to the CEQA Guidelines. The thresholds are intended to assist the reader of this EIR in

understanding how and why this EIR reaches a conclusion that an impact would or would not occur, is significant, or is less than significant.

Serving as the CEQA Lead Agency for this EIR, the City is responsible for determining whether an adverse environmental effect identified in this EIR should be classified as significant or less than significant. The standards of significance used in this EIR are based on the independent judgment of the City, taking into consideration the City's General Plan, the Orange Municipal Code and adopted City policies, the judgment of the technical experts that prepared this EIR's Technical Appendices, performance standards adopted, implemented, and monitored by regulatory agencies, and significance standards recommended by regulatory agencies.

As required by CEQA Guidelines Section 15126.2(a), Project-related effects on the environment are characterized in this EIR as direct, indirect, cumulatively considerable, short-term, long-term, on-site, and/or off-site impacts. A summarized "impact statement" is provided in each subsection following the analysis. Each subsection also includes a discussion or listing of the applicable regulatory criteria (laws, policies, regulations) that the Project and its implementing actions are required to comply with (if any). If impacts are identified as significant after mandatory compliance with regulatory criteria, feasible mitigation measures are presented that would either avoid the impact or reduce the magnitude of the impact. For any impact identified as significant and unavoidable, the City would be required to adopt a statement of overriding considerations pursuant to CEQA Guidelines Section 15093 in order to approve the Project despite its significant impact(s) to the environment. The statement of overriding considerations would list the specific economic, legal, social, technological, and other benefits of the Project, supported by substantial evidence in the Project's administrative record, that outweigh the unavoidable impacts.

4.0.3 Scope of Cumulative Effects Analysis

CEQA requires that an EIR contain an assessment of the cumulative impacts that may be associated with a project. As noted in CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "A cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects creating related impacts" (CEQA Guidelines Section 15130(a)(1)). As defined in CEQA Guidelines Section 15355:

> *'Cumulative Impacts' refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other*

> *closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

CEQA Guidelines Section 15130(b) describes two acceptable methods for identifying a study area for purposes of conducting a cumulative impact analysis. These two approaches include: "1) a list of past, present, and probable future projects producing related or cumulative impacts, including if necessary, those projects outside the control of the agency ['the list of projects approach'], or 2) a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact ['the summary of projections approach']."

The cumulative impact analysis in this EIR uses both Methods 1) list of projects and 2) summary of projections approach). Method 2 uses the City of Orange's 2010 General Plan and Land Use Element, which were adopted by the City Council in March 2010. Cumulative impact analyses will use the projections in the long-range planning documents–such as Orange's General Plan, Southern California Association of Governments' in its Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and South Coast Air Quality Management District's 2016 Air Quality Management Plan (AQMP). This information was supplemented with a list of related projects (Method 1), described in detail below. The potential buildout under the General Plan's implementation would result in 65,680 residential units, 70,001 square feet of non-residential uses, and a population of 191,715 in the City and its sphere of influence.

Cumulative impact analyses for several topical sections are also based on the most appropriate geographic boundary for the respective impact. For example, cumulative air quality impacts are based on the South Coast Air Basin (SCAB), which includes other jurisdictions besides the City of Orange. The approach is further discussed below and in each respective topical section. Several potential cumulative impacts that encompass regional boundaries (e.g., air quality, greenhouse gases, transportation) have been addressed in the context of various regional plans and defined significance thresholds. Following is a summary of the approach and extent of cumulative impacts, which is further detailed in each topical environmental section.

- **Air Quality.** Air quality impacts are based on the regional boundaries of the SCAB.
- **Biological Resources.** Biological resources impacts are based on the City boundary.
- **Cultural Resources.** Cultural resources impacts are site specific and generally do not combine to result in cumulative impacts. The cumulative analysis of cultural and historical resources includes the Project site and immediately surrounding area.

- **Energy.** Energy impacts are based on the service areas of Southern California Edison and SoCalGas.

- **Geological Resources.** Geologic and soils impacts are site specific and generally do not combine to result in cumulative impacts. However, the cumulative analysis considers the Project site and nearby related projects (see Table 4.0-1).

- **Greenhouse Gas (GHG) Emissions.** Potential GHG impacts are not bounded by geography but affect global climate change. The assessment of cumulative GHG impacts, therefore, is based on consistency with South Coast AQMD's GHG emissions threshold to achieve targeted reductions.

- **Hazards and Hazardous Materials.** Cumulative analysis highlights the regulatory requirements related to the storage, handling, and use of hazardous substances. Project impacts, however, are site specific, and generally would not combine with impacts of other projects to result in cumulatively considerable impacts. However, the cumulative analysis considers the Project site and nearby related projects (see Table 4.0-1).

- **Hydrology and Water Quality.** Hydrology and water quality impacts are based on the boundaries of the Santa Ana River watershed.

- **Noise.** Cumulative traffic noise is assessed relative to applicable City General Plan noise-level standards and considers development of the proposed Project in conjunction with other development projects in the vicinity of the Project site. The study area is aligned with the traffic study area.

- **Transportation.** The traffic study considers both project-specific impacts and the project's cumulative contribution to traffic in the project vicinity. To account for background traffic growth, an ambient growth factor from Existing (2022) conditions of 4.04% (2 percent per year, compounded over 2 years) is included for Opening Year Cumulative (2024) traffic conditions. Conservatively, the traffic analysis estimates the area ambient traffic growth and then adds traffic generated by other known or probable related projects.

  Additionally, the proposed Project falls under the VMT impact thresholds, and the cumulative transportation analysis reviews State and regional long-term VMT and GHG reduction goals.

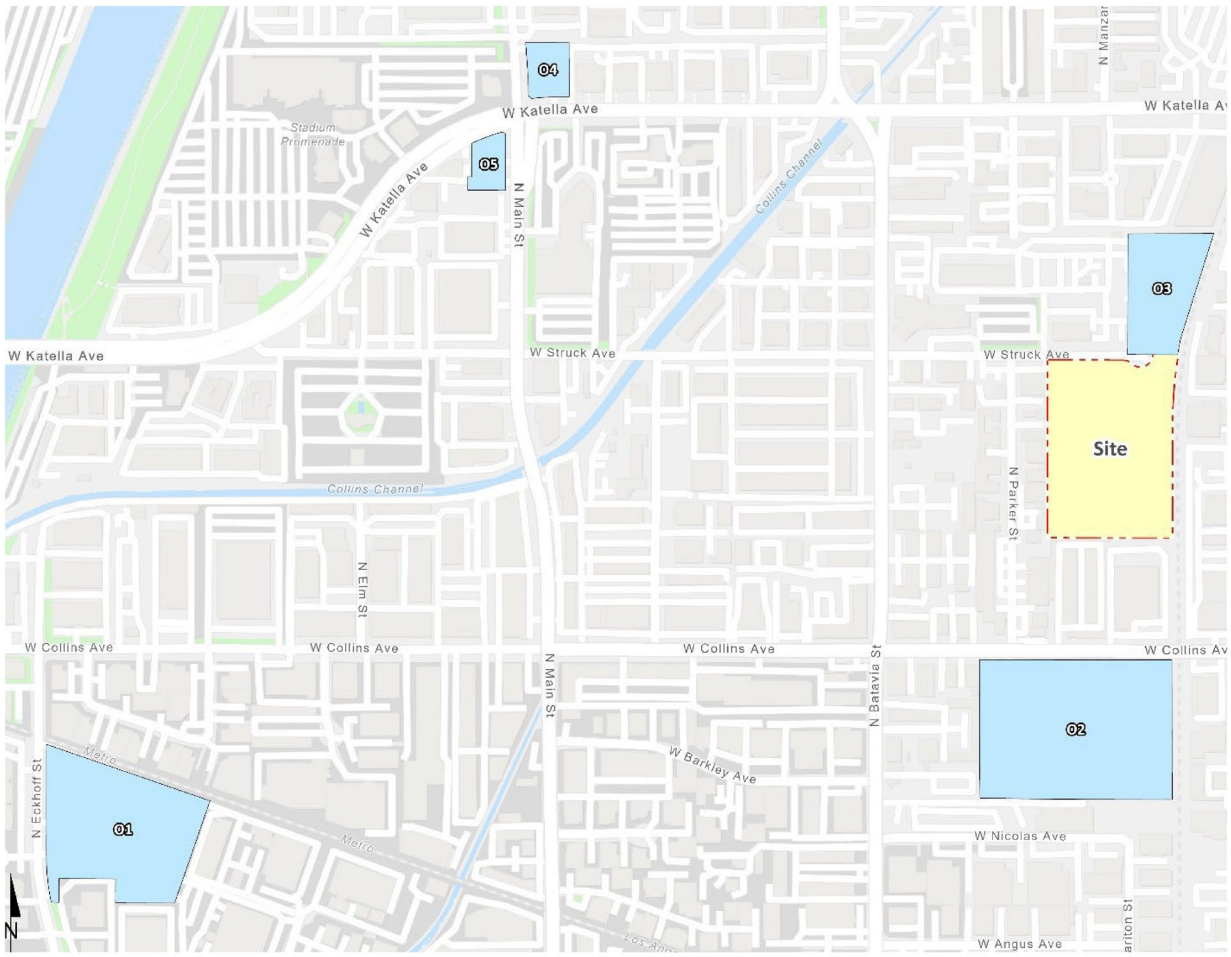
- **Tribal Cultural Resources.** Considers Native American territory that includes the Project site and surrounding area, as provided by the Native American Heritage Commission.

4.0.4 RELATED PROJECTS

The list of related projects was prepared based the Project's Traffic Analysis (*Technical Appendix K1)* in coordination with the City. A total of 5 cumulative projects were identified in the study area for the traffic study, shown on Table 4.0-1, *Cumulative Development Land Use Summary*, and Figure 4.0-1, *Cumulative Development Location Map*.

Table 4.0-1 Cumulative Development Land Use Summary

ID	Project/Location	Land Use	Quantity	Units
01	759 N. Eckhoff Street	Warehousing	290.900	TSF
02	500 W. Collins Avenue	Warehousing	128.953	TSF
03	637 W. Struck Avenue	Multifamily (Low-Rise) Residential	62	DU
04	1325 W. Katella Avenue	Car Wash	13.860	TSF
05	1234 N. Main Street	Convenience Store Expansion	0.800	TSF
DU = Dwelling Units; and TSF = Thousand Square Feet				



Source(s): Urban Crossroads (10-26-2022)

Figure 4.0-1

Not to Scale

Cumulative Development Location Map

4.1 AIR QUALITY

The following analysis is based in part on information obtained from a technical report entitled, *Air Quality Impact Analysis*, which was prepared by Urban Crossroads, Inc., dated January 12, 2023 and is included as *Technical Appendix B1* to this EIR (Urban Crossroads, 2023a). Additionally, Urban Crossroads prepared the *Mobile Source Health Risk Assessment*, which was prepared in January 12, 2023, and is appended to this EIR as *Technical Appendix B2* (Urban Crossroads, 2023b). Refer to Section 7.0, *References*, for a complete list of reference sources.

4.1.1 EXISTING CONDITIONS

A. South Coast Air Basin

The Project site is in the South Coast Air Basin (SCAB) within the jurisdiction of South Coast Air Quality Management District (South Coast AQMD). The South Coast AQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the South Coast AQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the Project site is located within the SCAB, a 6,745-square mile subregion of the South Coast AQMD, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego Air Basin to the south.

B. Climate and Meteorology

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality. The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71% along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year, there are approximately 10 hours of possible sunshine, and on the longest day of the year, there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level. A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NO_X) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and low hills, bounded

by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

C. Criteria Pollutants and Associated Health Effects

Criteria pollutants are pollutants that are regulated by federal and state laws through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below:

- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest in the winter during the morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. CO is emitted directly from internal combustion engines; therefore, motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Therefore, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk to the effects of CO include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic oxygen deficiency.

- **Sulfur Dioxide (SO_2)** is a colorless gas or liquid. SO_2 enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X). SO_2 is a respiratory irritant to people afflicted with asthma. After acute exposure to SO_2, asthma sufferers can experience breathing difficulties, including airway constriction and reduction in breathing capacity. Although healthy individuals do not exhibit similar acute breathing difficulties even after exposure to higher concentrations to SO_2, animal studies suggest that very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

- **Nitrogen Oxides (NO_X)** consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with oxygen (O_2). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to

170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere, and reduced visibility. Of the nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring stations. Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels higher than ambient levels in Southern California. Short-term exposure to NO_2 can result in resistance to air flow and airway contraction in healthy subjects. Exposure to NO_2 can result decreases in lung functions in individuals with asthma or chronic obstructive pulmonary diseases (e.g., chronic bronchitis, emphysema), as these individuals are more susceptible to the effects of NO_X than healthy individuals.

- **Ozone (O_3)** is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, warm temperatures, and light wind conditions are favorable to the formation of this pollutant. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. An increased risk for asthma has been found in children who participate in multiple sports and reside in communities with high ozone levels.

- **Particulate Matter less than 10 microns (PM_{10})** is an air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. PM_{10} also causes reduced visibility. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to enter the lungs where they may be deposited, resulting in the adverse health effects discussed below for $PM_{2.5}$.

- **Particulate Matter less than 2.5 microns ($PM_{2.5}$)** is a similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). The chemical composition of fine particles is highly dependent on location, time of year, and weather conditions. Elevated ambient concentrations of fine particulate matter (PM_{10} and $PM_{2.5}$) have been correlated with an increase in respiratory infections, number, and severity of asthma attacks, and increased hospital admissions. Some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an

increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children, appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.

- **VOCs and Reactive Organic Gasses (ROGs)** are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate) that exist in the ambient air. Both VOCs and ROGs are precursors to ozone and contribute to the formation of smog through atmospheric photochemical reactions. VOCs and ROGs have different levels of reactivity; that is, they do not react at the same speed or do not form ozone to the same extent when exposed to photochemical processes. VOCs often have an odor, including such common VOCs as gasoline, alcohol, and the solvents used in paints. Breathing VOCs can irritate the eye, nose, and throat, which can cause difficulty breathing. In addition, studies have shown that some VOCs can cause damage to the central nervous system.

- **Lead (Pb)** is a heavy metal that is highly persistent in the environment. Historically, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. Currently, emissions of lead are largely limited to stationary sources such as lead smelters, battery manufacturers, and waste incinerators. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient in children. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures, and death. Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure.

D. Existing Air Quality

Existing air quality is measured at established South Coast AQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 4.1-1, *Ambient Air Quality Standards*.

Table 4.1-1 Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards		National Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	---	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		---		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	---	---	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/ m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/ m^3)	---	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/ m^3)		9 ppm (10 mg/ m^3)	---	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/ m^3)		---	---	
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/ m^3)	Gas Phase Chemiluminescence	110 ppb (188 µg/ m^3)	---	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/ m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (665 µg/ m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/ m^3)	---	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	---		---	0.5 ppm (1300 µg/ m^3)	
	24 Hour	0.04 ppm (105 µg/ m^3)		0.14 ppm (for certain areas)	---	
	Annual Arithmetic Mean	---		0.030 ppm (for certain areas)	---	

Pollutant	Averaging Time	California Standards		National Standards		
		Concentration	Method	Primary	Secondary	Method
Lead	30 Day Average	1.5 µg/ m^3	Atomic Absorption	---		High Volume Sampler and Atomic Absorption
	Calendar Quarter	---		1.5 µg/ m^3 (for certain areas)	Same as Primary Standard	
	Rolling 3-Month Average	---		0.15 1.5 µg/ m^3		
Visibility Reducing Particles	8 Hour	See Footnote 14 in *Technical Appendix B1*.	Beta Attenuation and Transmittance through filter tape	No National Standards		
Sulfates	24 Hour	25 µg/ m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/ m^3)	Ultraviolet Fluorescence			
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/ m^3)	Gas Chromatography			

See footnotes in Table 2-2, Technical Appendix B1.
Source: (Urban Crossroads, 2023a, Table 2-2)

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. The most recent state and federal standards were updated by CARB on May 4, 2016. Air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ are not to be exceeded. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the South Coast AQMD meets the standards set by the EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by CARB. The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area.

E. Regional Air Quality

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2 which are known as criteria pollutants. The South Coast AQMD monitors levels of various criteria

pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district. On January 5, 2021, CARB posted the 2020 amendments to the state and national area designations. The attainment status for criteria pollutants within the SCAB is summarized in Table 4.1-2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*.

Table 4.1-2 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Attainment	Unclassifiable/Attainment
Pb[1]	Attainment	Unclassifiable/Attainment

"—" The national 1-hour O3 standard was revoked effective June 15, 2005.
Source: (Urban Crossroads, 2023a, Table 2-3)

F. Local Air Quality

The South Coast AQMD has designated general forecast areas and air monitoring areas (referred as Source Receptor Areas [SRA]) throughout the district in order to provide Southern California residents data on air quality conditions. The Project site is located SRA 17. Within SRA 17, the I-5 Near Road monitoring station, located 3.63 miles northwest, is the nearest station that provides air quality statistics for CO and NO_2. As the I-5 Near Road monitoring station does not provide information for O_3, PM_{10}, and $PM_{2.5}$, statistics from the Central Orange County monitoring station, 4.87 miles northwest of the Project site, were used. It should be noted that the Central Orange County monitoring stations were utilized in lieu of the I-15 Near Road monitoring station only in instances where data was not available. The most recent three (3) years of data available is shown on Table 4.1-3, *Project Area Air Quality Monitoring Summary 2018-2020*, and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2018 and 2020 was obtained from the South Coast AQMD Air Quality Data Tables. Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

Table 4.1-3 Project Area Air Quality Monitoring Summary 2018-2020

Pollutant	Standard	Year		
		2018	2019	2020
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.112	0.096	0.142
Maximum Federal 8-Hour Concentration (ppm)		0.071	0.082	0.097
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	1	1	6
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	1	1	15
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	2.7	2.4	2.4
Maximum Federal 8-Hour Concentration	> 20 ppm	2.2	1.3	2.0
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.066	0.059	0.070
Annual Federal Standard Design Value		0.014	0.013	0.019
PM_{10}				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 150 µg/m^3	129	127	120
Annual Federal Arithmetic Mean (µg/m^3)		27.2	21.9	23.9
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m^3	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m^3	13	13	13
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 35 µg/m^3	54.10	36.10	41.40
Annual Federal Arithmetic Mean (µg/m^3)	> 12 µg/m^3	11.02	9.32	11.27
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m^3	3	3	1

ppm=Parts Per Million
µg/m3 = Microgram per Cubic Meter
Source: (Urban Crossroads, 2023a, Table 2-4)

4.1.2 Regulatory Framework

The following is a brief description of the federal, State, and local environmental laws and related regulations governing air quality emissions.

A. Federal Regulations

1. Federal Clean Air Act

The Federal Clean Air Act (CAA; 42 U.S.C. § 7401 et seq.) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the

standards will be met. The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O3 and to adopt a NAAQS for $PM_{2.5}$. Table 4.1-2 (previously presented) provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

B. State Regulations

1. California Air Resources Board (CARB)

CARB, which became part of CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS.

Local air quality management districts, such as the South Coast AQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS. Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;

- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;

- Significant use of low emissions vehicles by fleet operators;

- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NO_X, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

2. Title 24 Energy Efficiency Standards and California Green Building Standards

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons. The Project would be required to comply with the applicable standards in place at the time plan check submittals are made. These are discussed in subsection Title 24 Energy Efficiency Standards and California Green Building Standards of the *Technical Appendix B1* of this EIR.

C. Regional Regulations

1. South Coast AQMD Rule 402

A person shall not discharge from any source whatsoever such 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 such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals. All uses shall be operated in a manner such that no offensive odor is perceptible at or beyond the property line of that use.

2. South Coast AQMD Rule 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of

generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities. Any operation or activity that might cause the emission of any smoke, fly ash, dust, fumes, vapors, gases, or other forms of air pollution, which can cause damage to human health, vegetation, or other forms of property, or can cause excessive soiling on any other parcel, shall conform to the requirements of the South Coast AQMD.

3. South Coast AQMD Rule 1113

This rule serves to limit the VOC content of architectural coatings used on projects in the South Coast AQMD. This rule applies to any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects.

4. South Coast AQMD Rule 1301

This rule is intended to provide that pre-construction review requirements to ensure that new or relocated facilities do not interfere with progress in attainment of the NAAQS, while future economic growth within the South Coast AQMD is not unnecessarily restricted. The specific air quality goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. Rule 1301 also limits emission increases of ammonia, and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

5. South Coast AQMD Rule 1401

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States (U.S.) Bureau of Mines.

D. Local Regulations

1. City of Orange General Plan

The General Plan identifies goals related to air quality in the Land Use and Natural Resources Elements. The following goals and policies from the Land Use and Natural Resources Elements applicable to the Project include:

GOAL 4.0: Encourage high quality, sustainable, industrial and office uses that provide jobs and revenue; support environmental quality; and promote options for adaptive re-use.

> Policy 4.3: Protect residents and the environment from potential adverse soil, air, water, and noise impacts of industrial operations.

GOAL 6.0: Advance development activity that is mutually beneficial to both the environment and the community.

Policy 6.10: Mitigate adverse air, noise, circulation, and other environmental impacts caused by new development adjacent to existing neighborhoods through use of sound walls, landscaping buffers, speed limits, and other traffic control measures.

GOAL 2.0: Protect air, water, and energy resources from pollution and overuse.

Policy 2.2: Support alternative transportation modes, alternative technologies, and bicycle- and pedestrian-friendly neighborhoods to reduce emissions related to vehicular travel.

4.1.3 METHODOLOGY

In May 2022, South Coast AQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model (CalEEMod) Version 2022.1. The purpose of this model is to calculate construction-source and operational-source emissions (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Refer to Appendix 3.1 through 3.3 of the Project's Air Quality Analysis (*Technical Appendix B1*) for Criteria Air Pollutant CalEEMod Output Files.

A. Project-Related Construction Emissions

1. Construction Activities

Construction activities associated with the Project would result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction-related emissions are expected from the following construction activities:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

Demolition Activities

The Project site is currently developed with 40,000 sf of existing building for manufacturing use which will be demolished. Based on information provided by the Project Applicant, demolition of the existing structure will result in 10,905 tons of debris.

Grading Activities

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Fugitive

dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. Based on information provided by the Project Applicant, the Project will require 3,799 cubic yards to balance the site and 1,000 cubic yards of soil remediation to export. For purposes of analysis, the import and export quantity will be modeled with the CalEEMod default hauling trip length of 20 miles. The Project would require 24 haul trips, which would utilize Batavia Street and Katella Avenue to reach the SR-57 Freeway.

Off-Site Utility and Infrastructure Improvements

To support the Project development, there may be paving for off-site improvements associated with roadway construction and utility installation for the Project. It is expected that the off-site construction activities would not take place at one location for the entire duration of construction. Therefore, impacts associated with these activities are not expected to exceed the emissions identified for Project-related construction activities since the off-site construction areas would have physical constraints on the amount of daily activity that could occur. The physical constraints would limit the amount of construction equipment that could be used, and any off-site and utility infrastructure construction would not use equipment totals that would exceed the equipment totals on Table 3-2.

On-Road Trips

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul trucks commuting to and from the site. Worker trips are based on CalEEMod defaults. It should be noted that for vendor trips, specifically, CalEEMod only assigns vendor trips to the Building Construction phase. Vendor trips would likely occur during all phases of construction. As such, the CalEEMod defaults for vendor trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

2. Construction Duration

For purposes of analysis, construction of Project is expected to commence in July 2023 and would last through November 2024. The construction schedule utilized in the analysis, shown in Table 3-1, *Construction Activity Phases and Durations*, in Section 3.0, *Project Description*, of this EIR, represents a "worst-case" analysis scenario should construction occur any time after the respective dates with the potential of overlap of construction of the phases, since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines.

3. Construction Equipment

A summary of construction equipment by phase is provided at Table 3-2, *Construction Equipment Requirements*, in Section 3.0, *Project Description*, of this EIR. Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-2 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are

allowed pursuant to the code. It should be noted that most pieces of equipment would likely operate for fewer hours per day.

B. Project Operational Emissions

Operational activities associated with the Project would result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from Area Source Emissions, Energy Source Emissions, Mobile Source Emissions, On-Site Cargo Handling Equipment Emissions, and Stationary Source Emissions. For additional information regarding the calculation of Project operational emissions, please refer to Section 3.5 of the Project's Air Quality Analysis (*Technical Appendix B1*).

1. Area Source Emissions

Area source emissions associated with the Project would occur as a result of architectural coatings, consumer products, and landscape maintenance equipment, as follows:

Architectural Coatings

Over a period of time the buildings that are part of this Project would require maintenance and would therefore produce emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. The emissions associated with architectural coatings were calculated using CalEEMod.

Consumer Products

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

2. Energy Source Emissions

Criteria pollutant emissions are emitted through the generation of electricity. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset

through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity are excluded from the evaluation of significance.

3. Mobile Source Emissions

The Project related operational air quality emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site and truck trips associated with the proposed uses. In order to determine emissions from passenger car vehicles, CalEEMod defaults for trip length and trip purpose were utilized. Default vehicle trip lengths for primary trips will be populated using data from the local metropolitan planning organizations/Regional Transportation Planning Agencies (MPO/RTPA). Trip type percentages and trip lengths provided by MPO/RTPAs truncate data at their demonstrative borders. This analysis assumes that passenger cars include Light-Duty-Auto vehicles (LDA), Light-Duty-Trucks (LDT1 & LDT2), Medium-Duty-Vehicles (MDV), and Motorcycles (MCY) vehicle types. The fleet mix utilized in the analyses can be found in the Project's Air Quality Analysis (*Technical Appendix B1*).

To determine emissions from trucks for the proposed industrial uses, the analysis incorporated the South Coast AQMD recommended truck trip length of 15.3 miles for 2-axle (LHDT1, LHDT2), 14.2 miles for 3-axle (MHDT) trucks, and 40 miles for 4+-axle (HHDT) trucks and weighting the average trip lengths using traffic trip percentages. The trip length function for the proposed use has been revised to 30.13 miles and an assumption of 100% primary trips was assumed. Trucks are broken down by truck type. The truck fleet mix is estimated by rationing the trip rates for each truck type based on information provided by the South Coast AQMD recommended truck mix, by axle type. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-Duty Trucks (LHDT1 & LHDT2)/2-axle, Medium-Heavy-Duty Trucks (MHDT)/3-axle, and Heavy-Heavy-Duty Trucks (HHDT)/4+-axle.

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of brake and tire wear particulates. The emissions estimate for travel on paved roads were calculated using CalEEMod.

4. On-site Cargo Handling Equipment Emissions

It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this Project, on-site modeled operational equipment includes up to one (1) 175 horsepower (hp), natural gas-powered cargo handling equipment – port tractor operating 4 hours a day for 365 days of the year.

C. Localized Pollutant Emissions

Localized emissions associated with Project-related construction and operational activities were calculated and evaluated in accordance with South Coast AQMD's Final Localized Significance Threshold Methodology ("LST Methodology"). The South Coast AQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the

federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Threshold (LSTs).

For the Project, the appropriate SRA for the LST analysis is the South Coast AQMD I-5 Near Road (SRA 17). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- Identify the maximum daily on-site emissions that will occur during construction activity:
    - The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
    - The South Coast AQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds and CalEEMod User's Guide Appendix A: Calculation Details for CalEEMod can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod.
- If the total acreage disturbed is less than or equal to 5 acres per day, then the South Coast AQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.
- If the total acreage disturbed is greater than 5 acres per day, then LST impacts may still be conservatively evaluated using the LST look-up tables for a 5-acre disturbance area. Use of the 5-acre disturbance area thresholds can be used to show that even if the daily emissions from all construction activity were emitted within a 5-acre area, and therefore concentrated over a smaller area which would result in greater site adjacent concentrations, the impacts would still be less than significant if the applicable 5-acre thresholds are utilized.
- The LST Methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

Based on South Coast AQMD's LST Methodology, emissions for concern during construction activities are on-site NO_X, CO, $PM_{2.5}$, and PM_{10}. The LST Methodology clearly states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs. As such, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site"

emissions outputs were considered. Detailed information about application of this methodology can be found in the Project's Air Quality Analysis (*Technical Appendix B1*).

1. Project-Related Sensitive Receptors Relative to Construction and Operational Activities

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as "sensitive receptors." These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Sensitive receptors in the Project study area relative to construction and operational activities are described below and shown on Figure 4.1-1, *Sensitive Receptor Locations*. Localized air quality impacts were evaluated at sensitive receptor land uses nearest the Project site. All distances are measured from the Project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the Project site.

R1: Location R1 represents the City of Orange Department of Public Works at 637 West Struck Avenue, approximately 96 feet north of the Project site. Receptor R1 is placed at the building façade.

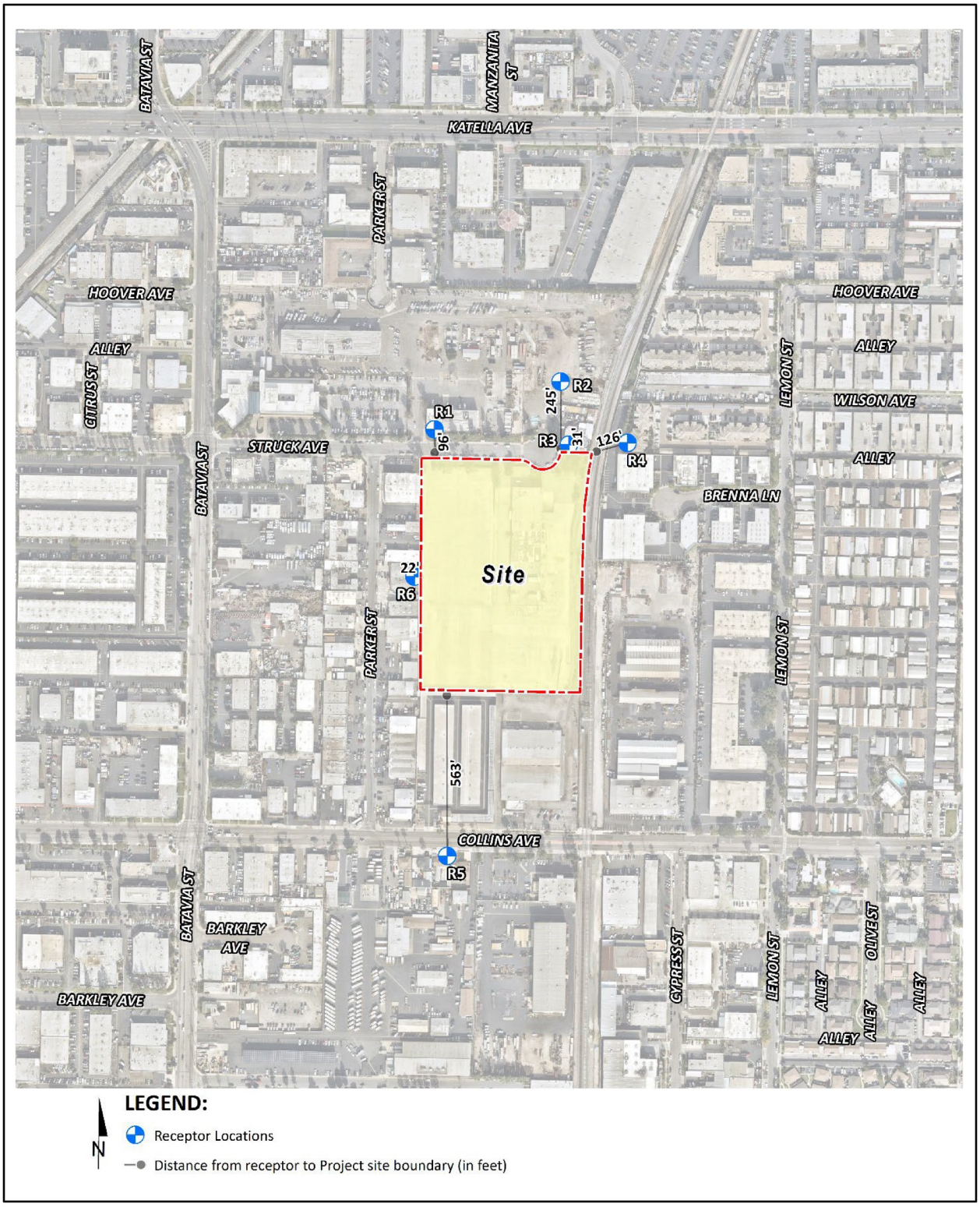
R2: Location R2 represents the proposed multi-family residential project north of West Struck Avenue, approximately 245 feet north of the Project site. Receptor R2 is placed at the planned future residential building façade.

R3: Location R3 represents Mary's Kitchen at 517 West Struck Avenue, approximately 31 feet north of the Project site. Receptor R3 is placed at the future building façade.

R4: Location R4 represents the Citrus Grove Apartments at 1120 North Lemon Street, approximately 126 feet northeast of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R4 is placed at the building façade.

R5: Location R5 represents the existing residence at 618 West Collins Avenue, approximately 563 feet south of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R5 is placed at the building façade.

R6: Location R6 represents Meter Tech Services & Equipment located at 1035 N. Parker Street, approximately 22 feet west of the Project site. Receptor R6 is placed at the building façade.



Source(s): Urban Crossroads (10-18-2022)

Figure 4.1-1

Not to Scale

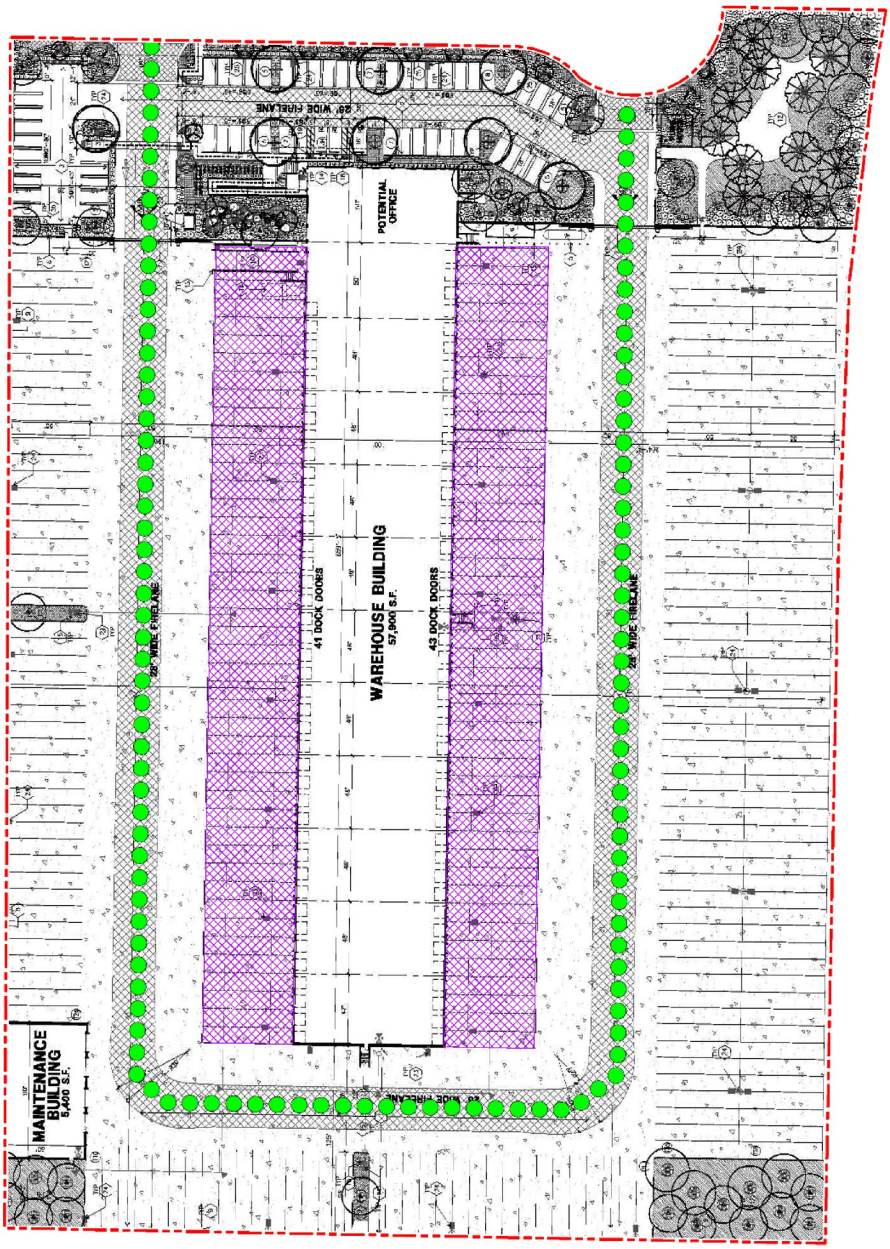
Sensitive Receptor Locations

D. Health Risk Assessment Methodology

The HRA was prepared based on South Coast AQMD guidelines to produce conservative estimates of human health risk posed by exposure to DPM. Emissions calculations for the construction HRA component are based on an assumed mix of construction equipment and hauling activity as presented in the Project's Air Quality Analysis (*Technical Appendix B1*). Vehicle DPM emissions were calculated using emission factors for particulate matter less than 10µm in diameter (PM_{10}) generated with the 2021 version of the EMission FACtor model (EMFAC) developed by CARB. Emission factors calculated using EMFAC 2021 are expressed in units of grams per vehicle miles traveled (g/VMT) or grams per idle-hour (g/idle-hr), depending on the emission process. For this Project, annual average PM_{10} emission factors were generated by running EMFAC 2021 in project analysis mode for vehicles in the Orange County jurisdiction. The project analysis mode generates emission factors in terms of grams of pollutant emitted per vehicle activity and can calculate a matrix of emission factors at specific values of temperature, relative humidity, and vehicle speed. The model was run for speeds traveled in the vicinity of the Project. For purposes of this analysis, the Lakes AERMOD View (Version 10.2.1) was used to calculate annual average particulate concentrations associated with site operations. Refer to Section 2 of the Project's Health Risk Assessment (*Technical Appendix B2*) for a detailed description of HRA methodologies and for the model inputs and equations used in the estimation of the Project-related DPM emissions.

The modeled emission sources are illustrated on Figure 4.1-2, *Modeled On-Site Emission Source*, and Figure 4.1-3, *Modeled Off-Site Emission Sources*. The modeling domain is limited to the Project's primary truck route and includes off-site sources in the study area for more than 3/4 mile. This modeling domain is more inclusive and conservative than using only a 1/4 mile modeling domain which is the distance supported by several reputable studies which conclude that the greatest potential risks occur within a ¼ mile of the primary source of emissions (in the case of the Project, the primary source of emissions is the on-site idling and travel).

For purposes of the HRA, receptors include both residential and non-residential (worker) land uses in the vicinity of the Project. These receptors are included in the HRA since residents and workers may be exposed at these locations over a long-term duration of 30 and 25 years, respectively. This methodology is consistent with South Coast AQMD and OEHHA recommended guidance.



LEGEND:

Loading Dock Activity ●● Truck Movements

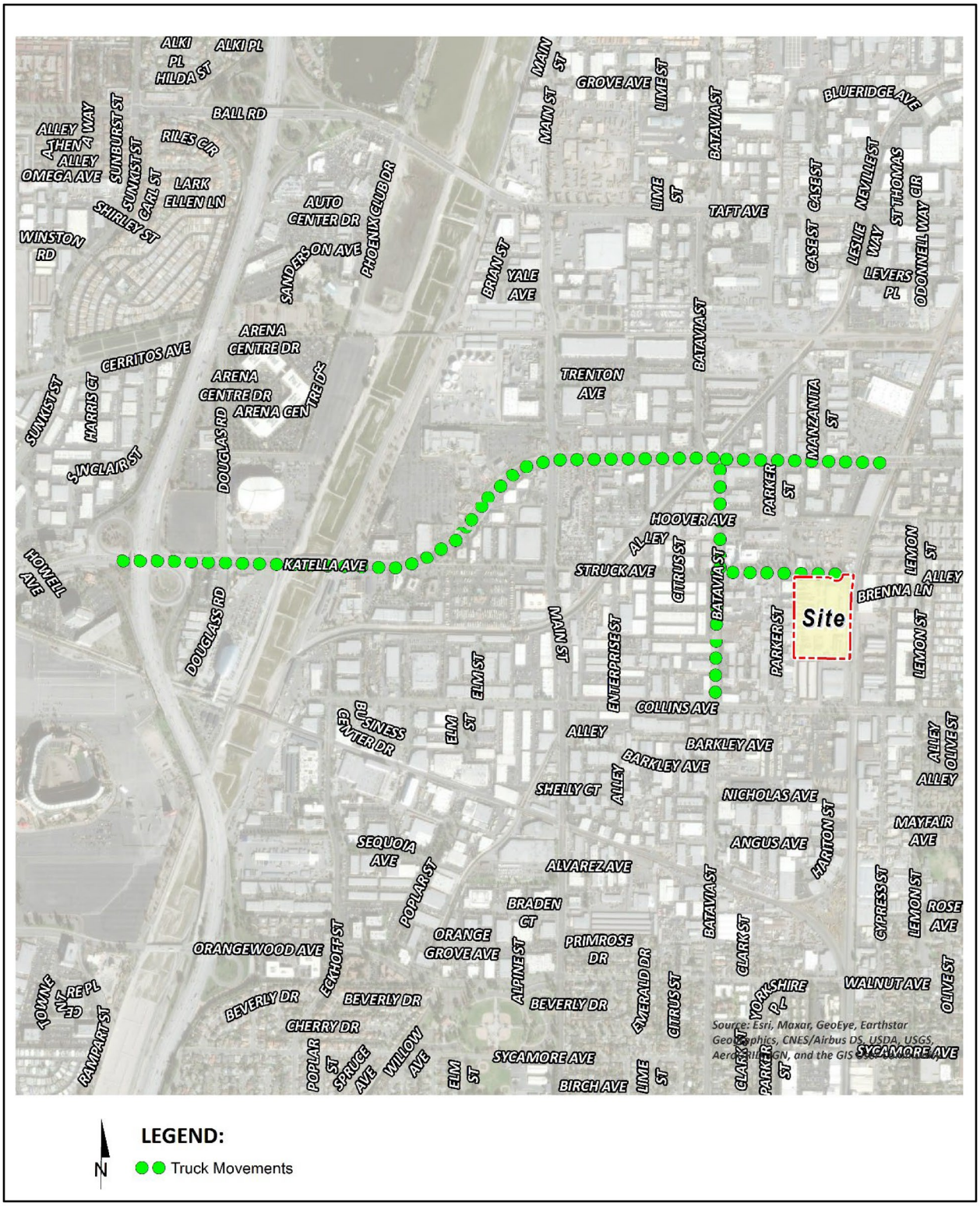
N

Source(s): Urban Crossroads (10-24-2022)

Figure 4.1-2

Not to Scale

Modeled On-Site Emission Source



Source(s): Urban Crossroads (10-24-2022)

Figure 4.1-3

Not to Scale

Modeled Off-Site Emission Sources

4.1.4 Basis for Determining Significance

According to Section III of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to air quality if the Project or any Project-related component would (OPR, 2019):

- *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;*
- *Expose sensitive receptors to substantial pollutant concentrations;*
- *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.*

The South Coast AQMD has developed regional significance thresholds for regulated pollutants, as summarized in Table 4.1-4, *Maximum Daily Regional Emissions Thresholds*. The South Coast AQMD's CEQA Air Quality Significance Thresholds (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact. These thresholds have been used to determine air quality impacts in this analysis.

Table 4.1-4 Maximum Daily Regional Emissions Thresholds

Pollutant	Regional Construction Threshold	Regional Operational Thresholds
NO_X	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

Source: (Urban Crossroads, 2023a, Table 3-1)

The South Coast AQMD CEQA Air Quality Handbook (1993) states that emissions of toxic air contaminants (TACs) are considered significant if an HRA shows an increased risk of greater than 10 in one million. Based on guidance from the South Coast AQMD in the document Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, for purposes of this analysis, 10 in one million is used as the cancer risk threshold for the proposed Project. An evaluation of the potential noncarcinogenic effects of chronic

exposures was also conducted. Adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). The REL for diesel particulates was obtained from OEHHA for this analysis. The chronic reference exposure level (REL) for DPM was established by OEHHA as 5 $\mu g/m^3$. Details on carcinogenic chemical risk and non-carcinogenic exposures are discussed in Section 2.5 and 2.6 of the Project's HRA (*Technical Appendix B2*).

4.1.5 IMPACT ANALYSIS

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

The South Coast AQMD's 2016 AQMP is the applicable air quality plan for the Project site, which estimates long-term air quality conditions for the SCAB. The 2016 AQMP continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2012 AQMP, the 2016 AQMP incorporates scientific and technological information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016-2040 RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements. The Project's consistency with the AQMP will be determined using the 2016 AQMP as discussed below. The 2022 AQMP is currently being developed by South Coast AQMD to address the EPA's strengthened ozone standard. Development of the 2022 AQMP is in its early stages and no formal timeline for completion and adoption is currently known.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the 1993 CEQA Handbook. These indicators are discussed below:

- ***Consistency Criterion No. 1:*** *The proposed project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.*

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if localized or regional significance thresholds were exceeded. As evaluated under Thresholds b) and c) below, the Project's localized and regional construction-source and operational-source emissions would not exceed applicable regional significance threshold and LST thresholds. As such, a less than significant impact is expected. Based on the preceding, the Project is determined to be consistent with the first criterion.

- ***Consistency Criterion No. 2:*** *The Project will not exceed the assumptions in the AQMP based on the years of project build-out phase.*

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Orange General Plan is considered to be consistent with the AQMP.

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. As such, when considering that no emissions threshold will be exceeded, a less than significant impact would result.

The Project proposes to convert an existing manufacturing use to warehousing use, which would be a similar type of industrial land use and consistent with the underlying zoning and land use designations with approval of a CUP. A General Plan amendment would not be required. The number of employees generated at the site are anticipated within the growth projections and the development would not result in an increase in population within the SCAB. Therefore, implementation of the Project would not have the potential to substantially affect demographic projections beyond what is accounted for in the current 2016 AQMP. On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

The Project would not have the potential to result in or cause NAAQS or CAAQS violations. The Project's proposed uses are consistent with the General Plan land use designation and would not exceed the regional or localized construction and operational thresholds. Therefore, the Project is consistent with the AQMP.

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?

A. Construction Emissions Impact Analysis

South Coast AQMD Rules that are currently applicable during construction activities, include but are not limited to Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings). The estimated maximum daily construction emissions without mitigation are summarized in Table 4.1-5, *Overall Construction Emissions Summary*.

Table 4.1-5 Overall Construction Emissions Summary

Year	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2023	0.52	14.80	20.40	0.05	2.63	0.67
2024	14.50	19.30	31.00	0.04	0.93	0.40
Winter						
2023	0.71	15.00	29.30	0.05	5.45	2.78
2024	14.50	19.40	30.60	0.04	0.93	0.40
Maximum Daily Emissions	**14.50**	**19.40**	**31.00**	**0.05**	**5.45**	**2.78**
South Coast AQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: (Urban Crossroads, 2023a, Table 3-5)

B. Operational Emissions Impact Analysis

CalEEMod utilizes summer and winter EMFAC 2021 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season. As such, operational activities for summer and winter scenarios are presented in Table 4.1-6, *Summary of Peak Operational Emissions*. The Project's daily regional emissions from on-going operations will not exceed any of thresholds of significance. Therefore, impacts would be less than significant.

Table 4.1-6 Summary of Peak Operational Emissions

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	0.91	9.61	11.30	0.09	1.91	0.50
Area Source	2.02	0.02	2.75	0.00	0.00	0.00
Energy Source	0.02	0.33	0.28	0.00	0.02	0.02
On-Site Equipment Source	0.12	0.38	16.44	0.00	0.03	0.03
Project Maximum Daily Emissions	**3.07**	**10.34**	**30.77**	**0.09**	**1.96**	**0.55**
South Coast AQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Winter						
Mobile Source	0.90	10.00	10.80	0.09	1.91	0.50
Area Source	1.57	0.00	0.00	0.00	0.00	0.00

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Energy Source	0.02	0.33	0.28	0.00	0.02	0.02
On-Site Equipment Source	0.12	0.38	16.44	0.00	0.03	0.03
Project Maximum Daily Emissions	**2.61**	**10.71**	**27.52**	**0.09**	**1.96**	**0.55**
South Coast AQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: (Urban Crossroads, 2023a, Table 3-8)

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

A. Construction Localized Emissions Impact Analysis

1. Criteria Pollutant Emissions

Table 4.1-7, *Localized Construction-Source Emissions*, show the emissions during construction activity. As shown, Project-related construction emissions would not exceed the applicable South Coast AQMD LSTs for CO, NO_X, PM_{10}, or $PM_{2.5}$. Accordingly, construction of the Project would not result in the exposure of any sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

Table 4.1-7 Localized Construction-Source Emissions

Construction Activity	Year	Scenario	Emissions (lbs/day)			
			NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	2023	Summer	11.90	18.20	1.84	0.44
		Winter	11.90	18.20	1.84	0.44
		Maximum Daily Emissions	**11.90**	**18.20**	**1.84**	**0.44**
		South Coast AQMD Localized Threshold	81	485	8	5
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Site Preparation	2023	Summer	n/a	n/a	n/a	n/a
		Winter	14.70	28.30	5.21	2.73
		Maximum Daily Emissions	**14.70**	**28.30**	**5.21**	**2.73**
		South Coast AQMD Localized Threshold	98	600	10	7
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Grading	2023	Summer	n/a	n/a	n/a	n/a
		Winter	12.60	21.80	1.94	0.98

Construction Activity	Year	Scenario	Emissions (lbs/day)			
			NO_X	CO	PM_{10}	$PM_{2.5}$
		Maximum Daily Emissions	**12.60**	**21.80**	**1.94**	**0.98**
		South Coast AQMD Localized Threshold	81	485	8	5
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: (Urban Crossroads, 2023a, Table 3-11)

2. DPM Source Cancer and Non-Caner Risk Impact Analysis

The land use with the greatest potential exposure to Project construction-source DPM emissions is Location R4 which is located approximately 126 feet northeast the Project site at an existing residence located at 1120 North Lemon Street. Since there are no private outdoor living areas facing the Project site, R4 is placed at the building façade. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project construction-source DPM emissions is estimated at 2.36 in one million, which is less than the South Coast AQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction activity. All other receptors during construction activity would experience less risk than what is identified for this location. Detailed analysis for construction DPM emissions can be found in the Project's HRA (*Technical Appendix B2*).

B. Operation Localized Emissions Impact Analysis

1. Criteria Pollutant Emissions

The Project is located on an approximately 9.94-acre parcel. As noted previously, the LST Methodology provides look-up tables for sites with an area with daily disturbance of 5 acres or less. For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine whether pollutants require additional detailed analysis. This approach is conservative as it assumes that all on-site emissions associated with the Project would occur within a concentrated 5-acre area. This screening method would therefore over-predict potential localized impacts, because by assuming that on-site operational activities are occurring over a smaller area, the resulting concentrations of air pollutants are more highly concentrated once they reach the smaller site boundary than they would be for activities if they were spread out over a larger surface area. On a larger site, the same amount of air pollutants generated would disperse over a larger surface area and would result in a lower concentration once emissions reach the project-site boundary. As such, LSTs for a 5-acre site during operations are used as a screening tool to determine if further detailed analysis is required. The LST analysis generally includes on-site sources (area, energy, mobile, on-site cargo handling equipment, and stationary equipment). However, it should be noted that the CalEEMod outputs do not separate on-site and off-site emissions from mobile sources. As such, in an effort to establish a maximum potential impact scenario for analytic purposes, the emissions shown on Table 4.1-8, *Localized Significance Summary of Operations*, represent all on-site Project-related stationary (area) sources and Project-related mobile sources. It should be noted that the longest on-site distance is

roughly 0.5 mile for both trucks and passenger cars. Modeling based on these assumptions demonstrates that even within broad encompassing parameters, Project operational-source emissions would not exceed applicable LSTs.

Table 4.1-8 presents the results of the LST analysis for long-term operation of the Project. As shown, operational emissions would not exceed the South Coast AQMD's LSTs. Therefore, the Project would have a less than significant localized impact during operational activity.

Table 4.1-8 Localized Significance Summary of Operations

Scenario	Emissions (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Summer	2.80	22.52	0.12	0.07
Winter	2.87	20.04	0.12	0.07
Maximum Daily Emissions	**2.87**	**22.52**	**0.12**	**0.07**
South Coast AQMD Localized Threshold	183	1,253	7	3
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: (Urban Crossroads, 2023a, Table 3-13)

2. CO Hot Spot Impact Analysis

The Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards.

For example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Boulevard/Imperial Highway intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared. In contrast, an adverse

CO concentration, known as a "hot spot," would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 2.4 ppm and 2.1 ppm, respectively (data from I-5 Near Road monitoring station for 2020). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Boulevard/Imperial Highway intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

Furthermore, the Bay Area Air Quality Management District (BAAQMD) concluded that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact. The busiest intersection evaluated was that at Wilshire Blvd and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).

The highest trips on a segment of road for the Project is the intersection of State Route 57 (SR-57) Southbound and Katella Avenue with traffic volumes of 3,080 vph during AM peak hours and 4,313 vph during PM peak hours. As such, Project-related traffic volumes are less than the traffic volumes identified in the 2003 AQMP. The proposed Project would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO "hot spots" are not an environmental impact of concern for the Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant. Based on the foregoing analysis, the Project would result in less-than-significant impacts related to the creation of CO Hot Spots.

3. DPM Source Cancer and Non-Cancer Risk Impact Analysis

Residential Exposure Scenario

The residential land use with the greatest potential exposure to Project operational-source DPM emissions is Location R4 which is located approximately 126 feet northeast of the Project site at an existing residence located at 1120 North Lemon Street. Since there are no private outdoor living areas facing the Project site, R4 is placed at the building façade. At the MEIR, the maximum incremental cancer risk attributable to Project operational-source DPM emissions is estimated at 0.62 in one million, which is less than the South Coast AQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations than the MEIR analyzed herein, and DPM generally dissipates with distance from the

source, all other residential receptors in the vicinity of the Project site would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences. A detailed analysis of Residential Exposure Scenario for operational DPM emissions can be found in the Project's HRA (*Technical Appendix B2*).

Worker Exposure Scenario

The worker receptor land use with the greatest potential exposure to Project operational-source DPM emissions is Location R6, which represents the potential worker receptor approximately 22 feet west of the Project site. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact is 0.16 in one million which is less than the South Coast AQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyzed herein, and DPM dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers.

School Child Exposure Scenario

Proximity to sources of toxics is critical to determining the impact. In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70-percent drop-off in particulate pollution levels at 500 feet. Based on California Air Resources Board (CARB) and South Coast AQMD emissions and modeling analyses, an 80-percent drop-off in pollutant concentrations is expected at approximately 1,000 feet from a distribution center. The 1,000-foot evaluation distance is supported by research-based findings concerning Toxic Air Contaminant (TAC) emission dispersion rates from roadways and large sources showing that emissions diminish substantially between 500 and 1,000 feet from emission sources. A one-quarter mile radius, or 1,320 feet, is commonly utilized for identifying sensitive receptors, such as schools, that may be impacted by a proposed project. This radius is more robust than, and therefore provides a more health protective scenario for evaluation than the 1,000-foot impact radius identified above.

There are no schools within ¼ mile of the Project site. The nearest school is Yorba Middle School, which is located approximately 4,060 feet west of the Project site. Because there is no reasonable potential that TAC emissions would cause significant health impacts at distances of more than 1/4 mile from the air pollution source, there would be no significant impacts that would occur to any schools in the vicinity of the Project.

Combined Construction and Operational Impacts

The land use with the greatest potential increased cancer risk due to exposure to Project construction-source and operational-source DPM emissions is Location R4. At this location, the maximum incremental cancer risk attributable to Project construction and operational DPM source emissions is

estimated at 2.66 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent land uses as a result of Project construction and operational activity. All other receptors during construction and operational activity would experience less risk than what is identified for this location.

C. Potential Health Impacts of the Project

Based on the foregoing analysis, the Project would not exceed the South Coast AQMD localized significance thresholds for assessing localized health impacts from criteria air pollutants during construction or operation. Furthermore, Project construction and operation would not exceed South Coast AQMD's cancer and non-cancer thresholds during construction or operation. Further, Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations due to the Project, and impacts would be less than significant.

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

Land uses generally associated with odor complaints include agricultural uses (livestock and farming), wastewater treatment plants, food processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities. The Project does not contain land uses typically associated with emitting objectionable odors.

Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities. Standard construction requirements would minimize odor impacts from construction. The Project would be subject to standard construction requirements, including the use of low-VOC architectural coatings as required by South Coast AQMD Rule 1113, Table of Standards; and compliance with South Coast AQMD Rule 402, Nuisance, which requires that a person shall not discharge air contaminants or other materials that would cause health or safety hazards to any considerable number of persons or the public. Compliance with these standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant.

Potential sources of operational odors generated by the Project would include the temporary storage of typical solid waste (refuse). It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the current solid waste regulations, thereby precluding substantial generation of odors due to temporary holding of refuse on site. The proposed Project would also be required to comply with South Coast AQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project operations

would not adversely affect a substantial number of people, and Project impacts during long-term operations would be less than significant.

4.1.6 Cumulative Impact Analysis

With exception of the issue of odors, the cumulative study area for air quality includes the City of Orange and the SCAB. The SCAB is designated as a nonattainment area for State standards of O_3, PM_{10}, and $PM_{2.5}$. The region is also designated as a nonattainment area for federal standards of O_3 and $PM_{2.5}$. Cumulative growth in population, vehicle use, and industrial activity could inhibit efforts to improve regional air quality and attain the ambient air quality standards. Thus, with exception of odors, the setting for this cumulative analysis consists of the SCAB and associated growth and development anticipated in the air basin. For the issue of odors, the cumulative study area includes the Project site and lands in the immediate vicinity to the Project site, as odors diminish rapidly with distance from the source.

According to South Coast AQMD, projects that exceed the project-specific significance thresholds are considered by the South Coast AQMD to be cumulatively considerable. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant. As previously shown in Table 4.1-5, *Overall Construction Emissions Summary*, Project construction-source emissions would not exceed the South Coast AQMD regional thresholds of significance for all emissions. Therefore, impacts associated with Project-related construction emissions would be less than cumulatively considerable.

As previously shown in Table 4.1-6, *Summary of Peak Operational Emissions*, Project operation-source emissions would not exceed the South Coast AQMD regional thresholds of significance for all emissions. Therefore, impacts associated with Project-related operational emissions would be less than cumulatively considerable.

As previously shown in Table 4.1-7, *Localized Construction-Source Emissions*, emissions would not exceed the South Coast AQMD Localized Threshold for CO, NO_x, PM_{10}, or $PM_{2.5}$. Pursuant to the South Coast AQMD's CEQA Air Quality Significance Thresholds, projects with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant impact; therefore, the Project's emissions during construction would be less than significant on a direct and cumulative basis.

As previously shown in Table 4.1-8, *Localized Significance Summary of Operations*, under long-term operating conditions, the Project's localized operational emissions would not exceed any of the South Coast AQMD LST thresholds. Pursuant to the South Coast AQMD's CEQA Air Quality Significance Thresholds, the Project would have a less-than-cumulatively considerable LST impact during long-term operation. Additionally, the Project would have no potential to result in or contribute to a CO "Hot Spot." Accordingly, impacts associated with CO "Hot Spots" would be less than cumulatively considerable.

Cumulatively considerable odor impacts could occur if the Project in combination with other nearby projects resulted in combined construction- or operational-related odor impacts. However, the Project's compliance with South Coast AQMD Rules 1113, 403, and 402 would ensure that the Project does not generate substantial odors adversely affecting a substantial number of people during construction and operation. Additionally, there are no nearby related projects that generate substantial odors that could combine to create a cumulatively considerable odor impact. Therefore, impacts associated with odors would be less than cumulatively considerable.

4.1.7 Significance of Impacts Before Mitigation

Threshold a: Less-than-Significant Impact. The Project would not emit air pollutants that would contribute to a delay in the attainment of federal and State ozone standards in the SCAB. As such, the Project would not conflict with and could obstruct implementation of the AQMP, and impacts would be less than significant.

Thresholds b: Less-than-Significant Impact. Project-related activities would not exceed the applicable South Coast AQMD regional thresholds of significance during construction and operations. As such, Project-related emissions would not violate South Coast AQMD air quality standards or contribute to the non-attainment of ozone standards in the SCAB, and impacts would be less than significant.

Threshold c: Less-than-Significant Impact. Implementation of the Project would not: 1) exceed applicable South Coast AQMD localized criteria pollution emissions thresholds during construction and operation; 2) would not expose sensitive receptors to toxic air contaminants (i.e., DPM) that exceed the applicable South Coast AQMD carcinogenic and non-carcinogenic risk significance thresholds; and 3) would not cause or measurably contribute to the formation of a CO "hot spot."

Threshold d: Less-than-Significant Impact. Although short-term construction activities and long-term operational land uses could produce objectionable odors, compliance with standard construction requirements and regulations established by the City of Orange and South Coast AQMD would reduce odor impacts to less-than-significant levels. Near- and long-term odor impacts would be less than significant.

4.1.8 Mitigation

Impacts would be less than significant; therefore, mitigation is not required.

4.2 BIOLOGICAL RESOURCES

This Subsection evaluates the potential for Project-related activities to impact sensitive biological resources. The analysis in this Subsection is based on information contained in the General Biological Technical Report, dated February 2023, prepared by NOREAS Inc. (NOREAS) and is included as *Technical Appendix C* (NOREAS, 2023). In addition, this subsection includes information contained in the City's General Plan Natural Resources Element (Orange, 2015b) and the City's General Plan EIR (Orange, 2010a).

4.2.1 EXISTING CONDITIONS

Under existing conditions, the Project site consists of an approximate 40,000 square-foot concrete tilt-up building, and parking which was occupied by Nursery Supplies, Inc., a manufacturer of plastic nursery planting pots until the end of 2020. The Project site contains ornamental landscaping along the site's frontage at Struck Avenue.

A. Vegetation Communities

Under existing conditions, the Project site is entirely developed/disturbed and does not support any sensitive vegetation communities. Developed land is not considered a sensitive biological resource. Developed/disturbed lands within the study area include locales that have been paved, cleared, graded or otherwise altered by anthropogenic activities (i.e., access roads, ornamental landscaping, train tracks, industrial facilities, storage yards, commercial enterprises, and so forth). These lands also include areas with exposed soils, minimal vegetation, and moderate cover by various non-native annual grasses, and weeds. Common non-native plants species detected within this type include ripgut brome (*Bromus diandrus),* Sahara mustard (*Brassica Tournefortil*), Mexican fan palm (*Washingtonia Robusta*), Schismus (*Schismus barbatus)* and cheese weed (*Malva neglecta*). (NOREAS, 2023)

B. Special-Status Plants

The Project site is in the western portion of the City and is fully developed with a manufacturing facility. Additionally, the properties surrounding the Project site are fully developed and urbanized. According to the City's General Plan Environmental Impact Report (EIR), urbanized areas provide low habitat value for sensitive species (Orange, 2010a).

No federal or State listed plant species were observed within the study area during the field survey, however, several have been documented within 10 miles of the Project site. The study area includes no USFWS-designated critical habitats for plants and the Project site does not include the substantive habitat requirements necessary to support special-status flora. (NOREAS, 2023)

C. Special-Status Wildlife

The City identifies significant wildlife habitat as being in the City's undeveloped hillside areas, East Orange, and park and open spaces (particularly near Santiago Creek, Santiago Oaks Regional Park, Irvine Regional Park, and Peters Canyon Regional Park) (Orange, 2015b). The Project site is in the

western portion of the City and is fully developed with a manufacturing facility. Additionally, the properties surrounding the Project site are fully developed and urbanized. According to the City's General Plan Environmental Impact Report (EIR), urbanized areas provide low habitat value for sensitive species.

No special-status wildlife species were observed within the study area during the field survey. The Project site does not include USFWS-designated critical habitats for wildlife and the substantive habitat requirements necessary to support special-status wildlife. (NOREAS, 2023)

D. Nesting Birds

No nesting birds, remnant raptor nests, or bat guano were detected within the Project site (NOREAS, 2023). Under existing conditions, the Project site contains ornamental trees within the northern portion of the site. These existing trees have the potential to provide suitable nesting opportunities for nesting birds. The Migratory Bird Treaty Act (MBTA) governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests.

E. Jurisdictional Waters and Wetlands

Wetlands are defined as land that is flooded or saturated by surface water or groundwater at a frequency and duration sufficient to support and, that normally does support, a prevalence of vegetation adapted to life in saturated soils. Wetlands include areas such as swamps, marshes, and bogs. The Project site and surrounding area are fully developed and do not contain any wetlands. No riparian or riverine habitats or obvious indicators of a well-defined water conveyance bed, bank or channel were detected within the Project site (NOREAS, 2023). The nearest wetland habitat to the Project site is at the Santiago Creek located approximately 1.9 miles south.

4.2.2 REGULATORY FRAMEWORK

The Project site is subject to State of California (hereinafter, "State") and federal regulations that were developed to protect natural resources, including: state and federally listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-status species which are not listed as threatened or endangered by the State or federal governments; and other special-status vegetation communities. Provided below is an overview of the federal, State, and regional laws, regulations, and requirements that are applicable to the property.

A. Federal Plans, Policies, and Regulations

1. Endangered Species Act (ESA)

The purpose of the federal Endangered Species Act (ESA) is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service (USFWS) and the Commerce Department's National Marine Fisheries Service (NMFS). The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. Under the ESA,

species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. (USFWS, 2017)

The ESA makes it unlawful for a person to take a listed animal without a permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." Listed plants are not protected from take, although it is illegal to collect or maliciously harm them on federal land. Protection from commercial trade and the effects of federal actions do apply for plants. (USFWS, 2017)

Section 7 of the ESA requires federal agencies to use their legal authorities to promote the conservation purposes of the ESA and to consult with the USFWS and NMFS, as appropriate, to ensure that effects of actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of listed species. During consultation, the "action" agency receives a "biological opinion" or concurrence letter addressing the proposed action. In the relatively few cases in which the USFWS or NMFS makes a jeopardy determination, the agency offers "reasonable and prudent alternatives" about how the proposed action could be modified to avoid jeopardy. It is extremely rare that a project ends up being withdrawn or terminated because of jeopardy to a listed species. (USFWS, 2017)

Section 10 of the ESA may be used by landowners including private citizens, corporations, tribes, states, and counties who want to develop property inhabited by listed species. Landowners may receive a permit to take such species incidental to otherwise legal activities, provided they have developed an approved habitat conservation plan (HCP). HCPs include an assessment of the likely impacts on the species from the proposed action, the steps that the permit holder will take to avoid, minimize, and mitigate the impacts, and the funding available to carry out the steps. HCPs may benefit not only landowners but also species by securing and managing important habitat and by addressing economic development with a focus on species conservation. (USFWS, 2017)

2. Migratory Bird Treaty Act (16 USC Section 703-712)

The Migratory Bird Treaty Act (MBTA) makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations. The migratory bird species protected by the MBTA are listed in 50 CFR 10.13. The USFWS has statutory authority and responsibility for enforcing the MBTA (16 U.S.C. 703-712). The MBTA implements Conventions between the United States and four countries (Canada, Mexico, Japan, and Russia) for the protection of migratory birds. (USFWS, 2020)

B. State Plans, Policies, and Regulations

1. California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. The California Department of Fish and Wildlife (CDFW) works with interested persons, agencies, and organizations to protect and preserve such sensitive resources and their habitats. CESA prohibits the take of any species of wildlife designated by the California Fish and Game Commission as endangered, threatened, or candidate species. CDFW may authorize the take of any such species if certain conditions are met. (CDFW, n.d.)

Section 2081 subdivision (b) of the California Fish and Game Code (CFGC) allows CDFW to authorize take of species listed as endangered, threatened, candidate, or a rare plant, if that take is incidental to otherwise lawful activities and if certain conditions are met. These authorizations are commonly referred to as incidental take permits (ITPs). (CDFW, n.d.)

If a species is listed by both the federal ESA and CESA, CFGC Section 2080.1 allows an applicant who has obtained a federal incidental take statement (federal Section 7 consultation) or a federal incidental take permit (federal Section 10(a)(1)(B)) to request that the Director of CDFW find the federal documents consistent with CESA. If the federal documents are found to be consistent with CESA, a consistency determination (CD) is issued and no further authorization or approval is necessary under CESA. (CDFW, n.d.)

A Safe Harbor Agreement (SHA) authorizes incidental take of a species listed as endangered, threatened, candidate, or a rare plant, if implementation of the agreement is reasonably expected to provide a net conservation benefit to the species, among other provisions. SHAs are intended to encourage landowners to voluntarily manage their lands to benefit CESA-listed species. California SHAs are analogous to the federal safe harbor agreement program and CDFW has the authority to issue a consistency determination based on a federal safe harbor agreement. (CDFW, n.d.)

2. Natural Community Conservation Planning Act (NCCP)

CDFW's Natural Community Conservation Planning (NCCP) program takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The NCCP program began in 1991 as a cooperative effort to protect habitats and species. It is broader in its orientation and objectives than the California and Federal Endangered Species Acts, as these laws are designed to identify and protect individual species that have already declined in number significantly. (CDFW, n.d.)

An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. Working with landowners, environmental organizations, and other interested parties, a local agency oversees the numerous

activities that compose the development of an NCCP. CDFW and the USFWS provide the necessary support, direction, and guidance to NCCP participants. (CDFW, n.d.)

There are currently 14 approved NCCPs (includes 6 subarea plans) and more than 20 NCCPs in the active planning phase (includes 10 subarea plans), which together cover more than 7 million acres and will provide conservation for nearly 400 special status species and a wide diversity of natural community types throughout California. (CDFW, n.d.)

3. Unlawful Take or Destruction of Nests or Eggs (CFGC Sections 3503.5-3513)

Section 3503.5 of the CFGC specifically protects birds of prey, stating: "It is unlawful to take, possess, or destroy any . . . [birds-of-prey] or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Section 3513 of the CFGC duplicates the federal protection of migratory birds, stating: "It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act." (CA Legislative Info, n.d.)

4.2.3 Basis for Determining Significance

Section IV of Appendix G to the CEQA Guidelines addresses typical adverse effects to biological resources, and includes the following threshold questions to evaluate the Project's impacts to biological resources (OPR, 2019):

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

- *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service;*

- *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

- *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;*

- *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;*

- *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

4.2.4 IMPACT 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 Wildlife or U.S. Fish and Wildlife Service?***

As previously stated, the City identifies significant wildlife habitat as being in the City's undeveloped hillside areas, East Orange, and park and open spaces (particularly near Santiago Creek, Santiago Oaks Regional Park, Irvine Regional Park, and Peters Canyon Regional Park) (Orange, 2015b). The Project site is in the western portion of the City and is fully developed with a manufacturing facility. Additionally, the properties surrounding the Project site are fully developed and urbanized. According to the City's General Plan Environmental Impact Report (EIR), urbanized areas provide low habitat value for sensitive species. According to the biological survey results, no federal or State listed plant or wildlife species were observed within the study area. The Project site does not include USFWS-designated critical habitat for plants or wildlife and the Project site does not include the substantive habitat requirements necessary to support special-status plants and wildlife. As such, implementation of the Project would not have the potential to have an adverse effect either directly or indirectly through habitat modifications on any species identified as a candidate, sensitive, or special status species in the local or regional plans, policies or regulation, or by the California Department of Fish and Wildlife and Wildlife Service (NOREAS, 2023). No impacts would occur.

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 Wildlife or US Fish and Wildlife Service?***

According to the City's General Plan EIR, riparian habitat and wetlands within the existing urbanized area of the City occur along the Santiago Creek (Orange, 2010a). The Project site is located approximately 1.9 miles north of the Santiago Creek No riparian, river, or obvious indicators of a well-defined water conveyance bed, bank, or channel were detected within the Project site (NOREAS, 2023). Therefore, implementation of the Project would not have an adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. No impacts would occur.

Threshold c:	***Would the Project have 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?***

The Project site and surrounding area are fully developed and do not contain any wetlands. The nearest wetland habitat to the Project site is at the Santiago Creek located approximately 1.9 miles south. Therefore, the implementation of the Project would not have an adverse effect on state or federally protected wetlands. No impacts would occur.

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?***

The City is characterized as mostly urbanized with low habitat value for wildlife. The City's primary functional wildlife corridors are Santiago Creek through the center of the City; the northeastern portion of the City, and the Southern California Edison (SCE) utility corridors, which link with the Santiago Oaks Park; and the preserved hillsides and ridgelines in the southeastern portion of the City that link with Peters Canyon Park (Orange, 2015a). Additionally, a significant amount of East Orange is undeveloped, including the Irvine Ranch Land Reserve (IRLR) and the Nature Reserve of Orange County established by the *Orange County Central/Coastal Natural Community Conservation Plan* (NCCP). These areas have the potential to act as wildlife corridors.

The Project site is fully developed within an urbanized setting and is located outside the identified wildlife corridors. There are no areas within the Project's vicinity which could function as a wildlife corridor or nursery site for wildlife. Therefore, implementation of the Project would not have the potential to interfere with the movement of any native resident or migratory fish or wildlife species with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. No impacts would occur.

No nesting birds, remnant raptor nests, or bat guano were detected within the Project site (NOREAS, 2023). The Project requires removal of existing ornamental trees within the northern portion of the site. These existing trees have the potential to provide suitable nesting opportunities for nesting birds. The Migratory Bird Treaty Act (MBTA) governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. To reduce the Project's potential impacts on migratory birds, the Project would implement Mitigation Measure (MM) 4.2-1, which requires a pre-construction nesting bird clearance survey to determine the presence/absence, location, and status of any active nests on or adjacent to the Project site. If the nesting bird clearance survey indicates the presence of nesting birds, MM 4.2-1 requires buffers to ensure that any nesting birds are protected according to the MBTA. With the implementation of MM 4.2-1, the Project's potential construction-related impacts to migratory birds 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?***

The City's participation in the NCCP is its Master Street Tree Plan and the Tree Preservation Ordinance (OMC Chapter 12.32) as the primary local measures to protect biological resources. According to the City's General Plan EIR, the Master Street Tree Plan and the Tree Preservation Ordinance are effective procedures to monitor the potential for impacts to existing trees that provide roosting and nesting habitat for native and migratory birds throughout the City. The City's Tree Ordinance restricts the removal of trees including those on private property that is deemed to be "endowed with a public interest" or may be of historical value "by virtue of their origin, size, uniqueness, and/or national or

regional rarity." (Orange, 2021) Trees determined to be historic are compiled on a master list that is maintained by the Community Services Department and approved by resolution of the City Council.

The Project would result in the removal of ornamental trees. According to OMC Section 12.32.030, the Project Applicant would be required to obtain a Tree Removal Permit. According to OMC Section 12.32.060, the Project's ornamental trees are not considered Historical Trees. Therefore, the Project would not conflict with any local policies or ordinances protecting biological resources following compliance with OMC Section 12.32.030 and impacts would be 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?***

The City of Orange is subject to the NCCP. As shown on General Plan EIR Figure 5.4-2, NCCP Habitat Reserve Area, several areas within the City are designated NCCP Habitat Reserve (Orange, 2010a). According to General Plan EIR Figure 5.4-2, the Project site is not within an NCCP Habitat Reserve Area. No other approved local, regional, or State habitat conservation plans apply to the site. Therefore, implementation of the Project does not have the potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. No impacts would occur.

4.2.5 Cumulative Impact Analysis

This cumulative impact analysis for biological resources considers development of the Project in conjunction with other development projects in the vicinity of the Project site as well as full General Plan buildout in the City of Orange and other jurisdictions in the region.

The Project site does not contain any special-status plant or wildlife species nor does the site have the potential to support such species. Therefore, the Project would not impact any special-status plant or wildlife species and, thus, the Project would have no potential to contribute to a cumulative impact to special-status plant and/or animal species.

The Project would not impact any riparian or sensitive natural communities; therefore, there is no potential for the Project to contribute to a cumulatively-considerable impact to these resources.

The Project would not impact any State-protected or federally-protected wetlands. Accordingly, the Project has no potential to contribute to a cumulatively-considerable impact to State or federally protected wetlands.

The Project would remove ornamental trees on site that have the potential to support nesting birds protected by federal and State regulations. The Project would not result in the removal of trees off-site or in the surrounding area and would therefore not cumulatively contribute to impacts to nesting birds.

Additionally, related projects are required to comply with the MBTA, which protects nesting birds. Therefore, the Project would not result in a cumulatively-considerable impact to nesting birds.

The Project would not conflict with any local policies or ordinances protecting biological resources. Other development projects in the cumulative study area would be required to comply with applicable local policies and/or ordinances related to the protection of biological resources as a standard condition of review/approval. Because the Project and cumulative development would be prohibited from violating applicable, local policies or ordinances related to the protection of biological resources, a cumulatively-considerable impact would not occur.

The Project site is not located within the boundaries of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Because there is no conservation plan applicable to the Project impact area, there is no potential for the Project to contribute to the violation of a conservation plan. No cumulative impact would occur.

4.2.6 Significance of Impacts Before Mitigation

Threshold a: No Impact. The Project site does not contain habitat that is suitable habitat for any plant or wildlife species identified as a candidate, sensitive, or special status species.

Threshold b: No Impact. The Project site does not contain riparian and/or other sensitive natural habitats; therefore, the Project would have no impact on riparian or other sensitive habitats as classified by the CDFW or USFWS.

Threshold c: No Impact. No State- or federally-protected wetlands are located on the Project site; therefore, no impact to wetlands would occur.

Threshold d: Potentially Significant Direct Impact. There is no potential for the Project to interfere with the movement of fish or impede the use of a native wildlife nursery site. However, the Project has the potential to impact nesting migratory birds protected by the MBTA and California Fish and Game Code, should habitat removal occur during the nesting season and nesting birds be present.

Threshold e: Less-Than-Significant Impact. The Project would not conflict with any local policies or ordinances protecting biological resources.

Threshold f: No Impact. The Project impact area is not located within the boundaries of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Therefore, no impact would occur.

4.2.7 Mitigation

MM 4.2-1 In the event that vegetation and tree removal should occur between March 15 and September 1, the Project Applicant shall retain a qualified biologist to conduct a nesting bird survey no more than 3 days prior to commencement of construction activities. The

biologist conducting the clearance survey shall document the negative results if no active bird nests are observed on the Project site or within the vicinity during the clearance survey with a brief letter report, submitted to the City of Orange Community Development Department prior to construction, indicating that no impacts to active bird nests would occur before construction can proceed. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a 200-foot buffer around the active nest. For listed and raptor species, this buffer shall be 500-feet. A biological monitor shall be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Prior to the commencement of construction activities and the issuance of any permits, results of the pre-construction survey and any subsequent monitoring shall be provided to the City of Orange Community Development Department.

MM 4.2-2 Prior to approval of a grading permit, a note shall be placed on grading plans that "no personnel working within Project limits will "take" or destroy plants, animals, or active nests (or eggs) of birds that are protected under the Federal or State Endangered Species Acts and Migratory Bird Treaty Act (MBTA)." During pre-construction surveys, a biologist shall train all field staff on appliable local, state, and federal regulatory requirements, environmental laws, and regulations associated with working around biological resources. Verification of training shall be provided to the Community Development Director.

4.2.8 Significance of Impacts After Mitigation

Threshold d: Less-than-Significant Impact with Mitigation. Implementation of MM 4.2-1 would ensure that pre-construction surveys are conducted for nesting birds protected by State and federal regulations in the event that vegetation is removed from the Project site during the breeding season. If nesting birds are present on the Project site, the mitigation requires avoidance of active bird nests in conformance with accepted protocols and regulatory requirements. With implementation of the required mitigation, potential direct and cumulatively-considerable impacts to nesting birds protected by State and federal regulations would be reduced to below a level of significance.

4.3 CULTURAL RESOURCES

The analysis in this Subsection is based on a cultural resources report prepared by Duke Cultural Resources Management (hereinafter, "Duke CRM") and titled "Cultural and Paleontological Resource Letter Report for the 534 Struck Avenue Project," dated April 30, 2021 (Duke, 2021). This report is included as *Technical Appendix D* to this EIR.

Confidential information has been redacted from *Technical Appendix D* for purposes of public review. In addition, much of the written and oral communication between Native American tribes, the City, and Duke CRM is considered confidential in respect to places that may have traditional tribal cultural significance (Gov. Code Section 65352.4), and although relied upon in part to inform the preparation of this EIR Subsection, those communications are treated as confidential and are not available for public review. Under existing law, environmental documents must not include information about the location of archeological sites or sacred lands or any other information that is exempt from public disclosure pursuant to the Public Records Act (Cal. Code Regs. Section 15120(d)).

4.3.1 EXISTING CONDITIONS

A. Prehistoric Resources

1. Regional Setting

Four cultural horizons, each with characteristic local variations, have been defined to explain the prehistory of southern California:

I. Early Man (~9000–8500 before present (B.P.))
II. Milling Stone (8500–4000 B.P.)
III. Intermediate (4000–1500 B.P.)
IV. Late Prehistoric (1500~200 B.P.)

The Project is located within the ethnographic territory of the Gabrielino (Tongva) and Juaneño (Acjachemen) Indians. The Gabrielino and Juaneño are Takic-speakers and are descended from late prehistoric populations of the region. Important food resources would have been acorns, agave, wild seeds and nuts, hunting game and fishing. Due to Spanish subjugation and absorption into the mission system very little is known concerning the details of the Gabrielino and Juaneño political structures, social behavior, and cultural practices. Their villages were generally self-contained and had an autonomous political structure comprised of non-localized lineages, in which the largest and dominant lineage's leader was usually the village chief. Village houses were domed, circular shaped structures, constructed from tree branches and thatched with tule, fern or carrizo. The villages would have been located near fresh water and raw material resources. Villagers would have utilized temporary camps throughout their localized territories for hunting, gathering, and raw material trips away from the main village.

Major former Gabrielino villages or communities near the Project area include Hotuuknga 2.5 miles to the northwest and Pasbenga 3.8 miles to the south. Hotuuknga was recorded within what is now the City of Anaheim, located along the Santa Ana River within the 79,000-acre San Juan Cajon de Santa Ana Mexican land grant originally granted to Juan Pacífico Ontiveros. The word Hotuuknga reportedly means "…night, for at the beginning of the world, they went no more in the night." Pasbenga was recorded in the vicinity of the Santa Ana River near present day Santa Ana.

2. Project site Conditions

Duke CRM conducted a combined intensive and reconnaissance level pedestrian survey of the Project site on February 22, 2020. The pedestrian survey consisted of a series of transects spaced at approximately 10-15 meter intervals. Photographs of the Project site were also taken.

A paleontological resource records search was submitted by Duke CRM for the Project to the Department of Vertebrate Paleontology at the Natural History Museum of Los Angeles County (LACNHM) to identify fossil localities in or near the Project site. Additionally, online searches were performed within the University of California Museum of Paleontology collections, San Diego Natural History Museum collections (SDNHM), Paleobiology Database, and FAUNMAP sites for fossil localities in similar deposits within 3 miles of the Project site.

B. Historical Resources

1. Regional Setting

The Project is located in the northwestern portion of the Peninsular Ranges geomorphic province. The Peninsular Ranges province is distinguished by northwest trending mountain ranges and valleys following faults branching from the San Andreas Fault. Locally, the Project area is located in the Central Block of the Los Angeles Basin, an area characterized by thick alluvial deposits overlying sediments ranging from Cretaceous to Pleistocene in age. The old alluvial fan deposits (Qof) underlying the Project area are exclusively alluvial fan sediments sourced from the Santa Ana Mountains to the northeast in the Pleistocene Epoch (2.5 million years ago to 11,700 years ago). The El Modena and Peralta Hills to the north represent the Peralta Hills Anticline, a surface expression of the underlying, east-west trending, Peralta Hills Fault. The elevation is approximately 260 feet above mean sea level (amsl). Prior to urbanization, native vegetation would have included annual grasslands, California sagebrush and buckwheat, sage, chamise chaparral, and coast live oak. Climate is Mediterranean-like with mild annual temperatures and annual precipitation typically ranging between 14 to 26 inches.

2. Project site Conditions

A cultural resources records search was performed by Duke CRM for the Project at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton in order to identify any National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR) within one-half mile of the Project site. The cultural resource records search results indicate that no previous cultural resources studies have included the Project boundaries. Three reports have been

completed within one-half mile of the Project, all of which were small-scale desktop literature searches (OR-02255, OR-03105 and OR-03916). The 2010 Tom Tang letter report (OR-03916) included a literature review of a segment of the Atchison, Topeka, and Sana Fe Railway (ATSF; now Burlington, Northern, and Santa Fe Railroad) located immediately adjacent to and east of the current Project area. However, this segment was not formally recorded on a site record (DPR 523 Series). The record search results also indicated that no cultural resource have been recorded within the current Project area. However, two cultural resources are recorded within one-half mile of the Project: P-30-176663 and P-30-159932.

P-30-176663 is located half-mile from the Project area to the southwest. It is the ATSF Railroad. It was determined ineligible for listing on the NRHP because although much of the rail was originally constructed in 1880s, it has been currently in use for over 100 years. The continual maintenance and upgrades necessary for a modern railroad have diminished its historic integrity. The existing track and other associated railroad features are mostly modern in origin and show no historical characteristics today. In 2010, Tang noted that the ATSF segment located immediately adjacent to, and outside of, the current Project area was a subsidiary of the historic ATSF Railroad originally constructed between 1885-1888. Tang noted that the segment should be considered an extension of P-30-176663; however, this segment has not been formally documented on a site record (DPR 52 Series), nor evaluated for eligibility on the NRHP or CRHR.

P-30-159932 is located one half-mile southeast of the Project area. It is the Old Towne Orange Historic District and is listed on the NRHP (No. 97000617). Old Towne Orange consists of numerous Craftsman Bungalow, Mission/Spanish revival, and Classical Revival style buildings, with 1,237 contributing and 512 non-contributing elements.

A review of aerial photos, site concept plans, and the field survey indicate that a railroad spur is located within the Project boundary to the east. This railroad spur is not part of P-30-176663. Maps were reviewed from www.historicaerials.com, which show that spur is less than 50 years in age, having been built between 1972-1980 (NETR 2020).

4.3.2 Regulatory Framework

A. Federal Regulations

1. National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) was passed primarily to acknowledge the importance of protecting our nation's heritage. While Congress recognized that national goals for historic preservation could best be achieved by supporting the drive, enthusiasm, and wishes of local citizens and communities, it understood that the federal government must set an example through enlightened policies and practices. In the words of the Act, the federal government's role would be to "provide leadership" for preservation, "contribute to" and "give maximum encouragement" to preservation, and "foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony." (NPS, 2021a)

NHPA and related legislation sought a partnership among the federal government and the states that would capitalize on the strengths of each. The federal government, led by the National Park Service (NPS) provides funding assistance; basic technical knowledge and tools; and a broad national perspective on America's heritage. The states, through State Historic Preservation Officers (SHPOs) appointed by the governor of each state, would provide matching funds, a designated state office, and a statewide preservation program tailored to state and local needs and designed to support and promote state and local historic preservation interests and priorities. (NPS, 2021a)

An Advisory Council on Historic Preservation (ACHP), the first and only federal entity created solely to address historic preservation issues, was established as a cabinet-level body of Presidentially-appointed citizens, experts in the field, and federal, state, and local government representatives, to ensure that private citizens, local communities, and other concerned parties would have a forum for influencing federal policy, programs, and decisions as they impacted historic properties and their attendant values. (NPS, 2021a)

Section 106 of NHPA granted legal status to historic preservation in federal planning, decision-making, and project execution. Section 106 requires all federal agencies to take into account the effects of their actions on historic properties, and provide ACHP with a reasonable opportunity to comment on those actions and the manner in which federal agencies are taking historic properties into account in their decisions. (NPS, 2021a)

A number of additional executive and legislative actions have been directed toward improving the ways in which all federal agencies manage historic properties and consider historic and cultural values in their planning and assistance. Executive Order 11593 (1971) and, later, Section 110 of NHPA (1980, amended 1992), provided the broadest of these mandates, giving federal agencies clear direction to identify and consider historic properties in federal and federally assisted actions. The National Historic Preservation Amendments of 1992 further clarified Section 110 and directed federal agencies to establish preservation programs commensurate with their missions and the effects of their authorized programs on historic properties. (NPS, 2021a)

2. National Register of Historic Places (NRHP)

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the NHPA of 1966, the NPS's National Register of Historic Places (NRHP) is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archaeological resources. (NPS, 2020a)

To be considered eligible, a property must meet the National Register Criteria for Evaluation. This involves examining the property's age, integrity, and significance, as follows:

- Age and Integrity. Is the property old enough to be considered historic (generally at least 50 years old) and does it still look much the way it did in the past?

- Significance. Is the property associated with events, activities, or developments that were important in the past? With the lives of people who were important in the past? With significant architectural history, landscape history, or engineering achievements? Does it have the potential to yield information through archaeological investigation about our past? (NPS, 2020a)

Nominations can be submitted to a SHPO from property owners, historical societies, preservation organizations, governmental agencies, and other individuals or groups. The SHPO notifies affected property owners and local governments and solicits public comment. If the owner (or a majority of owners for a district nomination) objects, the property cannot be listed but may be forwarded to the NPS for a Determination of Eligibility (DOE). Listing in the NRHP provides formal recognition of a property's historical, architectural, or archaeological significance based on national standards used by every state. (NPS, 2020a)

Under Federal Law, the listing of a property in the National Register places no restrictions on what a non-federal owner may do with their property up to and including destruction, unless the property is involved in a project that receives Federal assistance, usually funding or licensing/permitting. National Register listing does not lead to public acquisition or require public access. (NPS, 2020a)

3. National Historic Landmarks Program

National Historic Landmarks (NHLs) are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, over 2,600 historic places bear this national distinction. Working with citizens throughout the nation, the NHL Program draws upon the expertise of NPS staff who guide the nomination process for new Landmarks and provide assistance to existing Landmarks. (NPS, 2021b)

4. American Indian Religious Freedom Act

The American Indian Religious Freedom Act (AIRFA) requires each executive branch agency with statutory or administrative responsibility for the management of Federal lands, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies are also required to maintain the confidentiality of sacred sites. Each executive branch agency with statutory or administrative responsibility for the management of Federal lands are required to implement procedures to ensure reasonable notice is provided of proposed actions or land management policies that may restrict future access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites. (NOAA, n.d.)

5. Native American Graves Protection and Repatriation Act (NAGPRA)

The Native American Graves Protection and Repatriation Act (NAGPRA; Public Law 101-601; 25 U.S.C. 3001-3013) describes the rights of Native American lineal descendants, Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural items, with which they can show a relationship of lineal descent or cultural affiliation. (NPS, 2021c)

One major purpose of this statute is to require that federal agencies and museums receiving Federal funds inventory holdings of Native American human remains and funerary objects and provide written summaries of other cultural items. The agencies and museums must consult with Indian Tribes and Native Hawaiian organizations to attempt to reach agreements on the repatriation or other disposition of these remains and objects. Once lineal descent or cultural affiliation has been established, and in some cases the right of possession also has been demonstrated, lineal descendants, affiliated Indian Tribes, or affiliated Native Hawaiian organizations normally make the final determination about the disposition of cultural items. Disposition may take many forms from reburial to long term curation, according to the wishes of the lineal descendent(s) or culturally affiliated Tribe(s). (NPS, 2021c)

The second major purpose of the statute is to provide greater protection for Native American burial sites and more careful control over the removal of Native American human remains, funerary objects, sacred objects, and items of cultural patrimony on Federal and tribal lands. NAGPRA requires that Indian tribes or Native Hawaiian organizations be consulted whenever archaeological investigations encounter, or are expected to encounter, Native American cultural items or when such items are unexpectedly discovered on Federal or tribal lands. Excavation or removal of any such items also must be done under procedures required by the Archaeological Resources Protection Act. This NAGPRA requirement is likely to encourage the in-situ preservation of archaeological sites, or at least the portions of them that contain burials or other kinds of cultural items. (NPS, 2021c)

Other provisions of NAGPRA: (1) stipulate that illegal trafficking in human remains and cultural items may result in criminal penalties; (2) authorizes the Secretary of the Interior to administer a grants program to assist museums and Indian Tribes in complying with certain requirements of the statute; (3) requires the Secretary of the Interior to establish a Review Committee to provide advice and assistance in carrying out key provisions of the statute; authorizes the Secretary of the Interior to penalize museums that fail to comply with the statute; and, (5) directs the Secretary to develop regulations in consultation with this Review Committee. (NPS, 2021c)

6. Federal Antiquities Act

The Antiquities Act is the first law to establish that archaeological sites on public lands are important public resources. It obligates federal agencies that manage the public lands to preserve for present and future generations the historic, scientific, commemorative, and cultural values of the archaeological and historic sites and structures on these lands. It also authorizes the President to protect landmarks,

structures, and objects of historic or scientific interest by designating them as National Monuments. (NPS, 2021d)

B. State Regulations

1. California Administrative Code, Title 14, Section 4308

Section 4308, *Archaeological Features*, of Title 14 of the California Administrative Code provides that: "No person shall remove, injure, disfigure, deface, or destroy any object of archaeological, or historical interest or value." (NPS, n.d.)

2. California Code of Regulations Title 14, Section 1427

California Code of Regulations Title 14, Section 1427 provides that: "No person shall collect or remove any object or thing of archaeological or historical interest or value, nor shall any person injure, disfigure, deface or destroy the physical site, location or context in which the object or thing of archaeological or historical interest or value is found." (NAHC, n.d.)

3. California Register of Historic Resources

The State Historical Resources Commission has designed this program for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The Register is the authoritative guide to the state's significant historical and archaeological resources. The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies historical resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under CEQA. (OHP, n.d.)

In order for a resource to be included on the Register of Historic Resources, the resources must meet one of the following criteria:

- Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1).
- Associated with the lives of persons important to local, California or national history (Criterion 2).
- Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values (Criterion 3).
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4). (OHP, n.d.)

For resources included on the Register of Historic Resources, environmental review may be required under CEQA if property is threatened by a project. Additionally, local building inspectors must grant code alternatives provided under State Historical Building Code. Further, the local assessor may enter into contract with property owner for property tax reduction pursuant to the Mills Act. A property owner also may place his or her own plaque or marker at the site of the resource. (OHP, n.d.)

Consent of owner is not required, but a resource cannot be listed over an owner's objections. The State Historical Resources Commission (SHRC) can, however, formally determine a property eligible for the California Register if the resource owner objects. (OHP, n.d.)

4. Traditional Tribal Cultural Places Act (Senate Bill 18, "SB 18")

Senate Bill 18 (SB 18) requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places ("cultural places") through local land use planning. SB 18 also requires the Governor's Office of Planning and Research (OPR) to include in the General Plan Guidelines advice to local governments for how to conduct these consultations. (OPR, 2005)

The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. The purpose of involving tribes at these early planning stages is to allow consideration of cultural places in the context of broad local land use policy, before individual site-specific, project-level land use decisions are made by a local government. (OPR, 2005)

SB 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code § 65300 et seq.) and specific plans (defined in Government Code § 65450 et seq.). Although SB 18 does not specifically mention consultation or notice requirements for adoption or amendment of specific plans, existing state planning law requires local governments to use the same processes for adoption and amendment of specific plans as for general plans (see Government Code § 65453). Therefore, where SB 18 requires consultation and/or notice for a general plan adoption or amendment, the requirement extends also to a specific plan adoption or amendment. (OPR, 2005)

5. Assembly Bill 52 (AB 52)

California Assembly Bill 52 (AB 52) (2014) Chapter 532 amended Section 5097.94 of, and added Sections 21073, 21074, 21080.3.1, 21080.3.2, 21802.3, 21083.09, 21084.2 and 21084.3 to the California Public Resources Code, relating to Native Americans. AB 52 was approved on September 25, 2014. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. (OPR, 2017a)

The Public Resources Code now establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." (Pub. Resources Code, § 21084.2.) To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated

with the geographic area of a proposed project. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. (Pub. Resources Code, § 21080.3.1.) (OPR, 2017a)

If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code § 20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources. These rules apply to projects that have a notice of preparation for an environmental impact report or negative declaration or mitigated negative declaration filed on or after July 1, 2015. (OPR, 2017a)

§ 21074 of the Public Resources Code defines "tribal cultural resources." In brief, in order to be considered a "tribal cultural resource," a resource must be either:

(1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or

(2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource. (OPR, 2017a)

In the latter instance, the lead agency must determine that the resource meets the criteria for listing in the state register of historic resources. In applying those criteria, a lead agency must consider the value of the resource to the tribe. (OPR, 2017a)

6. State Health and Safety Code

California Health and Safety Code (HSC) § 7050.5(b) requires that excavation and disturbance activities must cease "In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery…" until the coroner can determine regarding the circumstances, manner, and cause of any death. The coroner is then required to make recommendations concerning the treatment and disposition of the human remains. Further, this section of the code makes it a misdemeanor to intentionally disturb, mutilate or remove interred human remains. § 7051 specifies that the removal of human remains from "internment or a place of storage while awaiting internment" with the intent to sell them or to dissect them with "malice or wantonness" is a public offense punishable by imprisonment in a state prison. Lastly, HSC §§ 8010-8011 establish the California Native American Graves Protection and Repatriation Act consistent with the federal law addressing the same. The Act stresses that "all California Indian human remains and cultural items are to be treated with dignity and respect." It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. It also outlines the need for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims. (CA Legislative Info, n.d.)

7. California Code of Regulations Section 15064.5

The California Code of Regulations, Title 14, Chapter 3, § 15064.5 (the State CEQA Guidelines) establishes the procedure for determining the significance of impacts to archaeological and historical resources, as well as classifying the type of resource. Cultural resources are aspects of the environment that require identification and assessment for potential significance. The evaluation of cultural resources under CEQA is based upon the definitions of resources provided in CEQA Guidelines § 15064.5, as follows: (CRNA, 2019)

- *A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4850 et seq.).*
- *A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.*
- *Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852) including the following:*
    - *Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;*
    - *Is associated with the lives of persons important in our past;*
    - *Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or*
    - *Has yielded, or may be likely to yield, information important in prehistory or history.*
- *The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.*

4.3.3 Basis for Determining Significance

Section V of Appendix G to the CEQA Guidelines addresses typical adverse effects to cultural resources, and includes the following threshold questions to evaluate the Project's impacts on cultural resources (OPR, 2019):

- *Cause a substantial adverse change in the significance of a historical resource in pursuant to § 15064.5;*
- *Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5;*
- *Disturb any human remains, including those interred outside of formal cemeteries.*

4.3.4 Impact Analysis

Threshold a: ***Would the Project cause a substantial adverse change in the significance of a historical resource in pursuant to § 15064.5***

As shown in Figure CR-2 of the City's General Plan Cultural Resource and Historic Preservation Element, the Project site is not designated as a historic resource nor is the site proposed as a historic resource. Additionally, no listed or designated historical resources are in proximity to the site; the majority of historical resources identified are in the Old Towne Historic District and Plaza District (Orange, 2015c). Additionally, according to the cultural resource record search, no cultural resources have been recorded within the Project area (Duke, 2021). However, two potential historic resources were recorded within one-half mile of the Project: P-30-176663 and P-30-159932. P-30-176663 is a portion of the BNSF Railroad located a one-half mile southwest of the Project site. This portion of the BNSF Railroad was determined ineligible for listing on the National Registry of Historic Places (NRHP) because it is currently in use and has had continual maintenance and upgrades necessary for modern rail and thus diminished the historic integrity. P-30-159932 consists of several buildings located in the Old Towne Orange Historic District and is listed on the NRHP (No. 97000617). Due to the site's location and limited physical disturbance area, implementation of the Project does not have the potential to result in a substantial adverse change to these resources. No impacts would occur.

Implementation of the Project would demolish the existing structure and redevelop the site. As shown in Figure 2-3, the Project site is developed with an approximate 40,000 sf manufacturing facility that was constructed in approximately 1977. The northern portion of the site contains ornamental landscaping and a concrete paved parking lot and the existing structure. The southern portion of the site is concrete paved and was used to store the facility's products (planters and pots). The site's existing structures are not 50 years old and do not meet the criteria listed above and, therefore, are not considered historically significant. Therefore, redevelopment of the Project site would not impact historical resources; no impacts would occur.

Threshold b: ***Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?***

The Project site is developed with a manufacturing facility and associated parking. As previously discussed, the Project site is within an urbanized portion of the City and is surrounded by existing industrial uses. Because the Project site is developed, the site was subject to construction and ground-disturbing activities similar to that which would occur under the Project.

Given the highly disturbed condition of the Project site and its surroundings, the potential for the Project's construction activities to affect an unidentified archaeological resource is considered low. However, while unlikely, the presence of previously undiscovered subsurface archaeological resources on the Project site remains possible. It is possible that subsurface disturbance would occur at levels not previously disturbed (e.g., deeper excavation) or may uncover undiscovered archaeological resources at the site. Therefore, impacts are potentially significant.

Threshold c: ***Would the Project disturb any human remains, including those interred outside of formal cemeteries?***

The Project site and surrounding properties are developed and are not used as cemeteries. As such, human remains, including those interred outside of formal cemeteries are not anticipated to be encountered during earth removal or disturbance activities. Based on the Project-specific geotechnical investigation prepared by GeoTek, Inc. (GeoTek) titled *Geotechnical and Infiltration Evaluation Proposed Warehouse Facility*, dated March 31, 2020, the near-surface soils encountered at the 10 boring sites were undocumented fill soils. Ground disturbance will involve approximately 20 feet in depth for the water quality BMPs in the northwest corner of the Project, 12 feet for utilities, and 5 feet in depth for the remainder of the Project.

If, in the unlikely event that, human remains were uncovered during grading activities, proper treatment is required in accordance with applicable State law. California Health and Safety Code Section 7050.5 to 7055 describes the general provisions for proper treatment of human remains. Specifically, the Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during onsite grading activities. Additionally, compliance with California Public Resources Code Section 5097.98 requires that disturbance of the site remain halted until the County Coroner can evaluate the find and notification of the Native American Heritage Commission (NAHC) if the remains are of Native American origin. The NAHC is responsible for contacting the most likely Native American descendent, for consultation. Following compliance with existing State regulations, which detail the appropriate actions necessary in the event human remains are encountered, impacts in this regard would be reduced to less than significant levels.

4.3.5 Cumulative Impact Analysis

The potential for implementation of the Project to contribute to cumulative impacts to historical resources was analyzed in conjunction with other projects located in the immediate vicinity of the Project site. The Project site does not contain historical resources, and there are no related projects in

the immediate vicinity that would have an effect on historical resources. Therefore, implementation of the Project has no potential to contribute towards a cumulative impact to significant historical sites and/or resources.

The potential for Project construction to result in cumulatively-considerable impacts to prehistoric archaeological resources were also analyzed in conjunction with other projects located in the immediate vicinity of the Project site. Implementation of the Project would not impact any known archaeological resources and the likelihood of uncovering previously unknown archaeological resources during Project construction are low due past grading activities associated with the existing development. Nonetheless, the potential exists that a significant archaeological resource could be discovered during grading into native soils. However, there are no related projects in the vicinity that would affect archeological resources. Accordingly, the Project does not have the potential to contribute to a significant cumulative impact to archaeological resource sites and/or resources.

Mandatory compliance with the provisions of California Health and Safety Code Section 7050.5 as well as Public Resources Code Section 5097 et seq., would assure that all future development projects within the region treat human remains that may be uncovered during development activities in accordance with prescribed, respectful and appropriate practices, thereby avoiding significant cumulative impacts.

4.3.6 Significance of Impacts Before Mitigation

Threshold a: No Impact. No historic resources, as defined by CEQA Guidelines Section 15064.5, are present on the Project site; therefore, no historic resources could be altered or destroyed by construction or operation of the Project.

Threshold b: Significant Direct Impact. No known archeological resources are present on the Project site and the likelihood of uncovering buried prehistoric resources on the Project site is low due to the magnitude of historic ground disturbance on the Project site. Nonetheless, the potential exists for Project-related construction activities to result in a direct impact to significant subsurface archaeological resources should such resources to be discovered during Project-related grading activities.

Threshold c: Less-Than-Significant Impact. In the unlikely event that human remains are discovered during Project grading or other ground disturbing activities, the Project would be required to comply with the applicable provisions of California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097 *et seq*. Mandatory compliance with State law would ensure that any discovered human remains are appropriately treated and would preclude the potential for significant impacts.

4.3.7 Mitigation

MM 4.3-1 In the event a potentially significant cultural resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall

cease and workers should avoid altering the materials until a qualified archaeologist who meets the Secretary of Interior's Professional Qualification Standards for archaeology has evaluated the resource. The Applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resource found during construction-related activities shall be recorded on the appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of CEQA criteria by a qualified archaeologist. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramics, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites. If the resource is determined to be significant under CEQA Guidelines Section 15064.5, the qualified archaeologist shall prepare and implement a research design and archeological data recovery plan that will capture those categories of data for which the site is significant in accordance with Section 15064.5 of the State CEQA Guidelines. The archaeologist shall also perform appropriate technical analyses, prepare a comprehensive report complete with methods, results, and recommendations, and provide for the permanent curation or repatriation of the recovered resources in cooperation with the designated most likely descendant as needed. The report shall be submitted to the City of Orange, the South-Central Coastal Information Center, and the State Historic Preservation Office, if required.

4.3.8 Significance of Impacts After Mitigation

Threshold b: Less-than-Significant Impact with Mitigation. Implementation of Mitigation Measure MM 4.3-1 would ensure the proper identification and subsequent treatment of any significant archaeological resources that may be encountered during ground-disturbing activities associated with Project grading activities. With implementation of the required mitigation, the Project's potential impacts to important archaeological resources would be reduced to less-than-significant.

4.4 ENERGY

The analysis in this subsection is primarily based on information contained a technical report prepared by Urban Crossroads, Inc. tilted, "534 Struck Avenue Energy Analysis", dated January 12, 2023 (Urban Crossroads, 2023c). The technical report is included as *Technical Appendix E* to this EIR. Refer to Section 7.0, *References*, for a complete list of reference sources used in this subsection.

4.4.1 EXISTING CONDITIONS

A. Electricity Consumption

The Project site is located within the service area of the Southern California Edison (SCE). SCE provides electric power to more than 15 million people in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.

According to the United States (U.S.) Energy Information Administration, California used approximately 277,764 gigawatt hours (GWh) of electricity in 2021. By section in 2020, transportation uses utilized 34% of the state's electricity, 24.6% for industrial uses, 21.8% for residential uses, and 19.6% for commercial uses. California's massive electricity in-state generation system generated approximately 194,127 GWh which accounted for approximately 70% of the electricity it uses; the rest was imported from the Pacific Northwest (12%) and the U.S. Southwest (18%).

B. Natural Gas Consumption

The Project site is located within the service area of the Southern California Gas Company (SoCalGas) which is regulated by the California Public Utilities Commission (CPUC). The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

SoCalGas provides service to approximately 5.9 million customers. Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The gas transported to California via the interstate pipelines, as well as some of the California-produced gas, is delivered into SoCalGas intrastate natural gas transmission pipeline systems (commonly referred to as California's "backbone" pipeline system). Natural gas on the utilities' backbone pipeline system is then delivered to the local transmission and distribution pipeline systems, or to natural gas storage fields.

C. Transportation Energy/Fuel Consumption

In 2021, the Department of Motor Vehicles (DMV) identified 36.2 million registered vehicles in California, and those vehicles consume an estimated 17.2 billion gallons of fuel each year. California's on-road transportation system includes 396,616 land miles, more than 26.6 million passenger vehicles and light trucks, and almost 9.0 million medium- and heavy-duty vehicles. While gasoline consumption has been declining since 2008, it is still by far the dominant fuel. California is the second-largest consumer of petroleum products, after Texas, and accounts for 10% of the nation's total consumption. The state is the largest U.S. consumer of motor gasoline and jet fuel, and 85% of the petroleum consumed in California is used in the transportation sector. In 2019, about 37% of the natural gas delivered to consumers went to the state's industrial sector, and about 28% was delivered to the electric power sector. Natural gas fueled more than two-fifths of the state's utility-scale electricity generation in 2019. The residential sector, where two-thirds of California households use natural gas for home heating, accounted for 22% of natural gas deliveries. The commercial sector received 12% of the deliveries to end users and the transportation sector consumed the remaining 1%.

4.4.2 REGULATORY FRAMEWORK

A. Federal Regulations

1. Intermodal Surface Transportation Efficiency Act (ISTEA)

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy resources. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

2. The Transportation Equity Act for the 21st Century (TEA-21)

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of wise transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

B. State Regulations

1. Integrated Energy Policy Report (Senate Bill 1389)

Senate Bill (SB) 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301a]). The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report (IEPR).

The 2021 IEPR was adopted February 2022, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2021 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. Additionally, the 2021 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs.

2. California Energy Plan (CEC)

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

3. California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023. The Project would be required to comply with the applicable standards in place at the time plan check submittals are made.

4. AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

5. California's Renewable Portfolio Standard (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable resources to 33% of total retail sales by 2020.

6. Clean Energy and Pollution Reduction Act of 2015 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewable portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the CEC, and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in western United States.

4.4.3 METHODOLOGY

The information in this Subsection contains an evaluation of the Project's potential impacts on energy consumption. The analysis presented herein, details the energy demand associated with Project-related construction equipment, transportation energy demands, and facility energy demands and efficient use of energy as required by CEQA Guidelines Appendix F.

In May 2022, the South Coast AQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources as well as

energy usage. Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Outputs from the annual model runs are provided in Appendices 4.1 through 4.2 of the Project's Energy Analysis (*Technical Appendix E* to this EIR).

On May 2, 2022, the EPA approved the 2021 version of the EMissions FACtor model (EMFAC2021) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources. The Project's Energy Analysis utilizes the different fuel types for each vehicle class from the annual EMFAC2021 emission inventory in order to derive the average vehicle fuel economy which is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction and operational activities. For purposes of analysis, the 2023 and 2024 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project. Outputs from the EMFAC2021 model run is provided in Appendix 4.3 of the Project's Energy Analysis (*Technical Appendix E* to this EIR).

4.4.4 Basis for Determining Significance

According to Section I of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to aesthetics if the Project or any Project-related component would (OPR, 2019):

- *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;*
- *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.*

4.4.5 Impact 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?***

A. Construction

1. Electricity Consumption

As shown in Table 4.4-1, *Construction Electricity Usage*, the total electricity usage from on-site Project construction related activities is estimated to be approximately 121,593 kWh.

Table 4.4-1 Construction Electricity Usage

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Office	$0.14	1,405
Warehouse	$0.14	14,863
Maintenance Building	$0.14	1,517
Parking	$0.14	31,888
Other Asphalt Surfaces	$0.14	71,920
Total Construction Electricity Usage		***121,593***

Source: (Urban Crossroads, 2023c, Table 4-3)

2. Transportation Energy Consumption

Project construction would represent a "single-event" diesel fuel demand and would not require ongoing or permanent commitment of diesel fuel resources for this purpose. As shown in Table 4-5 of the Project's Energy Analysis (*Technical Appendix E* to this EIR), Project construction activities would consume an estimated 51,463 gallons of diesel fuel. Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the City and region.

Based on CalEEMod methodology, it is assumed that 50% of all construction worker trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1), and 25% are from light-duty-trucks (LDT2). With respect to estimated VMT for the Project, the construction worker trips (personal vehicles used by workers commuting to the Project from home) would generate an estimated 178,433 VMT during the 16 months of construction. As shown in Table 4-7 of the Project's Energy Analysis (*Technical Appendix E* to this EIR), the estimated annual fuel consumption resulting from Project construction worker trips is 6,338 gallons during full construction of the Project. It should be noted that construction worker trips would represent a "single-event" gasoline fuel demand and would not require ongoing or permanent commitment of fuel resources for this purpose.

Construction vendor trips would generate an estimated 89,052 VMT along area roadways. It is assumed that 50% of all vendor trips are from Medium-Heavy-Duty-Trucks (MHDT), 50% of vendor trips are from Heavy-Heavy-Duty Trucks (HHDT), and 100% of hauling trips are from HHDTs. As shown in Table 4-8 of the Project's Energy Analysis (*Technical Appendix E* to this EIR), it is estimated that 14,614 gallons of fuel will be consumed related to construction vendor trips during full construction of the Project. It should be noted that Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

3. Construction Energy Efficiency/Conservation Measures

The equipment used for Project construction would conform to CARB regulations and California emissions standards. There are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

The Project would utilize construction contractors who regularly comply with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additional construction-source energy efficiencies would occur due to required California regulations and best available control measures (BACM). For example, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Section 2449(d)(3) requires that grading plans shall reference the requirement that a sign shall be posted on-site stating that construction workers need to shut off engines at or before five minutes of idling." In this manner, construction equipment operators are required to be informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by City building officials, and/or in response to citizen complaints.

In general, construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing, and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations. Therefore, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

B. Operation

Energy consumption in support of or related to Project operations would include transportation fuel demands (fuel consumed by passenger car and truck vehicles accessing the Project site), fuel demands from operational equipment, and facilities energy demands (energy consumed by building operations and site maintenance activities).

1. Transportation Energy Demand

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. The VMT per vehicle class can be determined by evaluated in the vehicle fleet mix and the total VMT. As with worker and vendors trips, operational vehicle fuel efficiencies were estimated using information generated within EMFAC2021 developed by CARB. As shown in Table 4.4-2, *Project Generated Traffic Annual Fuel Consumption (All Vehicles)*, the Project would result in a 1,300,864 annual VMT and an estimated annual fuel consumption of 127,584 gallons of fuel. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Ed., 2021); and CalEEMod. As such, Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other industrial uses.

Table 4.4-2 Project Generated Traffic Annual Fuel Consumption (All Vehicles)

Vehicle Type	Average Vehicle Fuel Economy (mpg)	Annual VMT	Estimated Annual Fuel Consumption (gallons)
LDA	32.75	308,853	9,430
LDT1	25.26	25,964	1,028
LDT2	24.73	140,851	5,696
MDV	15.05	78,288	5,203
MCY	15.05	11,709	778
LHD1	15.94	86,753	5,442
LHD2	15.05	21,909	1,456
MHD	7.52	175,418	23,340
HHD	6.00	451,118	75,210
	Total (All Vehicles)	***1,300,864***	***127,584***

Source: (Urban Crossroads, 2023c, Table 4-9)

2. On-site Cargo Handling Equipment Energy Demand

It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to one (1) 175 horsepower (hp), natural gas-powered cargo handling equipment – port tractors operating at 4 hours a day for 365 days of the year. Project operational activity estimates and associated fuel consumption estimates are based on the annual EMFAC2021 offroad emissions for the 2024 operational year and was used to derive the total annual fuel consumption associated on-site equipment. As presented in Table 4.4-3, *On-site Cargo Handling Equipment Fuel Consumption Estimates*, Project on-site equipment would consume an estimated 4,642 gallons of natural gas. On-site equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed operations that are unusual or energy-intensive, and Project

on-site equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

Table 4.4-3 On-site Cargo Handling Equipment Fuel Consumption Estimates

Equipment	Quantity	Usage Hours	Days of Operation	EMFAC2021 Fuel Consumption (gal./yr)	EMFAC2021 Activity (hrs./yr)	Total Fuel Consumption
Cargo Handling Equipment	1	4	365	17,909	5,633	4,642
On-Site Cargo Handling Equipment Fuel Demand (Gallons Fuel)						***4,642***

Source: (Urban Crossroads, 2023c, Table 4-10)

3. Facility Energy Demand

Project building operations activities would result in the consumption of natural energy and electricity, which would be supplied to the Project by SoCalGas and SCE. As shown in Table 4.4-4, *Project Annual Operational Energy Demand Summary*, the Project would result in 1,220,180 kBTU/year or natural gas and 395,861 kWh/year of electricity. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other industrial uses of similar scale and configuration.

Lastly, the Project will comply with the applicable Title 24 standards. Compliance itself with applicable Title 24 standards will ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

Table 4.4-4 Project Annual Operational Energy Demand Summary

Land Use	Natural Gas Demand (kBTU/year)	Electricity Demand (kWh/year)
Office	1,220,180	296,267
Warehouse		
Maintenance Building		
Parking	0	99,594
Other Asphalt Surfaces	0	0
Total Project Energy Demand	***1,220,180***	***395,861***

Source: (Urban Crossroads, 2023c, Table 4-11)

4. Operational Energy Efficiency/Conservation Measures

Energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title24, California Green Building Standards Code).

Project annual fuel consumption estimates presented represent likely potential maximums that would occur for the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code and City requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Threshold b: ***Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?***

The analysis below presents the Project's consistency with federal and State plans for renewable energy and energy efficiency.

A. Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

Transportation and access to the Project site is provided by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site.

B. The Transportation Equity Act for the 21st Century (TEA-21)

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-

21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

C. Integrated Energy Policy Report

Electricity would be provided to the Project by SCE. SCE's Clean Power and Electrification Pathway (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2021 IEPR. Additionally, the Project will comply with the applicable Title 24 standards which would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary. As such, development of the proposed Project would support the goals presented in the 2021 IEPR.

D. State of California Energy Plan

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access and takes advantage of existing infrastructure systems. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with or obstruct, implementation of the State of California Energy Plan.

E. California Code Title 24, Part 6, Energy Efficiency Standards

The 2022 version of Title 24 was adopted by the CEC and will become effective on January 1, 2023. As the Project building construction is anticipated in 2024, it is presumed that the Project would be required to comply with the Title 24 standards in place at that time. Therefore, the Project is would not result in a significant impact on energy resources. The Project would be subjected to Title 24 standards.

F. California Code Title 24, Part 11, CalGreen

As previously stated, CCR, Title 24, Part 11: CALGreen is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that were published on July 1, 2022 and will become effective on January 1, 2023. The Project would be required to comply with the applicable standards in place at the time plan check submittals are made.

G. AB 1493 Pavley Regulations and Fuel Efficiency Standards

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

H. California's Renewable Portfolio Standard (RPS)

California's RPS is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

I. Clean Energy and Pollution Reduction Act of 2015 (SB 350)

The Project would use energy from SCE, which have committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Additionally, the Project would be designed and constructed to implement the energy efficiency measures for new industrial developments and would include several measures designed to reduce energy consumption.

As demonstrated above, the Project would not conflict with any federal or State plans for renewable energy and energy efficiency. Therefore, impacts would be less than significant.

4.4.6 Cumulative Impact Analysis

Cumulative impacts result if the Project, along with cumulative projects, taken together could result in wasteful, inefficient, or unnecessary use of energy. Future projects would be subject to CEQA and would require an energy analysis, consistency with existing plans and policies for renewable energy and energy efficiency, and implementation of control measures and mitigation if necessary to avoid wasteful, inefficient, or unnecessary consumption of energy resources. The areas considered for cumulative impacts to electricity and natural gas supplies are the service areas of the SCE and SoCalGas, respectively.

Buildout of the Project, related projects, and additional forecasted growth in SCE's and SoCalGas' service area would cumulatively increase the demand for electricity supplies and infrastructure capacity. As with the Project, during construction and operation, other future development projects would be expected to incorporate energy conservation features and comply with applicable regulations including CALGreen and state energy standards under Title 24, which would contribute in minimizing wasteful energy consumption. As such, the Project's contribution to cumulative impacts related to wasteful, inefficient, and unnecessary use of electricity and natural gas would not be cumulatively considerable and, thus, would be less than significant.

As indicated under the analysis of Threshold b., the Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. As such, the Project has no potential to result in cumulatively-considerable impacts due to a conflict with or obstruction of such plans.

4.4.7 Significance of Impacts Before Mitigation

Threshold a: Less than Significant Impact. The amount of energy and fuel consumed by construction and operation of the Project would not be inefficient, wasteful, or unnecessary. Furthermore, the

Project would not cause or result in the need for additional energy facilities or energy delivery systems. Accordingly, the Project's impacts associated with energy consumption would be less than significant.

Threshold b: Less than Significant Impact. The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency and impacts would be less than significant.

4.4.8 MITIGATION

Impacts would be less than significant; therefore, mitigation is not required.

4.5 GEOLOGY AND SOILS

The analysis in this Subsection is based primarily on information contained in technical report prepared by prepared by GeoTek, Inc titled, "*Geotechnical and Infiltration Evaluation Proposed Warehouse Facility 534 Struck Avenue, Orange, Orange County, California*" and dated March 31, 2020 (GeoTek, 2020a). The technical report is included as *Technical Appendix F* to this EIR. In addition, a paleontological resources assessment prepared by Duke Cultural Resources Management titled, "*Cultural and Paleontological Resource Letter Report for the 534 Struck Avenue Project, City of Orange, Orange County, California* (Cultural Resources Study)" and dated April 30, 2021, was used in this analysis (Duke, 2021). Additional sources of information used to support the analysis in this Subsection include the City of Orange General Plan EIR (Orange, 2010a) and the Orange Municipal Code (Orange, 2021). All of the references used in this Subsection are listed in EIR Section 7.0, *References*.

4.5.1 EXISTING CONDITIONS

A. Soils

The Project site is generally underlain by undocumented fill and older alluvial fan deposits. Undocumented fill soils were encountered within ten of the test borings to depths ranging from about 3 to 5 feet below existing grade. The undocumented fill consisted of medium dense to dense silty sand, very dense/hard clayey sand to sandy clay, clayey silt and silty clay. Expansion index testing reveals that the near-surface soils exhibit a "medium" expansion potential.

Older alluvial fan deposits generally consist of medium dense to very dense sand and silty and clayey sands and stiff to very stiff sandy silts, clayey silts and sandy clays were encountered below the undocumented fill and/or the existing ground surface and extended to the maximum depths explored. (GeoTek, 2020a, p. 5)

B. Groundwater

Groundwater was not detected within the test borings to depths up to about 30 feet below grade. Based on a review of the Seismic Hazard Zone Report for the Orange Quadrangle, historic high groundwater at the Site is estimated to be greater than 40 feet below grade.

C. Seismic Hazards

The Project site is located in an area of southern California that is subject to strong ground motions due to seismic events (i.e., earthquakes). The geologic structure of southern California is dominated mainly by northwest-trending faults associated with the San Andreas system. The Project site is not situated within a State of California Alquist-Priolo Earthquake Fault Zone. The nearest known active faults are the San Joaquin Hills and Elsinore fault zones, located about 7.5 miles south and 8.5 miles northeast, respectively.

Secondary hazards associated with earthquakes include surface rupture, ground failure, unstable soils and slopes. Each of these hazards is briefly described below.

1. Fault Rupture

Fault rupture can occur along pre-existing, known active fault traces; however, fault rupture also can splay from known active faults or rupture along unidentified fault traces. No known faults occur on the Project site and the potential for damage due to direct fault rupture on the Project site is not expected to occur.

2. Liquefaction

Liquefaction is a phenomenon in which loose, saturated, relatively cohesion-less soil deposits lose shear strength during strong ground motions, which causes the soil to behave as a viscous liquid. Liquefaction is generally limited to the upper 50 feet of subsurface soils. Research and historical data indicate that loose granular soils of Holocene to late Pleistocene age below a near-surface groundwater table are most susceptible to liquefaction, while the stability of most clayey material is not adversely affected by vibratory motion (SCEC, 1999, pp. 5-6). The Project site is not located within an area mapped by the State of California for liquefaction potential. Based on the current map designation and the estimated depth to historic high groundwater (+40 feet) and the density of the materials encountered, the Site possesses a very low potential for liquefaction during a seismic event.

3. Unstable Soils and Slopes

The Project site is relatively flat and evidence of ancient landslides or slope instability was not observed. The potential for landslides is considered negligible.

D. Paleontological Resources

The Project is located in the northwestern portion of the Peninsular Ranges geomorphic province. The Peninsular Ranges province is distinguished by northwest trending mountain ranges and valleys following faults branching from the San Andreas Fault. Locally, the Project area is located in the Central Block of the Los Angeles Basin, an area characterized by thick alluvial deposits overlying sediments ranging from Cretaceous to Pleistocene in age. The old alluvial fan deposits (*Qof*) underlying the Project area are exclusively alluvial fan sediments sourced from the Santa Ana Mountains to the northeast in the Pleistocene Epoch (2.5 million years ago to 11,700 years ago). The El Modena and Peralta Hills to the north represent the Peralta Hills Anticline, a surface expression of the underlying, east-west trending, Peralta Hills Fault.

No fossil localities were identified within the Project site, but 3 fossil localities in similar deposits to those underlying the Project were identified nearby (within 3 miles). Fossil localities, include:

- LACM 4943 produced remains of horse (*Equus*) at a depth of 8 – 10 ft 2 miles north of the Project (McLeod 2020);

- LACM 1652 produced remains of sheep (*Ovis*) at an unknown depth 3 miles north of the Project (McLeod 2020);

- Gardenview, Phase I produced remains of rodents, mammals, and invertebrates at an unknown depth 3 miles west of the Project (SDNHM).

The presence of multiple nearby fossil localities in deposits similar to those underlying the Project indicates a high sensitivity for paleontological resources within the area.

4.5.2 REGULATORY FRAMEWORK

The following is a brief description of the federal, state, and local environmental laws and related regulations governing issues related to geology, soils, and paleontological resources.

A. Federal Regulations

1. Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was substantially reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972. Under the CWA, the Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for industry, and also has set water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man- made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. (EPA, 2020a)

2. Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act (PRPA) was signed into law on March 30, 2009 (Public Law 111-11, Title VI, Subtitle D; 16 U.S.C. §§ 470aaa - 470aaa-11). PRPA directs the Department of Agriculture (U.S. Forest Service) and the Department of the Interior (National Park Service, Bureau of Land Management, Bureau of Reclamation, and Fish and Wildlife Service) to implement comprehensive paleontological resource management programs. Section 6310 of PRPA specifically states, "As soon as practical after the date of enactment of this Act, the Secretary shall issue such regulations as are appropriate to carry out this subtitle, providing opportunities for public notice and comment." (NPS, n.d.)

B. State Regulations

1. Alquist-Priolo Earthquake Fault Zoning Act (A-P Act)

The Alquist-Priolo Earthquake Fault Zoning Act (A-P Act) was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The A-P Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The A-P Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. (CA Legislative Info, n.d.)

The A-P Act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. ["Earthquake Fault Zones" were called "Special Studies Zones" prior to January 1, 1994.] The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones. Projects include all land divisions and most structures for human occupancy. Single family wood-frame and steel-frame dwellings up to two stories not part of a development of four units or more are exempt. However, local agencies can be more restrictive than state law requires. (CA Legislative Info, n.d.)

Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet). (CA Legislative Info, n.d.)

2. Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) of 1990 (Public Resources Code, Chapter 7.8, § 2690-2699.6) directs the Department of Conservation, California Geological Survey to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the SHMA is to minimize loss of life and property through the identification, evaluation, and mitigation of seismic hazards. (CDC, n.d.)

Staff geologists in the Seismic Hazards Program gather existing geological, geophysical, and geotechnical data from numerous sources to produce the Seismic Hazard Zone Maps. They integrate and interpret these data regionally in order to evaluate the severity of the seismic hazards and designate as Zones of Required Investigation (ZORI) those areas prone to liquefaction and earthquake–induced landslides. Cities and counties are then required to use the Seismic Hazard Zone Maps in their land use planning and building permit processes. (CDC, n.d.)

The SHMA requires site-specific geotechnical investigations be conducted within the ZORI to identify and evaluate seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy. (CDC, n.d.)

3. Natural Hazards Disclosure Act

The Natural Hazards Disclosure Act, effective June 1, 1998 (as amended June 9, 1998), requires that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property being sold lies within one or more state-mapped hazard areas, including a Seismic Hazard Zone. (CA Legislative Info, n.d.)

The law requires the State Geologist to establish regulatory zones (Zones of Required Investigation) and to issue appropriate maps (Seismic Hazard Zone maps). These maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling construction and development. Single-family frame dwellings up to two stories not part of a development of four or more units are exempt from the state requirements. However, local agencies can be more restrictive than state law requires. (CA Legislative Info, n.d.)

Before a development permit can be issued or a subdivision approved, cities and counties must require a site-specific investigation to determine whether a significant hazard exists at the site and, if so, recommend measures to reduce the risk to an acceptable level. The investigation must be performed by state-licensed engineering geologists and/or civil engineers. (CA Legislative Info, n.d.)

4. Essentials Services Building Seismic Safety Act

In 1986, the California Legislature determined that buildings providing essential services should be capable of providing those services to the public after a disaster. Their intent in this regard was defined in legislation known as the Essential Services Buildings Seismic Safety Act of 1986 and includes requirements that such buildings shall be "…designed and constructed to minimize fire hazards and to resist…the forces generated by earthquakes, gravity, and winds." This enabling legislation can be found in the California Health and Safety Code, Chapter 2, § 16000 through 16022. In addition, the California Building Code defines how the intent of the act is to be implemented in Title 24, Part 1 of the California Building Standards Administrative Code, Chapter 4, Articles 1 through 3. (CAB, n.d.)

5. California Building Standards Code (Title 24)

California Code of Regulations (CCR) Title 24 is reserved for state regulations that govern the design and construction of buildings, associated facilities, and equipment. These regulations are also known as building standards (reference California Health and Safety Code § 18909). Health and Safety Code (state law) § 18902 gives CCR Title 24 the name California Building Standards Code (CBSC). (CBSC, 2019, p. 1)

The CBSC in CCR Title 24 is published by the California Building Standards Commission and it applies to all building occupancies (see Health and Safety Code §§ 18908 and 18938) throughout the State of California. Cities and counties are required by state law to enforce CCR Title 24 (reference Health and Safety Code §§ 17958, 17960, 18938(b), and 18948). Cities and counties may adopt ordinances making more restrictive requirements than provided by CCR Title 24, because of local climatic, geological, or topographical conditions. Such adoptions and a finding of need statement must

be filed with the California Building Standards Commission (Reference Health and Safety Code §§ 17958.7 and 18941.5). (CBSC, 2019, p. 1)

4.5.3 Basis for Determining Significance

Section VI of Appendix G to the CEQA Guidelines addresses typical adverse effects due to geological conditions, and includes the following threshold questions to evaluate the Project's impacts resulting from geologic or soil conditions (OPR, 2019):

- *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.*

    b. *Strong seismic ground shaking*

    c. *Seismic-related ground failure, including liquefaction*

    d. *Landslides*

- *Result in substantial soil erosion or the loss of topsoil;*

- *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;*

- *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;*

- *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water*;

- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;*

4.5.4 IMPACT ANALYSIS

Threshold a:	***Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42; strong seismic ground shaking; seismic-related ground failure, including liquefaction; landslides?***

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?

Ground rupture is the visible offset of the ground surface when an earthquake rupture along a fault affects the Earth's surface. Southern California, including the City of Orange, is subject to the effects of seismic activity due to the active faults that traverse the area. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone. According to the Geotechnical Investigation, the Project site is not within a State of California Alquist-Priolo Earthquake Fault Zone. Additionally, the Project site is not within any other fault zone. The nearest active faults to the Project site are the San Joaquin Hills and Elsinore fault zones located approximately 7.5 miles to the south and 8.3 miles to the northeast, respectively (GeoTek, 2020a). Fault rupture would not occur on the Project site since no active faults cross the Project site. Therefore, no impacts would occur.

ii. Strong seismic ground shaking?

As previously stated, the Project site is located within the highly seismic Southern California region within the influence of several fault systems. The San Joaquin Hills and Elsinore fault zones located approximately 7.5 miles to the south and 8.3 miles to the northeast, respectively, of the Project site (GeoTek, 2020a). As a result, the Project would likely experience strong seismic ground shaking during its design life.

The Project's proposed building would be constructed in accordance with the 2019 California Building Code (CBC) and OMC Section 15.04.010, California Building Code Adopted by Reference, structures built for human occupancy must be designed to meet or exceed the CBC standards for earthquake resistance. The CBC includes earthquake safety standards based on a variety of factors including occupancy type, types of soils and rocks on-site, and strength of probable ground motion at the project site. In accordance with CBC requirements, a Geotechnical Investigation was prepared to determine site-specific geologic conditions and appropriate design parameters. The Project would demonstrate compliance with applicable seismic-related design requirements and the City of Orange Building

Division would ensure incorporation of the Geotechnical Investigation's recommended design criteria as a standard condition of approval. Following compliance with the CBC, impacts concerning seismic ground shaking would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Seismic-related ground failure includes, but is not limited to, liquefaction. Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to fluids when subject to high-intensity seismic events. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater, 2) low-density non-cohesive (granular) soils and 3) high-intensity ground motion. According to the Geotechnical Investigation and the DOC Earthquake Zones of Required Investigation Map, the Project site is not within a Liquefaction Zone (DOC, 2016a; GeoTek, 2020a). The Project does not have the potential to expose people or structures to seismic-related liquefaction. Therefore, no impacts would occur.

iv. Landslides?

Seismic events can cause the soils within a slope to become unstable and slip causing a landslide. According to the DOC Earthquake Zones of Required Investigation Map, the Project site is not within a Landslide Zone (DOC, 2016a). The Project does not have the potential to expose people or structures to seismic-related landslides. Therefore, no impacts would occur.

***Threshold b*: Would the Project result in substantial soil erosion or the loss of topsoil?**

Erosion is the movement of rock and soil from place to place and is a natural process. Common agents of erosion in the region include wind and flowing water. Significant erosion typically occurs on steep slopes where stormwater and high winds can carry topsoil down hillsides. Erosion can be increased greatly by earthmoving activities if erosion-control measures are not employed.

The Project site is fully developed and contains ornamental landscaping within the site's northern portion. Because the Project site is fully developed and contains very little exposed soils, erosion is occurring on the site is minimal.

Grading and earthwork activities associated with Project construction would expose soils to potential short-term erosion by wind and water. Project construction would be required to comply with the water quality management measures identified in OMC Section 7.01.050, Controls for Water Quality Management. As discussed under Hydrology and Water Quality Threshold a, the Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) program to control direct storm water discharges, which involves the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for construction-related activities, including grading. As stated previously, the Project would also be required to demonstrate compliance with South Coast AQMD 403, which would reduce the potential for wind erosion during construction through the implementation of dust control measures. Following compliance with the established regulatory

framework (i.e., OMC Chapter 7.01.050 and South Coast AQMD Rule 403), impacts during construction would be less than significant.

Long-term operational impacts related to soil erosion or loss of topsoil would be required to comply with the requirements outlined in the Project's Water Quality Management Plan (WQMP) in compliance with OMC Chapter 7.01, Water Quality and Stormwater Discharges. The Project's WQMP is included as *Technical Appendix I1* of this EIR. The WQMP includes structural and non-structural best management practices (BMPs) to ensure water quality standards are upheld. Structural BMPs included in the Project's WQMP include providing storm drain signage; trash storage areas; efficient irrigation systems and landscape design; and loading docks. Non-structural BMPs, such as educational materials for property owners, tenants, and occupants; activity restriction; common area landscape management; BMP maintenance; spill contingency plant; uniform fire code implementation; common area litter control; employee training; housekeeping of loading docks, common area catch basin inspection; and street sweeping private streets and parking lots.

The BMPs identified in the Project's WQMP would reduce the Project's potential operational impacts concerning soil erosion or loss of topsoil. The Project site is within a highly urbanized area with minimal elevation changes. The Project would redevelop the Project site with a single approximately 57,900 sf truck terminal, that includes 52,900 sf of warehouse space and 5,000 sf of office space, and a 5,400-sf maintenance building and would contain a similar amount of impervious surfaces as compared to the site's existing development. Any exposed soil would be minimal and associated with landscaping areas. Project operations would not result in substantial soil erosion or loss of topsoil during operation. Impacts would be less than significant.

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?***

Landslide

Refer to Geology/Soils Threshold a.iv. The Project does not have the potential to be located on a geologic unit or soil that would result in on- or off-site landslides. No impacts would occur.

Lateral Spreading

Lateral spreading is a phenomenon in which large blocks of intact, non-liquefied soil move downslope on a liquefied soil layer. Lateral spreading is a regional event. For lateral spreading to occur, the liquefiable soil zone must be laterally continuous, unconstrained laterally, and free to move along the sloping ground. The Project site's potential for lateral spreading is considered low based on the site's relatively flat topography, distance from slopes, and no potential for liquefaction. The Project does not have the potential to be located on a geologic unit or soil that would result in lateral spreading. No impacts would occur.

Subsidence/Shrinkage

Subsidence and shrinkage are primarily dependent upon the degree of compaction achieved during construction. According to the Project's Geotechnical Investigation, undocumented fill soils were encountered at depths ranging from 3 to 5 feet bgs that consist of medium dense to dense silty sand, very dense/hard clayey sand to sandy clay, clayey silt, and silty clay (GeoTek, 2020a). Older alluvial fan deposits located beneath the undocumented fill and/or the existing ground surface consists of medium dense to very dense sand and silty and clayey sands and stiff to very stuff sandy silts and sandy clays. A shrinkage factor of approximately 5 to 15 percent may be considered for undocumented fill materials requiring removal and recompaction. A shrinkage factor of approximately 0 to 10 percent may be considered for excavation and recompaction of native soils (GeoTek, 2020a). The Project would implement the recommendations identified within the Geotechnical Investigation in accordance with CBC requirements and to preclude impacts related to subsidence and shrinkage. Additionally, the City of Orange Building Division would ensure incorporation of the Geotechnical Investigation's recommended actions as a standard condition of approval to the Project's building permit. Impacts would be less than significant.

Liquefaction

Refer to Geology/Soils Threshold a.iii. Therefore, the Project does not have the potential to be located on a geologic unit or soil that would result in liquefaction. No impacts would occur.

***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?**

Expansive soils are defined as soils possessing clay particles that react to moisture changes by shrinking or swelling. According to the Project's Geotechnical Investigation, the Project's on-site near-surface soils have a very low to medium expansion potential. Recommendations for foundation construction are outlined in Section 5.3, *Design Recommendations*, of the Geotechnical Investigation. Design parameters are detailed in Section 5.3.1 of the Geotechnical Investigation (*Technical Appendix F* of this EIR), the City of Orange Building Division would ensure incorporation of the Geotechnical Investigation's recommended actions as a standard condition of approval to the Project's building permit. Following the implementation of the Geotechnical Investigation recommendations, impacts would be less than significant.

***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?**

The Project would not involve the use of septic tanks or alternative waste water disposal systems. The Project would connect to the City's existing wastewater service, which currently provides service to the site and surrounding area. No impacts would occur.

Threshold f: ***Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

According to the City's General Plan EIR, Orange County has designated most of the area generally east of SR-55 as an area of paleontological resource sensitivity. However, the Project site is located 1.5 miles west of SR-55 and is developed with an existing manufacturing facility with associated parking and landscaping. There is a low potential for unique geologic features to be present on-site per the General Plan EIR. Additionally, according to the Cultural Resources Study (*Technical Appendix D*), the Project site does not contain any fossil localities; however, two fossil localities located within 3 miles of the Project site were identified in similar deposits to those underlying the Project site (Duke, 2021). The presence of multiple nearby fossil localities in deposits similar to those underlying the Project site indicates a high sensitivity for paleontological resources within the Project site (Duke, 2021). Although the Project site was previously disturbed, the Project's construction activities have the potential to increase the depth of excavation and uncover unidentified paleontological resources. Therefore, in the unlikely event that Project excavation uncovers unknown paleontological resources, construction activities could result in a potentially significant impact.

4.5.5 Cumulative Impact Analysis

With the exception of erosion hazards, potential hazardous effects related to geologic and soil conditions addressed under Thresholds "a," "c," "d," and "e" are unique to the Project site, and inherently restricted to the specific property proposed for development. That is, issues including fault rupture, seismic ground shaking, liquefaction, landslides, and expansive soils would involve effects to (and not from) a proposed development project, are specific to conditions on the subject property, and are not influenced or exacerbated by the geologic and/or soils hazards that may occur on other, off-site properties. Further, as noted in the foregoing analysis, all potential Project-related direct and indirect impacts related to potential hazardous effects related to geologic and soil conditions would be precluded through mandatory conformance with the CBC, Orange Municipal Code, other standard regulatory requirements, and the site-specific geotechnical recommendations contained within the Project's geotechnical report, which will be incorporated into the Project's design via conditions of approval. Because of the site-specific nature of these potential hazards and the measures to address them, there would be no direct or indirect connection to similar potential issues or cumulative effects to or from other properties.

As discussed under Threshold "b," regulatory requirements mandate that the Project incorporate design measures during construction and long-term operation to ensure that significant erosion impacts do not occur. Other development projects in the vicinity of the Project site would be required to comply with the same regulatory requirements as the Project to preclude substantial adverse water and wind erosion impacts. Because the Project and other projects within the cumulative study area would be subject to similar mandatory regulatory requirements to control erosion hazards during construction and long-term operation, cumulative impacts associated with wind and water erosion hazards would be less than significant.

The Project's potential to result in cumulative impacts to paleontological resources Threshold "f" is similar to that of other projects located in the region that are underlain by older alluvial soils. Cumulative impacts to paleontological resources consider development of the proposed Project in conjunction with other development projects and planned development in the immediate vicinity of the Project site that have a potential for uncovering paleontological resources. Generally, impacts relating to paleontological resources are site-specific and addressed on a site-by-site basis. Therefore, while there is a potential for an impact on a specific site, the impact would not ordinarily extend beyond the site or immediately surrounding area. There could be circumstances in which a paleontological resource extends over more than one property, however, there are no adjacent related projects that could potentially result in affects to unknown paleontological resources that may lie in the subsurface of the Project site; therefore, there would be no cumulative impacts would occur

4.5.6 Significance of Impacts Before Mitigation

Threshold a: Less-than-Significant Impact. Implementation of the Project would not expose people or structures to substantial direct or indirect adverse effects related to liquefaction or fault rupture. The Project site is subject to seismic ground shaking associated with earthquakes; however, mandatory compliance with local and State regulatory requirements and building codes would ensure that the Project minimizes potential hazards related to seismic ground shaking to less-than-significant levels.

Threshold b: Less-than-Significant Impact. Implementation of the Project would not result in substantial soil erosion or loss of topsoil. The Project Applicant would be required to obtain a NPDES permit for construction activities and adhere to a SWPPP, and prepare an erosion control plan to minimize water and wind erosion. Following completion of development, the Project's owner or operator would be required by law to implement a SWQMP during operation, which would preclude substantial erosion impacts in the long-term.

Threshold c: Less-than-Significant Impact. There is no potential for the Project's construction or operation to cause, or be impacted by, on- or off-site landslides or lateral spreading. Potential hazards associated with unstable soils would be precluded through mandatory adherence to the recommendations contained in the site-specific geotechnical report during Project construction.

Threshold d: Less-than-Significant Impact. The Project site contains soils with low susceptibility to expansion; therefore, the Project would not create substantial direct or indirect risks to life or property associated with the presence of expansive soils. Less-than-significant impacts would occur.

Threshold e: No Impact. No septic tanks or alternative wastewater disposal systems are proposed to be installed on the Project site. Accordingly, no impact would occur associated with soil compatibility for wastewater disposal systems.

Threshold f: Significant Direct Impact. The Project would not impact any known paleontological resource or unique geological feature. However, the Project site is underlain by older alluvium soils with a high sensitivity for paleontological resources. Accordingly, construction activities on the

Project site have the potential to unearth and adversely impact paleontological resource that may be buried beneath the ground surface.

4.5.7 MITIGATION

MM 4.5-1 Prior to the issuance of a grading permit, the Applicant shall provide written evidence to the Community Development Department that the Applicant has retained a qualified paleontologist to respond on an as-needed basis to address unanticipated paleontological discoveries.

In the event that paleontological resources are encountered during ground-disturbing activities, all construction activities within 100 foot vicinity of the find shall halt until the qualified paleontologist identifies the paleontological significance of the find. If determined to be significant, the fossil shall be collected and prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. At the conclusion of curation, a report of findings shall be prepared to document the results of the monitoring program. Construction shall not resume within the vicinity until the site paleontologist states in writing that the proposed construction activities would not significantly damage paleontological resources.

4.5.8 SIGNIFICANCE OF IMPACTS AFTER MITIGATION

Threshold "f:" Less than Significant Impact with Mitigation Incorporated. Mitigation Measure MM 4.5-1 would ensure the proper identification and subsequent treatment of any paleontological resources that may be encountered during ground-disturbing activities associated with implementation of the proposed Project. Therefore, with implementation of Mitigation Measure MM 4.5-1, the Project's potential impact to paleontological resources would be reduced to less-than-significant.

4.6 GREENHOUSE GAS EMISSIONS

The analysis in this Subsection is based on a technical report prepared by Urban Crossroads titled, *Greenhouse Gas Analysis*, dated January 12, 2023, and included *Technical Appendix G* to this EIR (Urban Crossroads, 2023d). The technical report and analysis in this Subsection assess the proposed Project's potential to generate greenhouse gas (GHG) emissions that could contribute to global climate change and its associated environmental effects.

4.6.1 EXISTING CONDITIONS

A. Introduction to Global Climate Change

Global Climate Change (GCC) is change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHG in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the Project cannot generate enough GHG emissions to affect a discernible change in global climate. However, the Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, the Project's Greenhouse Gas Analysis will evaluate the potential for the Project to have a cumulatively significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

B. Greenhouse Gases

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

GHGs have varying Global Warming Potential (GWP) values. GWP of a GHG indicates the amount of warming a gas causes over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of 1. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4.6-1, *GWP and Atmospheric Lifetime of Select GHGs*. As shown in the table below, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO_2 to 23,900 for Sulfur Hexafluoride (SF_6) and the GWP for the IPCC's 5th Assessment Report range from 1 for CO_2 to 23,500 for SF_6.

Table 4.6-1 GWP and Atmospheric Lifetime of Select GHGs

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)	
		Second Assessment Report	5th Assessment Report
CO_2	See*	1	1
CH_4	12.4	21	28
N_2O	121	310	265
HFC-23**	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

*As per Appendix 8.A of IPCC's 5th Assessment Report, no single lifetime can be given.
** HFC = Hydrofluorocarbon
Source: (Urban Crossroads, 2023d, Table 2-2)

Provided below is a description of the common gases that contribute to GCC. For more information about these gases and their associated human health effects, refer to Section 2.3 of *Technical Appendix G* to this EIR and the reference sources cited therein.

- Carbon Dioxide (CO_2) is an odorless and colorless GHG that is emitted from natural and artificial sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around

370 ppm, an increase of more than 30 percent. Exposure to CO_2 in high concentrations can cause human health effects, but outdoor levels are not high enough to adversely affect human health.

- Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years) compared to other GHGs. Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other artificial sources include fossil-fuel combustion and biomass burning. No human health effects are known to occur from atmospheric exposure to methane; however, methane is an asphyxiant that may displace oxygen in enclosed spaces.

- Nitrous Oxide (N_2O) concentrations began to rise in the atmosphere at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. N_2O is used as an aerosol spray propellant, (e.g., in whipped cream bottles), in potato chip bags to keep chips fresh, and in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction. N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause brain damage.

- Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs were first synthesized in 1928 and have no natural source. CFCs were used for refrigerants, aerosol propellants and cleaning solvents. After discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, due to their long atmospheric lifetime, some of the CFCs will remain in the atmosphere for over 100 years.

- Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Out of all GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order largest to smallest), HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23 emissions. HFC-134a emissions are increasing due to its use as a

refrigerant. No human health effects are known to result from exposure to HFCs, which are used for applications such as automobile air conditioners and refrigerants.

- Perfluorocarbons (PFCs) are primarily produced for aluminum production and semiconductor manufacture. PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The U.S. Environmental Protection Agency (EPA) estimates that concentrations of CF_4 in the atmosphere are over 70 ppt. No human health effects are known to result from exposure to PFCs.

- Sulfur Hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (22,800). The EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

- Nitrogen Trifluoride (NF_3) is a colorless gas with a distinctly moldy odor. The World Resources Institute indicates that NF_3 has a 100-year GWP of 17,200. NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display panels, types of solar panels, and chemical lasers. Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis.

C. Greenhouse Gas Emissions Inventories

1. Global

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2018. Based on the latest available data, the sum of these emissions totaled approximately 28,768,440 gigagram (Gg) CO_2e, as shown in Table 4.6-2, *Top GHG-Producing Countries and the European Union*. As noted in Table 4.6-2, the United States (U.S.), as a single country, was the number two producer of GHG emissions in 2018.

Table 4.6-2 Top GHG-Producing Countries and the European Union

Emitting Countries	GHG Emissions (Gg CO_2e)
China	12,300,200
United States	6,676,650
European Union (28-member countries)	4,232,274
Russian Federation	2,220,123
India	2,100,850
Japan	1,238,343
Total	28,768,440

Source: (Urban Crossroads, 2023d, Table 2-3)

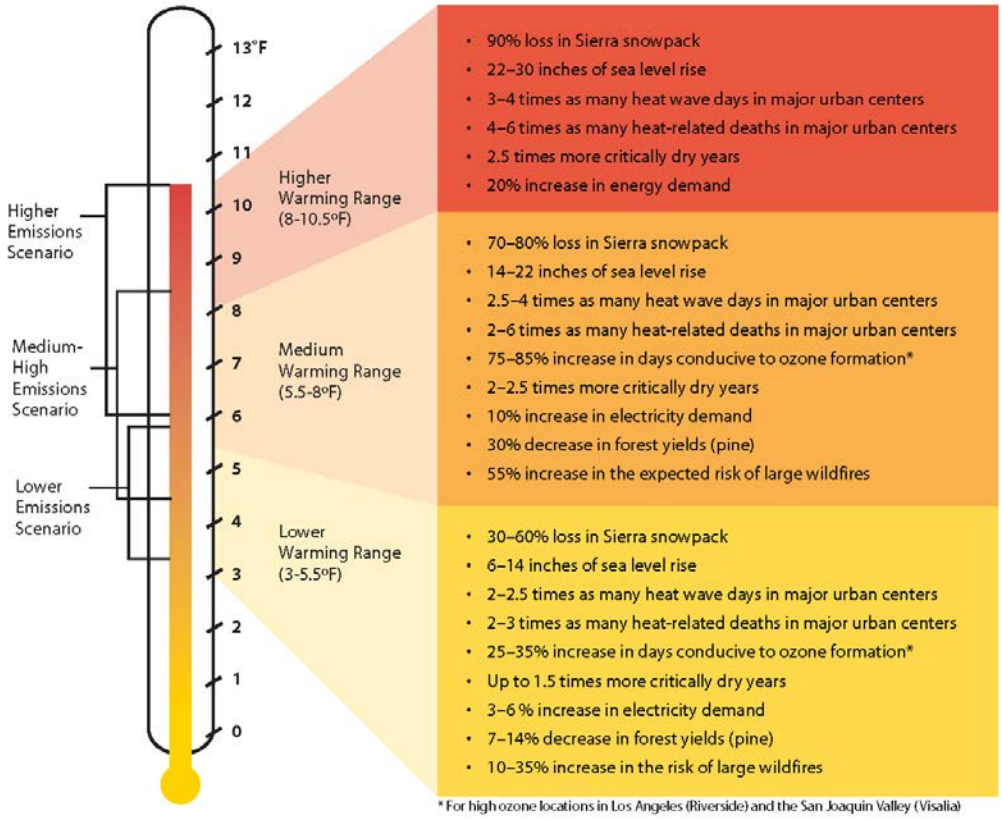
2. State of California

California has significantly slowed the rate GHG emissions growth due to the implementation of energy efficiency programs as well as adoption of strict emission controls, but is still a contributor to the U.S. emissions inventory total. The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2021 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2019 GHG emissions period, California emitted an average 418.2 million metric tons of CO_2e per year ($MMTCO_2e$/yr) or 418,200 Gg CO_2e (6.26% of the total United States GHG emissions).

D. Effects of Climate Change in California

Climate change will likely cause shifts in weather patterns, potentially resulting in changes in rainfall levels and volumes, resulting in flooding or droughts, increased wildfire risk, impair habitats for threatened and endangered species, and cause food shortages in some areas, among other climate change results. The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects such as the Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport those higher ambient temperatures could affect disease survival rates and result in more widespread disease. As shown in Exhibit 4.8-1, *Summary of Projected Global Warming Impact, 2070-2099 (As Compared With 1961-1990)*, climate change impacts in California have the potential to include, but are not limited to, the following areas:

Exhbit 4.3-1: Summary of Projected Global Warming Impact, 2070-2099 (As Compared With 1961-1990)



Source: (Urban Crossroads, 2023d, Exhibit 2-A)

1. Public Health

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Our Changing Climate: Assessing the Risks to California report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a significant increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

2. Water Resources

A vast network of artificial reservoirs and aqueducts captures and transports water throughout the State from northern California rivers and the Colorado River. The current distribution system from northern California relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, and result in a drier Colorado River, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within several areas including Orange County and the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

3. Agriculture

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging

gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

4. Forests and Landscapes

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks would not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

5. Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

4.6.2 REGULATORY FRAMEWORK

The following is a brief description of the federal, state, and local environmental laws and related regulations related to GHG emissions.

A. International Regulations

1. Intergovernmental Panel on Climate Change

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the Intergovernmental Panel on Climate Change (IPCC) to assess the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

2. United Nation's Framework Convention on Climate Change (Convention)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on GHG emissions, national

policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

3. International Climate Change Treaties

The Kyoto Protocol is an international agreement linked to the Convention. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the UN Climate Change Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings gradually gained consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the U.N. Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP). Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a) (Center for Climate and Energy Solutions (C2ES), 2015).

Following President Biden's day one executive order, the United States officially rejoined the landmark Paris Agreement on February 19, 2021, positioning the country to once again be part of the global climate solution. Meanwhile, city, state, business, and civic leaders across the country and around the world have been ramping up efforts to drive the clean energy advances needed to meet the goals of the agreement and put the brakes on dangerous climate change.

B. Federal Regulations

1. Federal Regulation and the Clean Air Act

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding direct and indirect regulations by the federal government concerning GHGs and fuel efficiency.

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (U.S. Court) found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Court held that the

EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed 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.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in section 2.7.2 "Clean Vehicles" in *Technical Appendix G* of this EIR.

2. Mandatory Reporting of GHGs

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

C. State

1. Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- 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.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector, and do not apply to this Project.

2. Executive Order S-13-08

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the 2009 California Climate Adaptation Strategy (CNRA 2009) was adopted, which is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

3. Executive Order B-30-15

On April 29, 2015, Governor Brown issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor's executive order aligned California's GHG reduction targets with those of leading international governments ahead of the U.N. Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the *2017 Scoping Plan* to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable as to local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

4. Executive Order S-01-07 – Low Carbon Fuel Standard

The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. CARB adopted the LCFS on April 23, 2009.

After a series of legal changes, in order to address the Court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

5. Executive Order B-55-18 and SB 100

SB 100 and Executive Order B-55-18 were signed by Governor Brown in 2018. Before then, 25% of retail energy sales were required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raised California's RPS requirement to 50% renewable resources target by December 31, 2026 and established a 60% target by December 31, 2030. SB 100 also required that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 established a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directed the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

6. California Assembly Bill No. 32 (AB 32)

The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met[1]). GHGs as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, NF_3, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems*."

7. California Air Resources Board (CARB) Scoping Plans

In November 2017, CARB released the 2017 Scoping Plan Update, which implements the 2030 target of a 40% reduction below 1990 levels codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation (discussed below), the LCFS, and much

[1] Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 $MMTCO_2e$. This is less than the 2020 emissions target of 431 $MMTCO_2e$.

cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

The 2017 Scoping Plan Update establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030.

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities, jobs-housing balance and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of zero-emission vehicles (ZEV) trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and hydroflurocarbon emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.

- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

The 2017 Scoping Plan acknowledges that:

> *[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA.*

In addition to the statewide strategies listed above, the 2017 Scoping Plan Update also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible. Alternatively, lead agencies may utilize a performance-based metric using a CAP or other plan to reduce GHG emissions.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) in 2015 and supported by CARB, California, was expected to (and subsequently did) meet the 2020 reduction targets under AB 32 and could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and anticipated future GHG-reducing policies. The CALGAPS model showed that, as of 2017, GHG emissions through 2020 could range from 317 to 415 $MTCO_2e$ per year ($MTCO_2e$/yr), "indicating that existing state policies will likely allow California to meet its target [of 2020 levels under AB 32]." CALGAPS also showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$/yr, indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80% reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050.

8. The Sustainable Communities and Climate Protection Act of 2008 (SB 375)

Senate Bill (SB) 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy,

California will not be able to achieve the goals of AB 32." SB 375: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

SB 375 also requires Metropolitan Planning Organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. Although SB 375 does not prevent CARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities' strategy or an alternative planning strategy that the CARB accepts as achieving the GHG emission reduction targets.

2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).

3. Incorporates the mitigation measures required by an applicable prior environmental document.

9. Assembly Bill No. 1493 (AB 1943)

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EVs (EV) and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California. On March 9, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards for cars and light trucks, which

other states can also adopt and enforce. With this authority restored, EPA will continue partnering with states to advance the next generation of clean vehicle technologies.

10. Senate Bill No. 350 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.

- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.

- Reorganize the Independent System Operator to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

11. Senate Bill No. 32 (SB 32)/AB 197

On September 8, 2016, Governor Jerry Brown signed the SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. SB 32 builds upon the AB 32 goal and provides an intermediate goal to achieving Executive Order S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature.

12. Cap-and-Trade Program

The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to

achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration. Land use projects such as the proposed Project are not directly subject to the Cap-and-Trade program, however sectors associated with land use development such as energy and fuel usage are deemed covered entities that would indirectly be subject to Cap-and-Trade.

Covered entities that emit more than 25,000 $MTCO_2e$/yr must comply with the Cap-and-Trade Program. Triggering of the 25,000 $MTCO_2e$/yr "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year.

An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program helped California meet its 2020 GHG emissions reduction mandate.

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85% of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program.

The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation (i.e., they were not fully regulated) until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e.,

delivered into commerce). Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with VMT are covered by the Cap-and-Trade Program. In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the Program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.

13. Title 20 Standards

California Code of Regulations (CCR), Title 20: Division 2, Chapter 4, Article 4, Sections 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

14. Title 24 Standards

CCR Title 24 Part 6: California's Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that will be effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons. The Project would be required to comply with the applicable standards in place at the time plan check submittals are made. These require, among other items are listed in Section 2.7.3.3 of *Technical Appendix G* of this EIR.

15. CARB Refrigerant Management Program

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 lbs of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce

emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

16. Tractor-Trailer GHG Regulation

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies as discussed in 2.7.2, SmartWay Program, of the *Technical Appendix G* of this EIR. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

17. Phase 1 and 2 Heavy-Duty Vehicle GHG Standards

In September 2011, CARB has adopted a regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer GHG Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements began with MY 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later MY HDT vehicles, including trailers. The EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

18. SB 97 and the CEQA Guidelines Update

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall

certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

On December 28, 2018, the CEQA Guidelines were amended to reference climate change and provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. CEQA Guidelines section 15064.4 affords lead agencies the discretion to determine for each project whether to quantify greenhouse gas emissions and/or rely on a qualitative analysis or performance based standards; in determining the significance of a project's greenhouse gas emissions, the lead agency should consider factors, among others, including (1) the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting, (2) the extent to which the project complies with regulations or requirements adopted to implement a regional or local plan for the reduction or mitigation of greenhouse gas emissions.

D. Regional

1. South Coast Air Quality Management District

The South Coast Air Quality Management District (South Coast AQMD) is the agency responsible for air quality planning and regulation in the SCAB. South Coast AQMD addresses the impacts to climate change of projects subject to South Coast AQMD permits as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The South Coast AQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, South Coast AQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the South Coast AQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, that could be applied by lead agencies. However, the document was never finalized. The working group has not provided additional guidance since release of the interim guidance in 2008. The South Coast AQMD Board has not approved the thresholds which remain interim. The interim thresholds consist of a tiered approach. Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions. Tiers 1 through 5 are further discussed in subsection 2.7.4, South Coast AQMD, of the *Technical Appendix G* of this EIR.

4.6.3 METHODOLOGY

A. Quantification of Emissions

In May 2022 the California Air Pollution Control Officers Association (CAPCOA) om conjunction with other California air districts, including South Coast AQMD, released the latest version of CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendices 3.1 through 3.2 of *Technical Appendix G* of this EIR. CalEEMod includes GHG emissions from the following source categories: construction, area sources, energy, mobile, waste, water.

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time. Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the Project development, infrastructure, and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the South Coast AQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood, or documented, and would be challenging to mitigate. Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, South Coast AQMD has not recommended, and is not requiring, life-cycle emissions analysis.

1. Project Construction Emissions

Construction is expected to commence in July 2023 and will last through November 2024. The construction schedule utilized in the analysis, shown in Table 3-1, *Construction Activity Phases and Durations*, in Section 3.0, *Project Description*, of this EIR, represents a "worst-case" analysis scenario should construction occur any time after the respective dates with the potential of overlap of construction of the phases, since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA Guidelines.

Construction Equipment

A detailed summary of construction equipment assumptions by phase is provided at Table 3-2, *Construction Equipment Requirement*, in Section 3.0, *Project Description*, of this EIR. Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-2

will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

2. Project Operational Emissions

Operational activities associated with the Project will result in emissions of CO_2, CH_4, and N_2O from the following primary sources: Area Source Emissions; Energy Source Emissions; Mobile Source Emissions; On-site Cargo Handling Equipment Emissions; Water Supply, Treatment, and Distribution; Solid Waste; Refrigerants.

Area Source Emissions

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

Energy Source Emissions

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building; the building energy use emissions do not include street lighting. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Natural gas and electricity usage associated with the Project were calculated by CalEEMod using default parameters.

Mobile Source Emissions

The Project related GHG emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site and truck trips associated with the proposed uses.

In order to determine emissions from passenger car vehicles, CalEEMod defaults for trip length and trip purpose were utilized. Default vehicle trip lengths for primary trips will be populated using data from the local metropolitan planning organizations/Regional Transportation Planning Agencies (MPO/RTPA). Trip type percentages and trip lengths provided by MPO/RTPAs truncate data at their demonstrative borders. This analysis assumes that passenger cars include Light-Duty-Auto vehicles (LDA), Light-Duty-Trucks (LDT1[2] & LDT2[3]), Medium-Duty-Vehicles (MDV), and Motorcycles

[2] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[3] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

(MCY) vehicle types. The passenger cars fleet mix was determined and presented in Table 3-4 of the *Technical Appendix G* of this EIR.

To determine emissions from trucks for the proposed industrial uses, the analysis incorporated the South Coast AQMD recommended truck trip length of 15.3 miles for 2-axle (LHDT1, LHDT2), 14.2 miles for 3-axle (MHDT) trucks, and 40 miles for 4+-axle (HHDT) trucks and weighting the average trip lengths using traffic trip percentages. The trip length function for the proposed use has been revised to 30.13 miles and an assumption of 100% primary trips was assumed. Trucks are broken down by truck type. The truck fleet mix is estimated by rationing the trip rates for each truck type based on information provided by the SCAQMD recommended truck mix, by axle type. Heavy trucks are broken down by truck type (or axle type) and are categorized as either Light-Heavy-Duty Trucks (LHDT1[4] & LHDT2[5])/2-axle, Medium-Heavy-Duty Trucks (MHDT)/3-axle, and Heavy-Heavy-Duty Trucks (HHDT)/4+-axle. The truck fleet mix was determined and presented in Table 3-5 of the *Technical Appendix G* of this EIR.

On-site Cargo Handling Equipment Emissions
It is common for industrial buildings to require the operation of exterior cargo handling equipment in the building's truck court areas. For this particular Project, on-site modeled operational equipment includes up to one (1) 175 horsepower (hp), natural gas-powered cargo handling equipment – port tractor operating at 4 hours a day for 365 days of the year.

Water Supply, Treatment, and Distribution
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. Unless otherwise noted, CalEEMod default parameters were used.

Solid Waste
Industrial land uses would result in the generation and disposal of solid waste. A percentage of this waste would be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted would be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by CalEEMod using default parameters.

Refrigerants
Air conditioning (A/C) and refrigeration equipment associated with the buildings are anticipated to generate GHG emissions. CalEEMod automatically generates a default A/C and refrigeration equipment inventory for each project land use subtype based on industry data from the EPA.

[4] Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.
[5] Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.

CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime and then derives average annual emissions from the lifetime estimate. Note that CalEEMod does not quantify emissions from the disposal of refrigeration and A/C equipment at the end of its lifetime. Per 17 CCR 95371, new facilities with refrigeration equipment containing more than 50 pounds of refrigerant are prohibited from utilizing refrigerants with a GWP of 150 or greater as of January 1, 2022. As such, it was conservatively assumed that refrigeration systems installed at the supermarket portion of the Project would utilize refrigerants with a GWP of 150. GHG emissions associated with refrigerants were calculated by CalEEMod.

4.6.4 Basis for Determining Significance

Section VII of Appendix G to the CEQA Guidelines indicate that a project would result in a significant impact on climate change if a project were to (OPR, 2019):

- *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?*

The City of Orange has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. The Guidance for Greenhouse Gas Emissions Analysis (Memo) provides guidance to the City of Orange Planning Division staff for evaluating GHG emissions analyses in CEQA documents for all non-exempt project where the City of Orange is the lead agency. Based on the Memo, the City will accept GHG analyses that use the Tier 3 quantitative thresholds recommended in the South Coast AQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans (South Coast AQMD Interim Threshold).

The South Coast AQMD's adopted numerical threshold of 10,000 $MTCO_2e$/yr for industrial stationary source emissions is typically selected as the significance criterion. However, the City has determined that the South Coast AQMD's draft threshold of 3,000 $MTCO_2e$/yr is more conservative and appropriate for industrial and warehouse land use development projects. The 3,000 $MTCO_2e$/yr threshold is based on the South Coast AQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the South Coast AQMD Interim Thresholds. The South Coast AQMD Interim Threshold identifies a screening threshold to determine whether additional analysis is required.

4.6.5 IMPACT ANALYSIS

Threshold a: ***Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

A. Construction

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the South Coast AQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions. As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 4.6-3, *Amortized Annual Construction Emissions*.

Table 4.6-3 Amortized Annual Construction Emissions

Year	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e[6]
2023	329.68	0.02	0.01	0.13	335.81
2024	370.75	0.01	0.00	0.10	373.54
Total GHG Emissions	700.43	0.03	0.01	0.23	709.35
Amortized Construction Emissions	**23.35**	**1.00E-03**	**3.33E-04**	**0.01**	**23.65**

Source: (Urban Crossroads, 2023d, Table 3-3)

B. Operation

The annual GHG emissions associated with the operations of the Project would result in emissions of CO_2, CH_4, and N_2O. As shown in Table 4.6-4, *Project GHG Emissions*, the annual GHG emissions associated with the operation of the Project are estimated to be approximately 1,736.21 MT CO_2e per year, which would not exceed the 3,000 MTCO_2e per year threshold. Therefore, project-related emissions would not have a potential significant direct or indirect impact on GHG and climate change. Impacts related to GHG emissions would be less than significant.

Table 4.6-4 Project GHG Emissions

Emission Source	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e
Annual construction-related emissions amortized over 30 years	23.35	1.00E-03	3.33E-04	0.01	23.65

[6] CalEEMod reports the most common GHGs emitted which include CO_2, CH_4, and N_2O. These GHGs are then converted into the CO_2e by multiplying the individual GHG by the GWP.

Emission Source	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e
Mobile Source	1,184.00	0.07	0.15	1.52	1,232.00
Area Source	1.28	0.00	0.00	0.00	1.32
Energy Source	127.00	0.01	0.00	0.00	128.00
Water Usage	20.40	0.48	0.01	0.00	35.80
Waste	5.31	0.53	0.00	0.00	18.60
Refrigerants	0.00	0.00	0.00	10.70	10.70
On-Site Equipment					286.15
Total CO_2e (All Sources)	**1,736.21**				

Source: (Urban Crossroads, 2023d, Table 3-6)

Threshold b: ***Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

Pursuant to CEQA Guidelines Section 15604.4, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions. As such, the Project's consistency with SB 32 (2017 Scoping Plan), is discussed below. Consistency with AB 32 and the 2008 Scoping Plan is not necessary, since the target year for AB 32 and the 2008 Scoping Plan was 2020, and the Project's buildout year is 2024. As such the 2008 Scoping Plan does not apply and consistency with the 2017 Scoping Plan is relevant. Project consistency with SB 32 is evaluated in the following discussion. The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. As summarized in Table 4.6-5, *2017 Scoping Plan Consistency Summary*, the Project will not conflict with any of the provisions of the *Scoping Plan* and in fact supports seven of the action categories. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030. Therefore, impacts would be less than significant.

Table 4.6-5 2017 Scoping Plan Consistency Summary

Action	Responsible Parties	Conflict?
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	**No conflict.** The Project would use energy from Southern California Edison (SCE). SCE has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct SCE energy source diversification efforts.

Action	Responsible Parties	Conflict?
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		**No conflict.** The Project would be constructed in compliance with applicable California Building Code requirements. Specifically, new buildings must achieve compliance with 2019 Building and Energy Efficiency Standards and the 2019 California Green Building Standards requirements, or the applicable standards in place at the time building permit document submittals are made. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty EVs by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	**No conflict**. This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2025 targets. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and will therefore comply with the strategy.
At least 4.2 million zero emission and plug-in hybrid light-duty EVs by 2030.		**No conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2030 targets. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and will therefore comply with the strategy.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		**No conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and will therefore comply with the strategy.

Action	Responsible Parties	Conflict?
Medium- and Heavy-Duty GHG Phase 2.		**No conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to implement Medium- and Heavy-Duty GHG Phase 2. As this is a CARB enforced standard, vehicles that access the Project are required to comply with the standards and will therefore comply with the strategy.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.		**No conflict.** The Project would not obstruct or interfere with agency efforts to transition to a suite of to-be-determined innovative clean transit options.
Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		**No conflict.** The Project would not obstruct or interfere with agency efforts to use low NO_X or cleaner engines or the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		**No conflict.** This Project would not obstruct or interfere with implementation of SB 375 and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	**No conflict.** The Project would not obstruct or interfere with agency efforts to increase stringency of SB 375 Sustainable Communities Strategy.

Action	Responsible Parties	Conflict?
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	**No conflict.** The Project would not obstruct or interfere with agency efforts to harmonize transportation facility project performance with emissions reductions, increase competitiveness of transit and active transportation modes, implantation of sidewalks/Class I shared use trails, and bus stops.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	**No conflict.** The Project would not obstruct or interfere with agency efforts to develop pricing policies to support low-GHG transportation.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	**No conflict.** This measure would apply to all trucks accessing the Project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector. The Project would not obstruct or interfere with agency efforts to Improve freight system efficiency.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		**No conflict.** The Project would not obstruct or interfere with agency efforts to deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	**No conflict.** When adopted, this measure would apply to all fuel purchased and used by the Project in the state. The Project would not obstruct or interfere with agency

Action	Responsible Parties	Conflict?
		efforts to adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, California State Water Resource Control Board (SWRCB), Local Air Districts	**No conflict.** The Project would not obstruct or interfere with agency efforts to reach a 40% reduction in methane and hydrofluorocarbon emissions below 2013 levels or 50% reduction in black carbon emissions below 2013 levels.
50% reduction in black carbon emissions below 2013 levels.		
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	**No conflict.** The Project would not obstruct or interfere with agency efforts to develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	**No conflict.** Cap-and-Trade Program provisions do not apply to this Project. The Project would not obstruct or interfere agency efforts to implement the post-2020 Cap-and-Trade Program.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	**No conflict.** The Project would not obstruct or interfere with agency efforts to protect land from conversion through conservation easements and other incentives. It should also be noted that the Project site is not an identified property that needs to be conserved.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.		**No conflict.** The Project site is currently developed and does not comprise an area that would effectively provide for carbon sequestration. The Project would not obstruct or interfere agency efforts to increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.

Action	Responsible Parties	Conflict?
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments.		**No conflict.** To the extent appropriate for the proposed buildings, wood products would be used in construction, including for the roof structure. Additionally, the proposed project includes landscaping.
Establish scenario projections to serve as the foundation for the Implementation Plan.		**No conflict.** The Project would not obstruct or interfere with agency efforts to establish scenario projections to serve as the foundation for the Implementation Plan.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	**No conflict.** The Project would not obstruct or interfere with agency efforts to implement Forest Carbon Plan.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	**No conflict.** The Project would not obstruct or interfere with agency efforts to fund and finance mechanisms to support GHG reductions across all sectors.

4.6.6 Cumulative Impact Analysis

Implementation of a development project could contribute to global climate change through direct emissions of GHGs from on-site area sources and vehicle trips generated by the project, and indirectly through offsite energy production required for on-site activities, water use, and waste disposal. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis consistent with the requirements outlined in CEQA Guidelines Section 15064(h)(3). As discussed, implementation of the Project would result in net annual emissions that not exceed the GHG emissions significance threshold of 3,000 MT CO_2e/yr. Therefore, Project-related GHG emissions and their contribution to global climate change would be not cumulatively considerable, and GHG emissions impacts would be less than significant.

4.6.7 Significance of Impacts Before Mitigation

Threshold a: Less-than-Significant Impact. Project GHG emissions would not exceed the 3,000 MT CO_2e per year threshold. Therefore, impacts are less than significant.

Threshold b: Less-than-Significant Impact. The Project would not conflict with applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHG emissions. Therefore, impacts are less than significant.

4.6.8 MITIGATION

Impacts would be less than significant; therefore, mitigation is not required.

4.7 HAZARDS AND HAZARDOUS MATERIALS

The information and analysis presented in this Subsection is based in part on three technical studies to determine the presence or absence of hazardous materials on the Project site under existing conditions: 1) a report prepared by GeoTek, Inc. (referenced herein as "GeoTek") titled "Phase I Environmental Site Assessment, Assessor's Parcel Number (APN) 375-331-04, 534 Struck Avenue, Orange, Orange County, California 92867" (Phase I ESA) and dated March 31, 2020 (GeoTek, 2020b); and 2) a report prepared by GeoTek titled "Limited Phase II Environmental Site Assessment, 534 Struck Avenue, Orange, Orange County, California 92867" (Phase II ESA) and dated June 30, 2020 (GeoTek, 2020c), and 3) a report prepared by Ramboll US Corporation (referenced herein as "Ramboll") titled "Soil Management Plan, Proposed Industrial Development, 534 West Struck Avenue, Orange, California" (Ramboll, 2020). These reports are provided as *Technical Appendices H1*, *H2*, and *H3* to this EIR, respectively. This Subsection also relies on information from the City General Plan (Orange, 2010b); the City General Plan EIR (Orange, 2010a); Cal Fire – Fire Hazard Severity Zone Map (Cal Fire, 2011); and Google Earth (Google Earth, 2022). All references used in this Subsection are listed in EIR Section 7.0, *References*.

In this EIR, the term "toxic substance" is defined as a substance that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may present an unreasonable risk of injury to human health or the environment. Toxic substances include chemical, biological, flammable, explosive, and radioactive substances.

In this EIR, the term "hazardous material" is defined as a substance that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may: 1) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, disposed of, or otherwise mismanaged; or 2) cause or contribute to an increase in mortality or an increase in irreversible or incapacitating illness.

Hazardous waste is defined in the California Code of Regulations, Title 22, Section 66261.3. The defining characteristics of hazardous waste are: ignitability (oxidizers, compressed gases, and extremely flammable liquids and solids), corrosivity (strong acids and bases), reactivity (explosives or generates toxic fumes when exposed to air or water), and toxicity (materials listed by the U.S. Environmental Protection Agency [EPA] as capable of inducing systemic damage to humans or animals). Certain wastes are called "Listed Wastes" and are found in the California Code of Regulations, Title 22, Sections 66261.30 through 66261.35. Wastes appear on the lists because of their known hazardous nature or because the processes that generate them are known to produce hazardous wastes (which are often complex mixtures).

4.7.1 EXISTING CONDITIONS

Until the end of 2020, the Project site was occupied by Nursery Supplies, Inc., a manufacturer of plastic nursery planting pots. The Project site contains one approximately 40,000 sf concrete tilt-up building,

five open canopy storage areas, 14 silos for plastic granule storage, additional open storage areas and parking/drive areas. The site is accessed via an asphalt-paved entrance along West Struck Avenue.

A. Historical Review, Regulatory Records Review, and Field Reconnaissance

1. Historical Review

GeoTek reviewed various sources of information to determine the historical use of the Project site, including historical aerial photographs, historical topographic maps, Environmental Data Resources (EDR) collection of regulatory database records, historical site occupants, and historical site ownership records. Refer to the Project's Phase I ESA (refer to *Technical Appendix H1*) for a detailed accounting of GeoTek's research procedure.

The Project site was found to have been utilized for agricultural purposes from at least 1938 until at least 1966. One structure can be seen on the southern portion of the Project site in an aerial photograph dated 1972. No other structures were present on the site. An aerial photograph dated 1977 shows the existing concrete tilt-up structure on the site. Cosden Oil and Chemical Company and Sterling Plastics formerly operated on the Project site, both of which produced polystyrene pellets. Nursery Supplies, Inc. began occupation of the property in 1984. In aerial photographs dated 2016 and 2018, all of the site's existing structures are present. The surrounding properties were utilized for agriculture from at least 1938 to at least 1952. The industrial and commercial development present to the west and south of the Project site can be seen in an aerial photograph dated 1963.

2. Regulatory Records Review

A review of the regulatory database report provided by Environmental Data Resources, Inc. (EDR) in accordance with ASTM E1527-13 was conducted to determine if the Project is a listed regulatory site. The regulatory database report is included in *Technical Appendix H1* to this EIR. The Project site is listed on the following databases: EPA-Superfund Enterprise Management System including archived sites (SEMS-ARCHIVE), CEPA-Envirostor Database, CERS HAZ WASTE, HAZNET, California Integrated Water Quality System (CIWQS), CERS, Hazardous Waste Transporter Database (HWTS), RCRA NonGen/NLR, Facility Index System/Facility Registry System (FINDS), Enforcement and Compliance History Information (ECHO), National Pollutant Discharge Elimination System (NPDES), Waste Discharge System (WDS), Aboveground Petroleum Storage Tank Facilities (AST).

3. Field Reconnaissance

GeoTek conducted an inspection of the Project site and surrounding area on March 5, 2020. Visual evidence of hazardous substances and wastes were observed during the site reconnaissance. Visual indication of spills, leaks, and stains were observed. Several areas of staining were noted on the concrete near trash cans, storage containers, scrap machinery, storage areas and used oil containment areas. No pungent or acrid odors were observed emanating from the site. Current observed conditions at the site indicate generally poor housekeeping and documentation regarding hazardous materials and wastes (GeoTek, 2020b). Based on the historic recognized environmental condition and on-site

conditions, the Phase I ESA recommended additional soil sampling to ensure the site has been cleaned prior to construction.

B. Phase II Environmental Site Assessment

A limited Phase II ESA was prepared to conduct soil and soil vapor sampling consistent with the recommendations of the Phase I ESA. A site reconnaissance was performed on May 20, 2020 by a geologist from GeoTek. The Phase II field investigation commenced on May 26, 2020 and was completed on May 27, 2020 (GeoTek, 2020c). GeoTek advanced 16 exploratory borings (Borings B-1 through B-16) at the Project site within the parking/driving areas. The boring locations are depicted on Figure 12, Boring Location Map, of the Phase I ESA in *Technical Appendix H1* of this EIR.

Boring B-1, B-2, and B-5 through B-16 were drilled to an approximate depth of 10 feet below existing grades. Borings B-3 and B-4 were drilled within the approximate location of the previous underground storage tanks and were drilled to an approximate depth of 15 feet below existing grades (GeoTek, 2020c). Detectable quantities of the VOC constituents freon 113; 1,1,1-trichloroethene; dichlorodifluoromethane; trichlorofluoromethane; trichloroethene; and tetrachloroethene were detected from all borings. VOC concentrations for the constituents trichloroethene and tetrachloroethene were detected above screening levels for industrial air in two of the 16 borings, which include B-11 and B-12. These two borings are in the southwest corner of the Project site. (GeoTek, 2020c).

4.7.2 REGULATORY FRAMEWORK

The following is a brief description of the federal, state, and local environmental laws and related regulations related to hazards and hazardous materials.

A. Hazardous Materials Regulations and Plans

1. Federal Regulations

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA)

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as CERCLA or Superfund, provides a Federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. Through CERCLA, the Environmental Protection Agency (EPA) was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup. EPA cleans up orphan sites when potentially responsible parties cannot be identified or located, or when they fail to act. Through various enforcement tools, EPA obtains private party cleanup through orders, consent decrees, and other small party settlements. EPA also recovers costs from financially viable individuals and companies once a response action has been completed. (EPA, 2020b)

EPA is authorized to implement the Act in all 50 states and U.S. territories. Superfund site identification, monitoring, and response activities in states are coordinated through the state environmental protection or waste management agencies. (EPA, 2020b)

The Superfund Amendments and Reauthorization Act (SARA) of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. Also, Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act (EPCRA). (EPA, 2020b)

- Resource Conservation and Recovery Act (RCRA)

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. (EPA, 2020c)

The Federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. Some of the other mandates of this law include increased enforcement authority for EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program. (EPA, 2020c)

- Hazardous Materials Transportation Act (HMTA)

The Hazardous Materials Transportation Act of 1975 (HMTA) empowered the Secretary of Transportation to designate as hazardous material any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property." (OSHA, n.d.)

Hazardous materials regulations are subdivided by function into four basic areas:

- Procedures and/or Policies 49 CFR Parts 101, 106, and 107
- Material Designations 49 CFR Part 172
- Packaging Requirements 49 CFR Parts 173, 178, 179, and 180
- Operational Rules 49 CFR Parts 171, 173, 174, 175, 176, and 177 (OSHA, n.d.)

The HMTA is enforced by use of compliance orders [49 U.S.C. 1808(a)], civil penalties [49 U.S.C. 1809(b)], and injunctive relief (49 U.S.C. 1810). The HMTA (Section 112, 40 U.S.C. 1811) preempts state and local governmental requirements that are inconsistent with the statute, unless that requirement affords an equal or greater level of protection to the public than the HMTA requirement. (OSHA, n.d.)

- Hazardous Materials Transportation Uniform Safety Act of 1990

In 1990, Congress enacted the Hazardous Materials Transportation Uniform Safety Act (HMTUSA) to clarify the maze of conflicting state, local, and federal regulations. Like the HMTA, the HMTUSA requires the Secretary of Transportation to promulgate regulations for the safe transport of hazardous material in intrastate, interstate, and foreign commerce. The Secretary also retains authority to designate materials as hazardous when they pose unreasonable risks to health, safety, or property. (OSHA, n.d.)

The statute includes provisions to encourage uniformity among different state and local highway routing regulations, to develop criteria for the issuance of federal permits to motor carriers of hazardous materials, and to regulate the transport of radioactive materials. (OSHA, n.d.)

- Occupational Safety and Health Act (OSHA)

Congress passed the Occupational and Safety Health Act (OSHA) to ensure worker and workplace safety. Their goal was to make sure employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. (EPA, 2019)

In order to establish standards for workplace health and safety, the Act also created the National Institute for Occupational Safety and Health (NIOSH) as the research institution for OSHA. OSHA is a division of the U.S. Department of Labor that oversees the administration of the Act and enforces standards in all 50 states. (EPA, 2019)

- Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint. (EPA, 2020d)

Various sections of TSCA provide authority to:

- Require, under Section 5, pre-manufacture notification for "new chemical substances" before manufacture
- Require, under Section 4, testing of chemicals by manufacturers, importers, and processors where risks or exposures of concern are found
- Issue Significant New Use Rules (SNURs), under Section 5, when it identifies a "significant new use" that could result in exposures to, or releases of, a substance of concern.

- Maintain the TSCA Inventory, under Section 8, which contains more than 83,000 chemicals. As new chemicals are commercially manufactured or imported, they are placed on the list.

- Require those importing or exporting chemicals, under Sections 12(b) and 13, to comply with certification reporting and/or other requirements.

- Require, under Section 8, reporting and record-keeping by persons who manufacture, import, process, and/or distribute chemical substances in commerce.

- Require, under Section 8(e), that any person who manufactures (including imports), processes, or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment to immediately inform EPA, except where EPA has been adequately informed of such information. EPA screens all TSCA b§8(e) submissions as well as voluntary "For Your Information" (FYI) submissions. The latter are not required by law, but are submitted by industry and public interest groups for a variety of reasons. (EPA, 2020d)

2. State Regulations

❑ Cal/OSHA and the California State Plan

Under an agreement with OSHA, since 1973 California has operated an occupational safety and health program in accordance with Section 18 of the federal OSHA. The State of California's Department of Industrial Relations administers the California Occupational Safety and Health Program, commonly referred to as Cal/OSHA. The State of California's Division of Occupational Safety and Health (DOSH) is the principal agency that oversees plan enforcement and consultation. In addition, the California State program has an independent Standards Board responsible for promulgating State safety and health standards, and reviewing variances. It also has an Appeals Board to adjudicate contested citations and the Division of Labor Standards Enforcement to investigate complaints of discriminatory retaliation in the workplace. (OSHA, n.d.)

Pursuant to 29 CFR 1952.172, the California State Plan applies to all public and private sector places of employment in the state, with the exception of federal employees, the United States Postal Service, private sector employers on Native American lands, maritime activities on the navigable waterways of the United States, private contractors working on land designated as exclusively under federal jurisdiction and employers that require federal security clearances. Cal/OSHA is the only agency in the state authorized to adopt, amend, or repeal occupational safety and health standards or orders. In addition, the Standards Board maintains standards for certain things not covered by federal standards or enforcement, including: elevators, aerial passenger tramways, amusement rides, pressure vessels and mine safety training. The Cal/OSHA enforcement unit conducts inspections of California workplaces in response to a report of an industrial accident, a complaint about an occupational safety and health hazard, or as part of an inspection program targeting industries with high rates of occupational hazards, fatalities, injuries or illnesses. (OSHA, n.d.)

❑ California Hazardous Waste Control Law

The Hazardous Waste Control Law (HWCL) (Health and Safety Code [HSC], Division 20, Chapter 6.5, Section 25100, et seq.) is the primary hazardous waste statute in California. The HWCL implements RCRA as a "cradle-to-grave" waste management system in the state. It specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure its proper management. The HWCL also establishes criteria for the reuse and recycling of hazardous wastes used or reuse as raw materials. The HWCL exceeds federal requirements by mandating source reduction planning and broadening requirements for permitting facilities that treat hazardous waste. It also regulates a number of waste types and waste management activities not covered by federal law (RCRA). (CA Legislative Info, n.d.)

❑ California Code of Regulations (CCR), Titles 22 and 26

A variety of California Code of Regulation (CCR) titles address regulations and requirements for generators of hazardous waste. Title 22 contains detailed compliance requirements for hazardous waste generators, transporters, and facilities for treatment, storage, and disposal. Because California is a fully-authorized state according to RCRA, most regulations (i.e., 40 CFR 260, et seq.) have been duplicated and integrated into Title 22. However, because the Department of Toxic Substances Control (DTSC) regulates hazardous waste more stringently than the EPA, the integration of state and federal hazardous waste regulations that make up Title 22 does not contain as many exemptions or exclusions as does 40 CFR 260. As with the HSC, Title 22 also regulates a wider range of waste types and waste management activities than does RCRA. To aid the regulated community, California has compiled hazardous materials, waste, and toxics-related regulations from CCR, Titles 3, 8, 13, 17, 19, 22, 23, 24 and 27 into one consolidated listing: CCR Title 26 (Toxics). However, the hazardous waste regulations are still commonly referred to collectively as "Title 22." (DTSC, n.d.; DTSC, 2019)

4.7.3 Basis for Determining Significance

Section VIII of Appendix G to the CEQA Guidelines addresses typical adverse effects due to hazards and hazardous materials, and includes the following threshold questions to evaluate the Project's impacts from hazards and hazardous materials (OPR, 2019):

- *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;*
- *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;*
- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;*

- *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;*

- *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;*

- *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;*

4.7.4 IMPACT 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?***

A significant impact may occur if a project would involve the use or disposal of hazardous materials as part of its routine operations, or would have the potential to generate toxic or otherwise hazardous emissions that could adversely affect sensitive receptors. The Project Applicant proposes to redevelop the Project site with a building that has the potential to store hazardous materials during the future building user's daily operations.

A. Project Construction

1. General Construction Hazardous Waste

Heavy equipment (e.g., dozers, excavators, tractors) would operate on the subject property during construction of the Project. Heavy equipment is typically fueled and maintained by petroleum-based substances such as diesel fuel, gasoline, oil, and hydraulic fluid, which is considered hazardous if improperly stored or handled. Also, materials such as paints, adhesives, solvents, and other substances typically used in building construction would be located on the Project site during construction. Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction sites, and there would be no greater risk for improper handling, transportation, or spills associated with the proposed Project than would occur on any other similar construction site. Construction contractors would be required to comply with all applicable federal, State, and local laws and regulations regarding the transport, use, and storage of hazardous construction-related materials, including but not limited requirements imposed by the EPA, California Department of Toxic Substances Control (DTSC), South Coast AQMD, and Santa Ana Regional Water Quality Control Board (RWQCB). With mandatory compliance with applicable hazardous materials regulations, the Project would not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials during the construction phase. Impacts would be less than significant.

2. Impacted Soils

Construction activities required to redevelop the Project site would involve the disturbance of on-site soils. There is the potential for the discovery of contamination during these activities due to past reported evidence of soil contamination and underground storage tanks.

As discussed previously, the Project site was previously occupied by Nursing Supplies, Inc. a manufacturer of plastic nursery planting pots. The site has reported past evidence of soil contamination and underground storage tanks. Additionally, the site has reported compliance violations from the County of Orange Health Care Agency – Environmental Health regarding spill control and secondary containment for bulk storage containers on site. The site was "cleaned" of contaminated soils approximately 34 years ago (GeoTek, 2020b). As part of the limited Phase II ESA investigation, detectable quantities of the VOC constituents freon 113; 1,1,1-trichloroethene; dichlorodifluoromethane; trichlorofluoromethane; trichloroethene; and tetrachloroethene were detected from all borings. VOC concentrations for the constituents trichloroethene and tetrachloroethene were detected above screening levels for industrial air in two of the 16 borings, which include B-11 and B-12. These two borings are in the southwest corner, within the proposed parking area and/or stormwater disposal area of the Project site. (GeoTek, 2020c). Therefore, contaminated soils encountered during construction could pose a health risk to workers and the general public during removal, handling, and transport.

Contaminated soils would be removed and disposed of off-site in accordance with all applicable regulatory guidelines which include:

- **South Coast AQMD Rule 1166 requirements:** The rule requires monitoring of soils contaminated with VOCs during excavation or grading. A Rule 1166 permit must be obtained from South Coast AQMD prior to the start of work. Field monitoring will be conducted as required under Rule 1166 and soils will be monitored for VOCs in accordance with the South Coast AQMD Executive Officer. In the event that VOC detections reach or exceed 50 parts per million, further grading or excavation activities would be conducted in accordance with Rule 1166 to minimize releases of VOCs to air. Monitoring and record keeping would be submitted to the South Coast AQMD.

- **South Coast AQMD Rule 403:** Best available dust control measures and monitoring for fugitive dust would be conducted in accordance with South Coast AQMD's Rule 403. In order to minimize exposure of on-site grading workers to dust and minimize dust from migrating off-site, various dust control measures would be implemented, including: spraying water on soil, limiting vehicle speeds on-site to 5 miles per hour or less, controlling excavation activities, cleaning up track-outs at the end of each work day, minimizing drop heights during vehicle loading, and covering exposed stockpiles.

- **SWRCB General Construction Permit:** A SWPPP for construction would need to be in place prior to the start of grading. A SWPPP requires the incorporation of best management practices

to control sediment, erosion, and hazardous materials contamination of runoff during construction and prevent contaminants from reaching receiving water bodies.

- **Certification.** Contractors performing work directly involving impacted soil will be required to possess an active California State contractor's license with a Hazardous Substances Removal certification.

3. Soil Management Plan

The Project's Phase I and Phase II ESA identified environmental concerns related to the historical widespread chemical use, storage, and disposal operations/practices at the site, which resulted in soil contamination that was the subject of prior remedial actions. The facility historically maintained numerous USTs and discrepancies reportedly exist as to the number and type of USTs and their decommissioning/removal status. There are no known USTs currently at the site.

As discussed, there is a potential for the Project site to contain impacted soil or other subsurface features (pits, sumps, clarifies, or USTs) that may need to be appropriately and expeditiously managed due to additional agency oversight and/or any permitting necessary to properly abandon such features. In order to ensure public and worker safety, an SMP was prepared (*Technical Appendix H3*) to provide procedures for efficiently managing potentially-impacted soils and/or USTs during site preparation activities. During earthwork activities the grading contractor is required to follow the SMP in areas of potentially impacted soil. Contractors must follow the applicable California Department of Health and Safety Administration (Cal/OSHA) regulations for construction safety in California Code of Regulations (CCR) Title 8, Sections 1500-1938. Contractor employees involved in remediation activities must be HAZWOPER-trained personnel. SMP Section 3, includes several requirements including but not limited to dust control and storm water runoff control measures; procedures and notification protocols for managing impacted soils; engineering controls to limit vapor emissions, toxic air contaminants, and visibly contaminated/odorous soils; and permitting procedures for removal of inadvertent discovery of subsurface features (i.e., USTs, sumps, pits, clarifiers). Additionally, the SMP outlines the soil sample methodology, applicable performance standards, characterization, and proper disposal. SMP, Section 4 establishes excavation and soil removal procedures. SMP, Section 5 describes construction BMPs to reduce or prevent the discharge of pollutants from construction activities, which include but are not limited to, keeping spill kits on-site, checking all equipment for leaks and repair leaking equipment properly, limit fugitive dust during excavation, protecting storm drains, and scheduling excavation work for dry weather periods when possible. A comprehensive list of the Project's construction BMPs is provided in Appendix F.3 of the Soil Management Plan, in *Technical Appendix H3* of this EIR (Ramboll, 2020).

Without implementation of the SMP, potential impacts related to routine transport, use, or disposal of contaminated or potentially contaminated soils are potentially significant.

4. Demolition

A recognized environmental condition (REC) is defined by the American Society for Testing Materials (ASTM) as, "the presence or likely presence of any hazardous substances or petroleum products in, on, or at the property: 1) due to a release to the environment; 2) under conditions indicative of a release to the environment, or 3) under conditions that pose a material threat of a future release to the environment."

The use of asbestos-containing materials (ACM, a known carcinogen) and lead-based paint (LBP) (a known toxic), both of which are considered hazardous materials, was a common building construction prior to 1978 and may be present in the existing building. All proposed demolition activities would be required to comply with all applicable federal, State, and local hazardous materials regulation, which includes mandatory provisions for the safe removal, transport, and disposal of ACMs and lead paint. South Coast AQMD Rule 1403 (Asbestos Emissions) and Title 17 of the California Code of Regulations (CCR), Division 1, Chapter 8: *Accreditation, Certification, and Work Practices for Lead-Based Paint and Lead Hazards* applies.

South Coast AQMD Rule 1403 establishes survey requirements, notification, and work practice requirements to prevent asbestos emissions from emanating during building renovation and demolition activities. Assuming that ACMs are present in the existing structure located on-site, then Rule 1403 requires notification of the South Coast AQMD prior to commencing any demolition activities. Rule 1403 also sets forth specific procedures for the removal of asbestos and requires that an on-site representative trained in the requirements of Rule 1403 be present during the stripping, removing, handling, or disturbing of ACM. Mandatory compliance with the provisions of Rule 1403 would ensure that construction-related grading, clearing, and demolition activities do not expose construction workers or nearby sensitive receptors to significant health risks associated with ACMs. Because future development on the Project site would be required to comply with AQMD Rule 1403 during demolition activities, impacts due to asbestos would be less than significant.

Title 17, CCR, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards, defines and regulates lead-based paint. Any detectable amount of lead is regulated. During the demolition of the existing manufacturing building, there is a potential for exposing construction workers to health hazards associated with lead. The Project would be required to comply with Title 17, CCR, Division 1, Chapter 8, which includes requirements such as employer-provided training, air monitoring, protective clothing, respirators, and handwashing facilities. Mandatory compliance with these requirements would ensure that construction workers and the public are not exposed to significant LBP health hazards or upset during demolition and/or during transport of demolition waste to an appropriate disposal facility and would ensure that impacts related to LBP remain less than significant. Accordingly, neither ACMs nor lead paint are determined to be a significant hazard on the Project site.

B. Project Operation

As previously mentioned, the Project would be occupied with a truck terminal use and although the end user is unknown at this time, it is possible that hazardous materials could be used during the future building user's daily operations. State and federal Community-Right-to-Know laws allow public access to information about the amounts and types of chemicals in use at local businesses. Laws also are in place that requires businesses to plan and prepare for possible chemical emergencies. The City follows the County's Hazardous Materials Inspection and Enforcement Plan (Orange, 2010b). To prevent accidents, and ensure proper handling, routine inspections are conducted at businesses within the City that store, use, or handle hazardous materials. The City concentrates the production of hazardous materials within its industrial area, separated from residential areas, educational uses, and institutional facilities. The City also identifies businesses transporting, manufacturing, using, and storing hazardous chemicals, and requires such businesses to exercise caution and to mitigate potential negative effects on surrounding land uses prior to obtaining business licenses. Additionally, any business handling at any one time, greater than 500 pounds of solid, 55 gallons of liquid, or 200 cubic feet of gaseous hazardous material, is required, under Assembly Bill 2185 (AB 2185), to file a Hazardous Materials Business Emergency Plan (HMBEP). An HMBEP is a written set of procedures and information created to help minimize the effects and extent of a release or threatened release of hazardous material. The HMBEP intends to satisfy federal and State Community Right-To-Know laws and to provide detailed information for use by emergency responders.

If businesses that use or store hazardous materials occupy the Project, the business owners and operators would be required to comply with all applicable federal, State, and local regulations to ensure proper use, storage, use, emission, and disposal of hazardous substances (as described above). With mandatory regulatory compliance, the Project is not expected to pose a significant hazard to the public or the environment through the routine transport, use, storage, emission, or disposal of hazardous materials. 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?***

During Project construction, there is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such that any materials released are appropriately contained and remediated as required by local, State, and federal law.

A. Construction

The proposed Project would comply with the requirements of applicable laws and regulations governing upsets and accidents including the requirements of the hazardous materials disclosure

program, the California Accidental Release Prevention Program, the hazardous materials release response plans and inventory program, and California Health and Safety Code Section 25500. Additionally, strict adherence to the City of Orange emergency response plan requirements would be required through the duration of the Project construction phase.

These requirements would ensure that all potentially hazardous materials are handled in an appropriate manner and would minimize the potential for upset and accident conditions. For example, all spills or leakage of petroleum products during construction activities are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable state and local regulations for the cleanup and disposal of that contaminant. All contaminated waste would be required to be collected and disposed of at an appropriately licensed disposal or treatment facility. Therefore, this impact is considered less than significant.

B. Operation

Regulatory requirements pertaining to upsets and accidents following during the construction phase would also be implemented during the operational phase. For the operational phase, both the federal government and the State of California require that the operator files a hazardous materials business plan. These requirements would ensure that all potentially hazardous materials are handled in an appropriate manner and would minimize the potential for safety impacts. With mandatory regulatory compliance, the Project would not increase the potential for accident conditions which could result in the release of hazardous materials into the environment. Impacts would be less than significant.

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?***

The closest existing schools to the Project site are California Elementary School and Yorba Middle School located approximately 0.78 miles east of the Project site. Implementation of the Project would not have the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school. No impacts would occur.

Threshold d: ***Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

The Project site appears on the EnviroStor database sites; however, this listing represents a historic REC at the site. A historic REC refers to a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority (EDR, 2016). The status of the site is listed as "refer: other agency" and no further action (NFA) was recommended for the site as "remediation of soil was completed by Orange County." With the consideration of the absence of reported violations, spills, or releases, the Project site is not considered to be a REC (GeoTek, 2020b). Therefore, the Project would not create a significant hazard to the public or environment and impacts would be less than significant.

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?***

The closest airport to the Project site is the Fullerton Municipal Airport located approximately 8.0 miles northwest. The Project site is not within an airport land use plan or within 2 miles of a public airport or public use airport. Implementation of the Project would not result in a safety hazard or excessive noise for people residing or working within the Project area. 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?***

The City has an adopted emergency plan that establishes emergency preparedness and emergency response procedures for both peacetime and wartime disasters. The plan is termed an "Emergency Operations Plan," prepared in accordance with the State Office of Emergency Services guidelines for multi-hazard functional planning. The plan consists of 3 parts: 1) a basic plan; 2) specific functions and duties of response agencies; 3) a directory of emergency response resources. The City's plan concentrates on specific agency response for any type of disaster.

All City arterials are recognized as primary emergency response routes. Additionally, non-arterials can be secondary emergency response routes. If current emergency vehicle access does not meet response standards, traffic calming efforts should not further degrade response times. The City's Emergency Operations Plan does not indicate evacuation routes for emergencies adjacent to the Project site. The routes of escape from disaster-stricken areas would depend on the scale and scope of the disaster. As shown in Figure PS-4 of the City's General Plan Public Safety Element, Katella Avenue is the closest designated evacuation corridor in the City to the Project site. The Project is not anticipated to affect access to Katella Avenue during construction, and would not require road closures or otherwise impact the functionality of this, or other designated evacuation corridors.

Additionally, the Project would not affect emergency access. The Project is required to comply with applicable fire codes established by the Orange County Fire Authority (OCFA). The Project would be required to go through the City's development review and permitting process and would be required to incorporate all appliable design and safety standards and regulations in the California Fire Code and the OMC. Incorporation of applicable design and safety standards and regulations would ensure that the Project's development does not interfere with the provision of local emergency services.
Based on the foregoing, the implementation of the Project would not impair the implementation of or physically interfere with the City's Emergency Operation Plan, the General Plan Public Safety Element, or any other emergency response plan. 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?***

The Project site is fully developed and is within a completely urbanized area that is void of any wildland areas. Additionally, according to the California Department of Forestry and Fire Protection (CalFire), the Project site is not within a very high fire hazard severity zone. Implementation of the Project would not expose people or structures to a significant risk involving wildland fires. No impacts would occur.

4.7.5 CUMULATIVE IMPACT ANALYSIS

As discussed above under the responses to Thresholds "a" and "b," the Project's construction and operation would be required to comply with all applicable federal, State, and local regulations to ensure proper use, storage, and disposal of hazardous substances. Although the end user(s) of the Project site are currently unknown, if businesses that use or store hazardous materials occupy the Project, the business owners and operators would be required to comply with all applicable federal, state, and local regulations to ensure proper use, storage, and disposal of hazardous substances. Such uses also would be subject to additional review and permitting requirements by the Orange County Fire Department. Similarly, any other developments in the area proposing the construction of uses with the potential for use, storage, or transport of hazardous materials also would be required to comply with applicable federal, State, and local regulations, and such uses would be subject to additional review and permits from their local oversight agency. Although there is on-site contamination present, compliance with mitigation measures would ensure isolation of any impacts to the Project site and would not have the ability to impact the surrounding area. Therefore, the potential for release of toxic substances or hazardous materials into the environment, either through accidents or due to routine transport, use, or disposal of such materials, would be reduced to a less-than-significant cumulative level. Accordingly, the Project's potential to contribute to a cumulatively significant hazardous materials impact would be less than significant.

The Project site is not located within one-quarter mile of an existing or planned school; therefore, the Project would not contribute to a cumulatively significant hazards/hazardous materials impact on any public or private schools located within one-quarter mile of the site.

The Project site is not located on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; therefore, the Project has no potential to contribute to substantial, cumulative effects related to the development or re-development of contaminated property.

As discussed above under the response to Threshold "e," the Project is not located within 2 miles of a public airport or public use airport; therefore, the Project would not result in a safety hazard or excessive noise for people residing or working in the Project area and would not contribute to a cumulatively-considerable impact associated with airport hazards.

The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route; thus, there is no potential for the Project to contribute to any cumulative impacts associated with an adopted emergency response plan or emergency evacuation plan.

As discussed above under Threshold "g," the Project site is not located within or in close proximity to areas identified as being subject to wildland fire hazards and would have no potential to contribute to adverse, cumulative wildland fire hazards.

4.7.6 Significance of Impacts Before Mitigation

Threshold a: Significant Direct and Cumulatively-Considerable Impact. The Project site contains soils contaminated with VOC although not expected to pose a substantial risk to the environment or people on the Project site, could require remediation. Remediation of existing contamination would result in an improved long-term environmental condition at the Project site.

Threshold b: Less-than-Significant Impact. During Project construction and operations, mandatory compliance to federal, State, and local regulations would ensure that the proposed Project would not create a significant hazard to the environment due to routine transport, use, disposal, or upset of hazardous materials.

Threshold c: No Impact. The Project site is not located within one-quarter mile of any existing or proposed school. Accordingly, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impacts to schools located more than one-quarter mile of the Project site would be less than significant.

Threshold d: Less-than-Significant Impact. The Project site is listed on the EnviroStor database sites; however, this listing represents a historic REC at the site. The status of the site is listed as "refer: other agency" and no further action (NFA) was recommended for the site as "remediation of soil was completed by Orange County." With the consideration of the absence of reported violations, spills, or releases, the Project site is not considered to be a REC and would not create a significant hazard to the public or environment and impacts would be less than significant.

Threshold e: No Impact. The Project site is not within an airport land use plan or within 2 miles of a public airport or public use airport. As such, the Project would not result in an airport safety hazard for people residing or working in the Project area.

Threshold f: Less-than-Significant Impact. The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route. During construction and long-term operation, adequate emergency vehicle access is required to be provided. Accordingly, implementation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or an emergency evacuation plan.

Threshold g: No Impact. The Project site is not located in close proximity to wildlands or areas with high fire hazards. Thus, the Project would not expose people or structures to a significant wildfire risk.

4.7.7 MITIGATION

MM 4.7-1 The Project Contractor shall adhere to the protocols and performance standards stipulated in the SMP (*Technical Appendix H3*). Contractors working at the site follow all applicable Cal/OSHA regulations for construction safety. A Completion Report shall be prepared at the conclusion of grading activities. The report shall document field monitoring activities and visual observations made during grading/excavations, as well as soil sampling locations and results. The report shall include a description of the location of impacted soil encountered, actions taken to characterize and mitigate impacts, confirmation soil sampling results, and disposition of any excavated soil. In addition, the report shall include a description of encountered subsurface structures and steps to remove and close such structures. The report shall be reviewed and approved by the City of Orange Community Development Director, prior to issuance of building permits.

4.7.8 SIGNIFICANCE OF IMPACTS AFTER MITIGATION

Threshold a: Less-than-Significant Impact. Implementation of Mitigation Measure MM 4.7-1 would ensure that any contaminated soils or other contaminated materials encountered during Project construction that are determined to be hazardous by an applicable government oversight agency are appropriately remediated so that they would not pose a hazard to the public or the environment during construction or in the long-term. As such, implementation of the Project would result in an improved environmental condition by addressing and remediating any existing environmental hazards. Accordingly, the impacts would be less than significant after the implementation of Mitigation Measure MM 4.7-1.

4.8 HYDROLOGY AND WATER QUALITY

Information in this subsection is primarily based on the "*Priority Water Quality Management Plan for 534 Struck Ave Redevelopment Project*" (WQMP), prepared by Albert A. Webb Associates (hereinafter, Webb) dated November 2021; and the "*534 W. Struck Avenue Redevelopment Project Orange, California Preliminary Drainage Study*" (Drainage Study), prepared by Webb dated February 2021. These reports are provided as *Technical Appendices I1* and *I2*, respectively, to this EIR. All other information sources referenced in this Subsection are listed in EIR Section 7.0, *References*.

The Project site is located within the Santa Ana River watershed and is under the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB). As such, information for this Subsection also was obtained from the Santa Ana RWQCB's *Santa Ana River Basin Water Quality Control Plan* (updated June 2019) and the *Integrated Regional Water Management Plan* (IRWM) for the Santa Ana River watershed, also referred to as "One Water One Watershed Plan Update 2018," (February 19, 2019) prepared by the Santa Ana Watershed Project Authority (SAWPA). These documents are herein incorporated by reference and are available for public review at the physical locations and website addresses given in EIR Section 7.0, *References*.

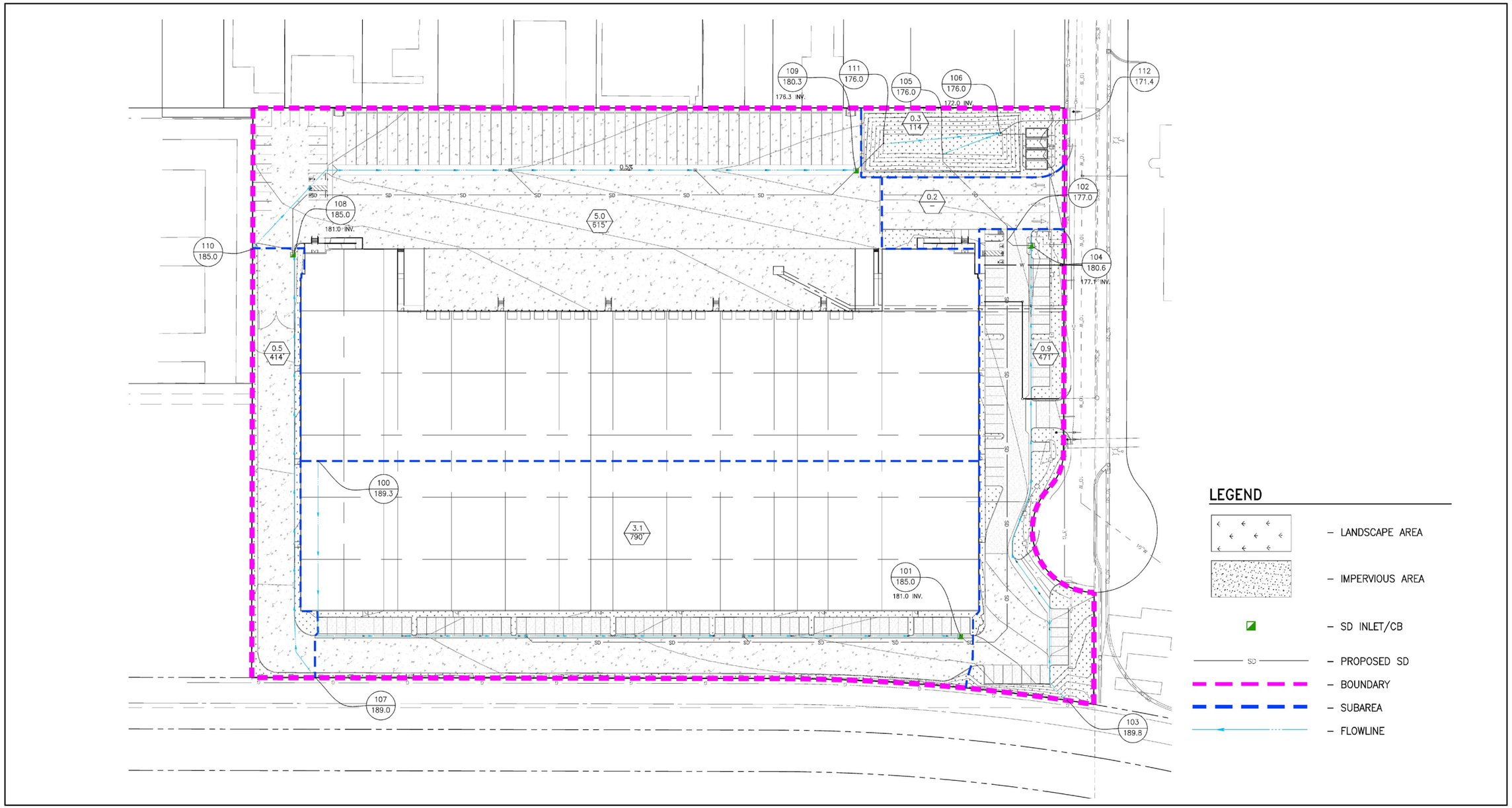
4.8.1 EXISTING CONDITIONS

A. Regional Hydrology

The Project site is located within the 2,650-acre Santa Ana River watershed. Within the Santa Ana River watershed, the Santa Ana River is the principal surface flow water body within the region. The Santa Ana River rises in Santa Ana Canyon in the southern San Bernardino Mountains and runs southwesterly across San Bernardino, Riverside, and Orange Counties, where it discharges into the Pacific Ocean at the City of Huntington Beach. The total length of the Santa Ana River and its major tributaries is approximately 700 miles. The location of the Project site within the Santa Ana River watershed is illustrated on Figure 4.8-1, *Existing Conditions Hydrology Map*.

B. Site Hydrology

Under existing conditions, the Project site slopes down at approximately 1% grade to the west. The existing drainage pattern for the Project site is characterized by draining south to north and east to west. For the majority of the existing site, flows drain to a ribbon gutter located on the western side of the Project site. The ribbon gutter conveys flows off-site to Struck Avenue without migration or treatment. The eastern portion of the site, including the existing railroad, drains from south to north along an existing curb and gutter. This includes the existing railroad facility along the eastern boundary of the Project site. All flows from this area drain north to Struck Avenue and N. Batavia Street. At this location, flows are conveyed into the existing 36-inch storm drain to Collins Channel and ultimately the Santa Ana River. All downstream facilities are stabilized and developed. The Project site's existing stormwater drainage pattern is illustrated on Figure 4.8-1, *Existing Conditions Hydrology Map*.



Source(s): Albert A, Webb and Associates (05-14-2020)

Figure 4.8-1

Not to Scale

Existing Conditions Hydrology Map

C. Flooding and Dam Inundation

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06059C0161J, dated December 3, 2009, the Project site is located within "Zone X," which corresponds to areas with minimal flood hazard outside of the 500-year floodplain (also referred to as the 0.2% annual chance floodplain). No portions of the Project site are located a 100-year flood hazard area. (FEMA, 2009). According to the City of Orange General Plan EIR, the Project site is not located within any mapped dam inundation area (Orange, 2010a, p. 5.8-3).

D. Water Quality

The Federal Water Pollution Control Act Amendment of 1972 (also referred to as the Clean Water Act, CWA) requires all states to conduct water quality assessments of their water resources to identify water bodies that do not meet water quality standards. Water bodies that do not meet water quality standards due to excessive concentrations of pollutants are placed on a list of impaired waters pursuant to Section 303(d) of the CWA. The Project site's receiving waters include Collins Channel and the Santa Ana River Reach 2 and 1. Reach 2 of the Santa Ana River was 303(d) listed for Indicator Bacteria but was delisted in the 2016 303(d) update (Webb, 2021a, p. 9).

E. Groundwater

The Project site is underlain by groundwater resources associated with the Orange County Groundwater Basin. According to the geotechnical investigations performed by GeoTek, groundwater was not encountered within test borings to depths up to approximately 30 feet below grade. The Seismic Hazard Zone Report for the Orange Quadrangle, shows historic high groundwater at the Project site is estimated to be greater than 40 feet below grade (GeoTek, 2020a, p. 6).

4.8.2 REGULATORY FRAMEWORK

The following is a brief description of the federal, state, and local environmental laws and related regulations related to hydrology and water quality.

A. Federal Regulations

1. Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was substantially reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972. Under the CWA, the Environmental Protection Agency (EPA) has implemented pollution control programs such as setting wastewater standards for industry, and also has set water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls discharges. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are

connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. (EPA, 2020a)

B. State Regulations

1. Porter-Cologne Water Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code § 13000 et seq.), the policy of the State is as follows: (SWRCB, 2014)

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous non-point source (NPS) related responsibilities, including monitoring and assessment, planning, financial assistance, and management. (SWRCB, 2014)

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits for point source discharges and waste discharge requirements (WDRs) for NPS discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) can make their own investigations or may require dischargers to carry out water quality investigations and report on water quality issues. The Porter-Cologne Act provides several options for enforcing WDRs and other orders, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, civil court actions, and criminal prosecutions. (SWRCB, 2014)

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as the NPDES permitting program. The Porter-Cologne Act also requires adoption of water quality control plans that contain the guiding policies of water pollution management in California. In addition, regional water quality control plans (basin plans) have been adopted by each of the Regional Water Boards and get updated as necessary and practical. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. (SWRCB, 2014) The Project site is in the Santa Ana River Watershed which is within the purview of Santa Ana RWQCB. The Santa Ana RWQCB's Santa Ana River Basin Water Quality Control Plan is the governing water quality plan for the region.

2. California Water Code

The California Water Code is the principal state law regulating water quality in California. Water quality provisions must be complied with as contained in numerous code sections including: 1) the Health and Safety Code for the protection of ground and surface waters from hazardous waste and other toxic substances; 2) the Fish and Game Code for the prevention of unauthorized diversions of any surface water and discharge of any substance that may be deleterious to fish, plant, animal, or bird life; 3) the Harbors and Navigation Code for the prevention of the unauthorized discharge of waste from vessels into surface waters; and 4) the Food and Agriculture Code for the protection of groundwater which may be used for drinking water supplies. The California Department of Fish and Wildlife (CDFW), through provisions of the Fish & Game Code (§§ 1601 - 1603) is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW. (CA Legislative Info, n.d.)

Surface water quality is the responsibility of the Regional Water Quality Control Board (RWQCB), water supply and wastewater treatment agencies, and city and county governments. The principal means of enforcement by the RWQCB is through the development, adoption, and issuance of water discharge permits. RWQCB basin plans establish water quality objectives that are defined as the limits or levels of water quality constituents or characteristics for the reasonable protection of beneficial uses of water. (CA Legislative Info, n.d.)

3. California Toxics Rule (CTR)

The California Toxics Rule (CTR) fills gap in California's water quality standards necessary to protect human health and aquatic life beneficial uses. The CTR criteria are similar to those published in the National Recommended Water Quality Criteria. The CTR supplements, and does not change or supersede, the criteria that EPA promulgated for California waters in the National Toxics Rule (NTR). The human health NTR and CTR criteria that apply to drinking water sources (those water bodies designated in the Basin Plans as municipal and domestic supply) consider chemical exposure through consumption of both water and aquatic organisms (fish and shellfish) harvested from the water. For waters that are not drinking water sources (e.g., enclosed bays and estuaries), human health NTR and CTR criteria only consider the consumption of contaminated aquatic organisms. The CTR and NTR

criteria, along with the beneficial use designations in the Basin Plans and the related implementation policies, are the directly applicable water quality standards for toxic priority pollutants in California waters. (SWRCB, 2016, pp. 14-15)

4. Watershed Management Initiative (WMI)

The State and Regional Water Boards are currently focused on looking at entire watersheds when addressing water pollution. The Water Boards adopted the Watershed Management Initiative (WMI) to further their goals. The WMI establishes a broad framework overlying the numerous federal and State mandated priorities. As such, the WMI helps the Water Boards achieve water resource protection, enhancement and restoration while balancing economic and environmental impacts. (SWRCB, 2017) The integrated approach of the WMI involves three main ideas:

- Use water quality to identify and prioritize water resource problems within individual watersheds. Involve stakeholders to develop solutions.
- Better coordinate point source and nonpoint source regulatory efforts. Establish working relationships between staff from different programs.
- Better coordinate local, state, and federal activities and programs, especially those relating to regulations and funding, to assist local watershed groups. (SWRCB, 2017)

5. Sustainable Groundwater Management Act (SGMA)

The 2014 Sustainable Groundwater Management Act (SGMA) 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. The DWR categorizes the priority of groundwater basins. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline. The SGMA also requires local public agencies and Groundwater Sustainability Agencies (GSAs) in high- and medium-priority basins to develop and implement Groundwater Sustainability Plans (GSPs) or Alternatives to GSPs. GSPs are detailed road maps for how groundwater basins will reach long term sustainability. (DWR, n.d.; DWR, 2020)

C. Local Plans, Policies, and Regulations

1. City of Orange Municipal Code

Chapter 7.01 (Water Quality and Stormwater Discharges) of the City of Orange Municipal Code requires the City to participate as a "Co-permittee" under the NPDES permit program to accomplish the requirements of the CWA. Pursuant to this chapter, the City has established uniform standards for the improvement of water quality, to comply with the federal requirements for the control of urban pollutants to stormwater runoff and to regulate discharges of stormwater to the storm drain system in the City.

4.8.3 Basis for Determining Significance

Section IX of Appendix G to the CEQA Guidelines addresses typical adverse effects to hydrology and water quality, and includes the following threshold questions to evaluate the Project's impacts on hydrology and water quality (OPR, 2019):

- *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;*
- *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;*
- *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:*

  a) Result in substantial erosion or siltation on- or off-site;

  b) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

  c) 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

  d) Impede or redirect flood flows.
- *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.*
- *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.*

4.8.4 Impact Analysis

***Threshold a*: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has established regulations under the NPDES program to control direct storm water discharges. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance,

and restore water quality. The City of Orange, including the Project site, is within the jurisdiction of the Santa Ana RWQCB.

A. Construction Impacts

The Project may result in water quality impacts during short-term construction activities. The grading/excavation required for project implementation would result in exposed soils that may be subject to wind and water erosion. Although erosion occurs naturally in the environment, improperly managed construction activities can lead to substantially accelerated rates of erosion that are considered detrimental to the environment. As such, short-term water quality impacts have the potential to occur during construction of the Project in the absence of any protective or avoidance measures.

The SWRCB adopted the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit is required for all projects that include construction activities, such as clearing, soil stockpiling, grading, and/or excavation that disturb at least one (1) acre of total land area. Additionally, the Project would be required to comply with the Santa Ana RWQCB's Santa Ana River Basin Water Quality Control Program. Compliance with the Construction General Permit and the Santa Ana River Basin Water Quality Control Program involves the preparation and implementation of a SWPPP for construction-related activities, including grading. The purpose of the SWPPP is to identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges and to describe and ensure the implementation of best management practices (BMPs) to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity.

The Project would be required to comply with the City's Stormwater Local Implementation Plan (LIP) (Orange, 2011). The LIP requires all private and public construction projects to implement and be protected by an effective combination of erosion and sediment controls and waste and materials management BMPs, such as source control BMPs (e.g. site planning and landscaping, use of pervious pavement), structural BMPs (e.g. protection from rain, secondary containment, etc.), and treatment control BMPs (e.g. constructed wetlands and vegetative swales), to prevent discharges into the storm drain system or watercourses. Table A-8.3 of the LIP provides a comprehensive list of designated construction BMPs (Orange, 2011). The minimum requirements for all construction sites include erosion and sediment control, and waste and materials management control (Table A-8.2 of the LIP), which would be implemented during the Project's construction phase (Orange, 2011). Additionally, the Project would be required to comply with Chapter 7.01, *Water Quality and Stormwater Discharges*, of the OMC. This chapter includes conditions and requirements related to the control of urban pollutants to stormwater runoff.

Mandatory compliance with the SWPPP, the City's LIP, and Chapter 7.01 of the OMC would ensure that the Project does not violate any water quality standards or waste discharge requirements during construction activities. Impacts would be less than significant.

B. Post Construction-Impacts

The Project Applicant would redevelop the Project site with a building up to 57,900 sf, a maintenance building, and associated parking and landscaping. The anticipated pollutants to be generated at the Project site include: suspended solids and sediments, nutrients and pesticides (from the proposed landscaping), heavy metals (from truck-trailers both active and stored), oil and grease, toxic organic compounds (TOCs), pathogens (bacteria/virus), and trash and debris (from all vehicular traffic). Receiving waters for the Project site include: Santa Ana River Reach 2 and Santa Ana River Reach 1. The Santa Ana Reach 2 provides the following beneficial uses:

- Agricultural Supply
- Groundwater Recharge
- Water Contact Recreation
- Non-Contact Water Recreation
- Warm Freshwater Habitat
- Wildlife Habitat
- Rare, Threatened, or Endangered Species

The Stormwater Program's specific water pollutant control elements are documented in the Drainage Area Management Plan (DAMP). The DAMP satisfies the NPDES permit conditions to reduce pollutant discharges to the maximum extent practicable for the protection of water quality at receiving water bodies and the support of designated beneficial uses. The DAMP contains guidance on both structural and non-structural BMPs for meeting these goals. With implementation of the DAMP requirements, as required by OMC Chapter 7.01 the Project would be required to prepare a WQMP in accordance with the requirements of the NPDES permit.

The Project Applicant has prepared a WQMP, which includes non-structural BMPs, such as educational materials for property owners, tenants, and occupants; activity restriction; common area landscape management; BMP maintenance; spill contingency plan; uniform fire code implementation; common area litter control; employee training; housekeeping of loading docks, common area catch basin inspection; and street sweeping private streets and parking lots. Structural BMPs included in the Project's WQMP include providing storm drain signage; trash storage areas; efficient irrigation systems and landscape design; and loading docks (Webb, 2021a). The WQMP will also include Low Impact Development BMPs and/or Treatment Control BMPs to address the predicted pollutants generated from the project site during general tenant categories at the site.

As described above, a construction-related SWPPP (development SWPPP) is required as part of the Construction General Permit when any project disturbs greater than one (1) acre of soils. A post-construction SWPPP is required for the site as an Industrial General Permit holder (land use SWPPP). The WQMP is separate from the SWPPP and is the local document showing how operations will be protective of water quality during use of the land.

The NPDES program also requires certain land uses, including the industrial land use proposed by the Project, to prepare a SWPPP for operational activities and to implement a long-term water quality sampling and monitoring program, unless an exemption is granted. Because the permit is dependent upon the operational activities of the building and the tenants are not known at this time, details of the SWPPP (including BMPs) or potential exemption to the SWPPP operational activities requirement cannot be determined at this time. However, based on the requirements of the NPDES Industrial General Permit, the Project's mandatory compliance with all applicable regulations would further reduce potential water quality impacts during long-term operation. It should be noted that under existing conditions, flows generated from the site drain to Struck Avenue unmitigated and untreated. Implementation of the Project would have a beneficial impact on water quality because it would capture all on-site flows and treat flows from smaller more frequent storm events, prior to being discharged into the City's storm drainage system.

Based on the foregoing analysis, the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality or result in potential discharge of stormwater to affect beneficial uses of receiving waters. Impacts would be less than significant.

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?***

According to the Project's Geotechnical Investigation, groundwater was not encountered at the Project site during subsurface investigations to the maximum depth explored (30 feet bgs) (GeoTek, 2020a). Implementation of the Project would not include the construction of a potable groundwater well and no potable groundwater wells are located on-site. Most of the City's water comes from 2 sources: groundwater from the Lower Santa Ana River Groundwater Basin and imported water purchased from the Metropolitan Water District of Southern California (MWD).

A. Groundwater Supply

According to the City's 2015 Urban Water Management Plan (UWMP), the City's water resources have adequate supply to serve the Project site in addition to past, present, and future commitments under normal year, single dry year, and multiple dry years through the year 2040. Additionally, the Project does not propose a General Plan Amendment to modify the site's land use designation, and the proposed uses are already anticipated in the City's General Plan and UWMP. Based on the foregoing analysis, the Project would not have the potential to substantially decrease groundwater supplies. Impacts would be less than significant.

B. Groundwater Recharge

Under existing conditions, approximately 89 percent of the Project site contains impervious surfaces that provides little opportunity for infiltration. The Project would create similar impervious surface

conditions, increasing the Project site's impervious surface coverage to 91 percent (Webb, 2021a). Therefore, redevelopment of the site would not substantially interfere with groundwater recharge.

Additionally, as shown in Figure N-2 of the City General Plan Natural Resources Element, groundwater recharge facilities for the Lower Santa Ana River Groundwater Basin include the Santa Ana River and Santiago Creek. The Project site is located approximately 0.87 miles east of the Santa Ana River and approximately 1.9 miles north of the Santiago Creek. Implementation of the Project would not have the potential to interfere with groundwater recharge. Impacts would be 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; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impeded or redirect flood flows?***

Under existing conditions, the Project site does not contain a stream or river; therefore, the Project does not have the potential to alter the course of a stream or river. No impacts would occur in this regard.

A. On-Site Storm Drain Facilities

Under existing conditions, the Project site slopes down at approximately 1 percent grade to the west. The existing drainage pattern for the site is characterized by draining south to north and east to west. Most of the Site flows drain to a ribbon gutter located on the western side of the site that conveys flows off-site to Struck Avenue without mitigation or treatment. The eastern portion of the Site, including the existing railroad track, drains south to north along an existing curb and gutter. All flows from the eastern portion of the site also drain north towards Struck Avenue. Flows exiting the Site are captured in a set of catch basins located at the Struck Avenue/Batavia Street intersection. From this catch basin flows are conveyed into an existing 33-inch storm drain, which transitions to a 36-inch storm drain just west of the site to Collins Channel and ultimately the Santa Ana River.

Under Project conditions, the Project would maintain the existing drainage pattern by draining flows from south to north, to the northwest corner. The Project would incorporate (curb and gutter or ribbon) gutters, storm drain pipes, and outlet structure with a BioClean modular wetland system (MWS). The MWS will utilize horizontal flow and incorporates a pretreatment chamber that includes separation and pre-treatment filter cartridges. In this chamber, sediment and hydrocarbons are removed from runoff before entering the biofiltration chamber, large events will bypass through the system before exiting the site. The Project's proposed ribbon gutters would be located within the parking areas located east and west of the proposed building. Inlets along the ribbon gutters will collect and deposit

flows into the Project's proposed storm drain system and into the proposed outlet structure located within the northwestern portion of the site. The Project storm drain lines would be located throughout the site and are designed to convey 100-year peak flow rates. The starting water surface elevation for the storm drain shall be the 100-year ponding limit within the on-site basin.

The proposed outlet structure receives approximately 33.4 cubic feet per second (cfs) of on-site flows from the proposed Line A, Line B, and Line C.

- Line A is proposed along the eastern and northern portion of the proposed Site. Line A conveys approximately 21.3 cfs of total runoff towards the proposed outlet structure. The proposed line will collect flows draining through the ribbon gutter along the eastern trailer parking stalls and northern auto parking areas before discharging into Line B. Proposed laterals along Line A are proposed at various drainage inlets. The hydraulic model for Line A will be included with the final engineering design. At this time, the preliminary storm drain sizing has been taken from the rational method normal depth calculations.

- Line B is proposed near the northwestern portion of the proposed Site. The proposed line will collect flows generated by the areas west of the proposed building that are conveyed along the curb and gutter. A lateral is also provided near the end of the line to allow for flows within the auto parking stalls in the northwest corner of the Site to be collected. Line A and Line C also confluence with Line B before discharging into the proposed outlet structure. Line B conveys the total Site runoff of approximately 33.4 cfs of runoff generated on-site. The hydraulic model for Line B will be included with the final engineering design. At this time, the preliminary storm drain sizing has been taken from the rational method normal depth calculations.

- Line C is proposed along the western portion of the Site. Flows captured near the southern boundary of the Site are conveyed north within Line C. The proposed Line C conveys approximately 4.9 cfs of runoff towards Line B. The hydraulic model for Line C will be included with the final engineering design. At this time, the preliminary storm drain sizing has been taken from the rational method normal depth calculations.

B. Off-Site Storm Drain Facilities

The existing storm drain adjacent to the Project site in Struck Avenue is a 33-inch RCP. This pipe transitions into a 36-inch RCP west of the Site where a lateral connection exists to convey flows from the City Corporation Yard north of the site. The 36-inch RCP continues to the intersection of Batavia Avenue. At this location, a set of catch basins pick up the street flow from Struck Avenue and the adjacent building sites, including the existing drainage of the Project site. As with existing conditions, flows from the Site would continue to flow to the existing catch basin at the Struck Avenue/Batavia Street intersection. The existing storm drain lines were sized to accommodate 10-year storm event flows and to accept flows from the surrounding properties in their developed conditions.

The storm drain design would convey flows through an under-sidewalk drain onto Struck Avenue to mimic the existing conditions, and there would be no connection to the existing 33-inch RCP storm drain line.

i) Result in substantial erosion or siltation on- or off-site?

As discussed above, the Project would increase the amount of impervious surface coverage on the Project site from 89 percent to 91 percent. However, the Project would maintain the site's existing drainage pattern. Therefore, the Project would not substantially alter the site's drainage pattern in such a way that would result in substantial erosion or siltation on- or off-site. Additionally, the Project would construct an integrated storm drain system on-site with BMPs to minimize the amount of waterborne pollutants carried from the Project site. The Project's proposed BMPs are designed to treat runoff with medium to high efficiency and effectiveness; furthermore, they are highly effective at removing sediment from stormwater runoff flows. Therefore, stormwater runoff leaving the Project site would not carry substantial amounts of sediment. Because there are no exposed soils at the Project site's discharge points, there is no potential for the Project's stormwater runoff to result in erosion as it leaves the Project site. Impacts would be less than significant.

ii) Increase the rate or amount of surface runoff in a manner which would result in flooding in- or off-site?

Under existing conditions, peak stormwater runoff flows are discharged into the existing storm drain line beneath Struck Avenue, which is designed to accept the 10-year peak flows from the Project site and surrounding developments.

As shown in Table 4.8-1, *Project Peak Flows*, implementation of the project would reduce peak flows discharging from the Project site. As such, the Project proposed drainage improvements would not result in on-site or off-site flooding. Impacts would be less than significant.

Table 4.8-1 Project Peak Flows

	Existing Conditions		Project Conditions	
Storm Event	**Peak Flow (cfs)**	**Tc (min)**	**Peak Flow (cfs)**	**Tc (min)**
2-Year	12.2	12.35	11.9	9.90
10-Year	22.9	11.54	21.7	9.54
100-Year	35.8	11.00	33.4	9.34
AF = acre-feet Tc = cubic feet per second				

Source: (Webb, 2021b, Table 4)

iii) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

As discussed above under Hydrology and Water Quality Threshold c.i and c.ii, all captured flows will be directed towards a proposed outlet structure near the northwestern corner of the site. Flows are expected to pond up within the outlet structure before spilling out of the structure and into a concrete-lined u-channel. The u-channel conveys the on-site flows north towards a proposed parkway culvert (type B) that will discharge all flows underneath the sidewalk and onto Struck Avenue. Within the outlet structure, an internal weir wall is proposed to divert approximately 2.0 cfs of flows east towards the proposed treatment vaults for water quality treatment. Flows that have been treated by the proposed MWS vaults are then directed towards a proposed pump located northeast of the treatment vaults. The pump will discharge the water quality flows into a second concrete-lined u-channel. From there, treated flows are directed towards a second proposed parkway culvert (type B) that will discharge treated flows underneath the sidewalk and onto Struck Avenue. As discussed above under Hydrology and Water Quality Threshold c.ii, stormwater discharge peak flow would be less than existing conditions. BMPs would ensure that pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the Project site. Impacts would be less than significant.

iv) Impede or redirect flood flows?

According to the Federal Emergency Management Agency (FEMA) flood map No. 06059C0161J, the Project site is within Zone X (Unshaded), an area of minimal flood hazard (FEMA, 2009). The Project does not have the potential to impede or redirect flood flows. No impacts would occur.

Threshold d: ***Would the Project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?***

As previously discussed, the Project site is not within a 100-year flood hazard zone. The Project does not have the potential to release pollutants due to 100-year flood inundation. No impacts would occur.

According to the Federal Emergency Management Agency (FEMA) flood map No. 06059C0161J, the Project site is within Zone X (Unshaded), an area of minimal flood hazard (FEMA, 2009). The Project does not have the potential to release pollutants due to Project inundation. No impacts would occur.
A tsunami is a sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of a seafloor associated with large, shallow earthquakes. A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank.

The Project site is located approximately 13 miles northeast of the Pacific Ocean. Due to site distance, the Project would not be subject to tsunami-related inundation. Additionally, there are no enclosed or semi-enclosed bodies of water in proximity to the Project site. No impacts would occur.

Threshold e: ***Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

As discussed under Hydrology and Water Quality Threshold a, the Project site is within the Santa Ana River Basin; therefore, Project-related construction and operational activities would be required to comply with the Santa Ana RWQCB's Santa Ana River Basin Water Quality Control Plan by preparing and adhering to a SWPPP and WQMP. Additionally, as discussed previously, implementation of the Project would not conflict with or obstruct the Santa Ana River Basin Water Quality Control Plan and no impacts would occur.

The Project site is within the Coastal Plain of Orange County Basin (Basin 8-1). The California Department of Water Resources (DWR), classifies this basin as a medium-priority basin. According to the 2014 Sustainable Groundwater Management Act (SGMA), local public agencies and Groundwater Sustainability Agencies (GSAs) in "high"- and "medium"-priority basins are required to develop and implement Groundwater Sustainability Plans (GSPs) or Alternatives to GSPs (DWR, 2020). GSPs are detailed road maps for how groundwater basins will reach long term sustainability. The GSA for Basin 8-1 is comprised of the OCWD, City of La Habra, and Irvine Ranch Water District (IRWD). These agencies collaborated and submitted an Alternative to a GSP titled Basin 8-1 Alternative on January 1, 2017, to the DWR. This Alternative, documents the basin conditions; basin management is based on measurable objectives and minimum thresholds defined to prevent significant and unreasonable impacts on the sustainability indicators defined in the Alternative.

Groundwater is anticipated to be located at a depth greater than 40 below ground surface (bgs). The Project's potable water would be supplied by the City, which relies on groundwater and imported water. As identified in the City's UWMP, the City's potable water resources contain enough water to meet demands under a normal, single dry year, and multiple dry year hydrologic conditions from 2020 through 2040. Additionally, the Project site is not within a groundwater recharge area. Therefore, the Project would not have the potential to conflict with or obstruct implementation of the Basin 8-1 Alternative and no impacts would occur.

4.8.5 CUMULATIVE IMPACT ANALYSIS

The cumulative impact analysis considers construction and operation of the Project in conjunction with other development projects in the vicinity of the Project site and projects located in the Santa Ana River Basin and Orange County Groundwater Basin.

A. Water Quality

Project construction and the construction of other projects in the cumulative study area would have the potential to contribute waterborne pollution, including erosion and siltation, to the Santa Ana River Watershed. Pursuant to the requirements of the State Water Resources Control Board and the Santa Ana RWQCB, all construction projects that disturb one (1) or more acres of land area are required to obtain coverage for construction activities under the State's General Construction NPDES Permit. In order to obtain coverage, an effective Site-specific SWPPP is required to be developed and

implemented. The SWPPP must identify potential on-site pollutants and identify an effective combination of erosion control and sediment control measures to reduce or eliminate discharge of pollutants to surface waters. In addition, the Project Applicant and all cumulative developments in the Santa Ana River Basin would be required to comply with the Santa Ana RWQCB's *Santa Ana River Basin Water Quality Control Program*, which establishes water quality standards for ground and surface waters of the region. Compliance with these mandatory regulatory requirements, would ensure that development projects within the Santa Ana River watershed, including the proposed Project, would not contribute substantially to water quality impairments during construction.

Operational activities on the Project site would be required to comply with the Project's WQMP to minimize the amount of waterborne pollution, including erosion and sediment, discharged from the Site. Other development projects within the watershed would similarly be required by law to prepare and implement Site-specific WQMPs to ensure that runoff does not substantially contribute to water quality violations. Accordingly, operation of the Project would not contribute to cumulatively-considerable water quality effects.

B. Groundwater Supplies and Management

The Project incorporates design features that would allow surface runoff to infiltrate into the groundwater basin. Other development projects would similarly be required by applicable lead agencies to incorporate design features that facilitate percolation (e.g., through minimum landscaped/permeable area requirements, water quality/detention basins, infiltration basins). Also, as previously noted, implementation of the Project would not result in substantial adverse effects to local groundwater supplies or groundwater recharge. Thus, no component of the Project would obstruct with or prevent implementation of the management plan for the Orange County Groundwater Basin and other development projects within the Orange County Groundwater Basin would be prohibited from any activity that would endanger the health and sustainability of the groundwater basin. Based on the lack of impacts to groundwater, the provision of design measures that would facilitate percolation, and compliance with applicable Orange County Groundwater Basin management plans, cumulative development would not result in a considerable, adverse effect to local groundwater supplies.

C. Flooding

Construction of the Project and other development projects within the Santa Ana River watershed would be required to comply with federal, State, and local regulations and applicable regional and local master drainage plans in order to mitigate flood hazards both on- and off-site. Compliance with federal, State, and local regulations and applicable drainage plans would require development sites to be protected from flooding during peak storm events (i.e., 100-year storm) and also would not allow development projects to expose downstream properties to increased flooding risks during peak storm events. In addition, future development proposals within the Santa Ana River Basin would be required to prepare hydrologic and hydraulic calculations, subject to review and approval by the responsible City/County Engineer, to demonstrate that substantial on- and/or off-site flood hazards would not occur. As discussed under the response to Threshold "c," the Project is designed to ensure that runoff from the Project site during peak storm events is reduced relative to existing conditions. Because the

Project and all other developments throughout the Santa Ana River Basin, would need to comply with federal, State, and local regulations to ensure that stormwater discharges do not substantially exceed existing volumes or exceed the volume of available conveyance infrastructure, a substantial cumulative impact related to flood hazards would not occur.

Additionally, the Project site is not located within a special flood hazard area or in an area subject to inundation. Accordingly, development on the Project site would have no potential to impede or redirect flood flows and a cumulatively-considerable impact would not occur.

4.8.6 Significance of Impacts Before Mitigation

Threshold a: Less-than-Significant Impact. The Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Adherence to a SWPPP and WQMP is required as part of the Project's implementation to address construction- and operational-related water quality.

Threshold b: Less-than-Significant Impact. The Project would not physically impact any of the major groundwater recharge facilities in the Orange County Groundwater Basin. The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project would impede sustainable groundwater management of the Basin.

Threshold c: Less-than-Significant Impact. The Project would be required to comply with applicable water quality regulatory requirements to minimize erosion and siltation. Additionally, the Project would not result in flooding on- or off-site or impede/redirect flood flows. Lastly, the Project would not create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Threshold d: Less-than-Significant Impact. The Project site would not be subject to inundation from tsunamis, seiches, or other hazards.

Threshold e: Less-than-Significant Impact. The Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.8.7 Mitigation

Impacts would be less than significant; therefore, mitigation is not required.

4.9 NOISE

This Subsection addresses the environmental issue of noise, including existing noise levels in the Project area and the Project's potential to introduce new or elevated sources of noise. The analysis contained herein incorporates information contained in a technical report prepared by Urban Crossroads, Inc., titled "*534 Struck Avenue Noise and Vibration Analysis*" (Noise Study) and dated October 23, 2022. The report is included as *Technical Appendix J* to this EIR. Refer to Section 7.0, *References*, for a complete list of reference sources used in the analysis presented in this Subsection.

4.9.1 NOISE FUNDAMENTALS

A. Noise Definitions

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes physical harm, or when it has adverse effects on health. Because the range of sound that the human ear can detect is large, the scale used to measure sound intensity is based on multiples of 10, the logarithmic scale. The unit of measure to describe sound intensity is the decibel (dB). A sound increase of 10 dB represents a ten-fold increase in sound energy and is perceived by the human ear as being roughly twice as loud. A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise sources by discriminating against very low and very high frequencies of the audible spectrum (i.e., frequencies that are not audible to the human ear). The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at a distance of three feet is roughly 60 dBA, while a jet engine is 110 dBA at approximately 1000 feet.

B. Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used noise descriptor is the equivalent level (L_{eq}). Leq represents a steady state sound level containing the same total energy as a time varying signal over a given time period. L_{eq} values are not measured directly but are calculated from sound pressure levels typically measured in dBA. Consequently, Leq can vary depending on the time of day.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may cause a disturbance if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of five (5) decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

C. Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on geometric spreading, ground absorption, atmospheric effects, shielding, and reflection.

1. Geometric Spreading

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

2. Ground Absorption

To account for the ground-effect attenuation (absorption) of noise, two types of site conditions are commonly used in noise models: soft site and hard site conditions. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., sites with an absorptive ground surface between the source and the receptor such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed.

3. Atmospheric Effects

Receptors located downwind from a noise source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Other factors that may affect noise levels include air temperature, humidity, and turbulence. (Urban Crossroads, 2022a, p. 9)

4. Shielding

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Solid objects or barriers are most effective at attenuating noise levels. Effective noise barriers can reduce noise levels by 10 to 15 dBA. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source.

D. Response to Noise

A variety of reactions can be expected from people exposed to any given environment. Despite this variability in behavior on an individual level, the population as a whole can be expected to exhibit the following responses to changes in noise levels: a change of 3 dBA is considered “barely perceptible;” and a change of 5 dBA is considered “readily perceptible.”

E. Vibration

Vibration is the periodic oscillation of a medium or object. Sources of ground-borne vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency. Vibration is often described in units of velocity (inches per second) and decibels (dB) and is denoted as VdB.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels.

4.9.2 Existing Noise Conditions

A. Existing Study Area Ambient Noise Conditions

Urban Crossroads recorded 24-hour noise readings at five (5) locations in the Project study area on April 18, 2022. The noise measurement locations are identified in Figure 4.9-1, *Noise Measurement Locations*. The results of the existing noise level measurements are summarized below. Noise measurement worksheets for the hourly noise levels and the minimum and maximum observed noise levels at each measurement location are provided in the noise analysis (refer to *Technical Appendix J*). In general, the existing background ambient noise levels in the Project area are dominated by surface street vehicle noise which includes automobile and heavy truck activities on the surrounding roadways (Struck Avenue, Collins Avenue, Parker Street, and Brenna Lane) and the railroad tracks located east of the Project site

- Location L1 represents the noise levels located northwest of the Project site near the Department of Public Works at 637 West Struck Avenue. The noise level measurements collected show an overall 24-hour exterior noise level of 53.2 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 54.3 dBA L_{eq} with an average nighttime noise level of 50.5 dBA L_{eq}.

- Location L2 represents the noise levels located northeast of the Project site near proposed residential development north of West Struck Avenue. The noise level measurements collected show an overall 24- hour exterior noise level of 50.1 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 51.2 dBA L_{eq} with an average nighttime noise level of 47.2 dBA L_{eq}.

Source(s): Urban Crossroads (10-23-2022)

Figure 4.9-1

Not to Scale

Noise Measurement Locations

- Location L3 represents the noise levels located northeast of the Project site near the HUB OC (Mary's Kitchen) at 517 West Struck Avenue. The noise level measurements collected show an overall 24-hour exterior noise level of 51.7 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 52.6 dBA L_{eq} with an average nighttime noise level of 49.3 dBA L_{eq}.

- Location L4 represents the noise levels located northeast of the Project site near the Citrus Grove Apartments at 1120 North Lemon Street. The 24-hour CNEL indicates that the overall exterior noise level is 49.8 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 51.0 dBA L_{eq} with an average nighttime noise level of 46.8 dBA L_{eq}.

- Location L5 represents the noise levels located south of the Project site near the Top Dog Inn at 606 West Collins Avenue. The 24-hour CNEL indicates that the overall exterior noise level is 66.7 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 68.0 dBA Leq with an average nighttime noise level of 63.0 dBA Leq.

B. Existing Ground-borne Vibration

Based on the nature of the existing uses on the Project site, there are no sources of ground-borne vibration on the Project site under existing conditions because no heavy, impact machinery is used on the site.

4.9.3 REGULATORY FRAMEWORK

The following is a brief description of the federal, state, and local environmental laws and related regulations related to noise

A. Federal Regulations

1. Noise Control Act of 1972

The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The Act also serves to (1) establish a means for effective coordination of Federal research and activities in noise control; (2) authorize the establishment of Federal noise emission standards for products distributed in commerce; and (3) provide information to the public respecting the noise emission and noise reduction characteristics of such products. (EPA, 2020e)

While primary responsibility for control of noise rests with State and local governments, Federal action is essential to deal with major noise sources in commerce, control of which require national uniformity of treatment. The Environmental Protection Agency (EPA) is directed by Congress to coordinate the programs of all Federal agencies relating to noise research and noise control. (EPA, 2020e)

2. Federal Transit Administration

The Federal Transit Administration (FTA) has published a Noise and Vibration Impact Assessment Manual (NVIA), which provides guidance for preparing and reviewing the noise and vibration sections of environmental documents. In the interest of promoting quality and uniformity in assessments, the manual is used by project sponsors and consultants in performing noise and vibration analyses for inclusion in environmental documents. The manual sets forth the methods and procedures for determining the level of noise and vibration impact resulting from most federally-funded transit projects and for determining what can be done to mitigate such impact. (FTA, 2018, p. 1)

The NVIA also establishes criteria for acceptable ground-borne vibration, which are expressed in terms of root mean square (rms) velocity levels in decibels and the criteria for acceptable ground-borne noise are expressed in terms of A-weighted sound levels. As shown in Table 4.9-1, *Indoor Ground-Borne Vibration (GBV) and Ground-Borne Noise Impact Criteria for General Vibration Assessment*, the FTA identifies three categories of land uses and provides Ground-Borne Vibration (GBV) and Ground-Based Noise (GBN) criteria for each category of land use. (FTA, 2018, p. 126)

Table 4.9-1 Indoor Ground-Borne Vibration (GBV) and Ground-Borne Noise Impact Criteria for General Vibration Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch /sec)			GBN Impact Levels (dBA re 20 micro Pascals)		
	Frequent Events	Occasional Events	Infrequent Events	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB*	65 VdB*	65 VdB*	N/A**	N/A**	N/A**
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

* This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. For equipment that is more sensitive, a Detailed Vibration Analysis must be performed.
** Vibration-sensitive equipment is generally not sensitive to ground-borne noise; however, the manufacturer's specifications should be reviewed for acoustic and vibration sensitivity.

Source: (FTA, 2018, p. 126)

B. State Regulations

1. State of California Noise Requirements

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels.

2. Building Standards Code

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Standards Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL. (BSC, n.d.)

C. Local Plans, Policies, and Regulations

1. City of Orange General Plan Noise Element

The City of Orange General Plan Noise Element addresses the control and abatement of environmental noise, and the protection of the City of Orange citizens from excessive exposure to noise. The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To protect City of Orange residents from excessive noise, the Noise Element contains the following policies related to the Project (Urban Crossroads, 2022a, p. 13):

- *Policy 1.1: Consider potential excessive noise levels when making land use planning decisions.*
- *Policy 1.2: Encourage new development projects to provide sufficient spatial buffers to separate excessive noise generating land uses and noise-sensitive land uses.*
- *Policy 1.4: Ensure that acceptable noise levels are maintained near noise-sensitive uses.*
- *Policy 1.5: Reduce impacts of high-noise activity centers located near residential areas.*
- *Policy 6.1: Encourage the design and construction of industrial uses to minimize excessive noise through project design features that include noise control.*
- *Policy 6.2: Encourage industrial uses to locate vehicular traffic and operations away from abutting residential zones as much as possible.*
- *Policy 7.2: Require developers and contractors to employ noise minimizing techniques during construction and maintenance operations.*

- *Policy 7.3: Limit the hours of construction and maintenance operations located adjacent to noise-sensitive land uses.*

To ensure noise-sensitive land uses are protected from high levels of noise the City of Orange has developed its own land use compatibility standards, based on recommended parameters from the Governor's Office of Planning and Research (OPR). The City's Land Use Compatibility standards use the CNEL noise descriptor, are intended to be applicable for land use designations exposed to noise levels generated by transportation related sources. Land use compatibility noise exposure limits are generally established as 65 dBA CNEL for most land use designations throughout the City. Higher exterior noise levels are permitted for multiple-family housing and housing in mixed-use contexts than for single-family houses. This is because multiple-family complexes are generally located in transitional areas between single-family and commercial districts or in proximity to major arterials served by transit, and a more integrated mix of residential and commercial activity (accompanied by higher noise levels) is often desired in mixed-use areas close to transit routes. The City of Orange does not identify any transportation related noise exposure standards for industrial land uses.

2. City of Orange Municipal Code

The Noise Ordinance included in Chapter 8.24 of the City of Orange Municipal Code provides performance standards and noise control guidelines for activities within the City limits, as described below.

❑ Operational Noise Standards

For noise-sensitive residential property, the City of Orange Municipal Code, Section 8.24.040, identifies exterior noise levels standards of 55 dBA Leq for the daytime hours (7:00 a.m. to 10:00 p.m.) and 50 dBA Leq during the nighttime (10:00 p.m. to 7:00 a.m.) hours. Per Section 8.24.040(B) for multi-family residential or mixed-use developments located within the City's Urban Mixed Use, Neighborhood Mixed Use, Old Towne Mixed Use or Medium Density Residential General Plan land use districts, exterior noise standards shall apply to common recreation areas only and shall not apply to private exterior space (such as a private yard, patio, or balcony). The City of Orange does not identify any exterior noise level standards for non-residential land uses.

❑ Construction Noise Standards

The City of Orange has set restrictions to control noise impacts associated with the construction of the proposed Project. Section 8.24.50(E) of the City's Municipal Code states:

> *Noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities take place between the hours of 7:00 a.m. and 8:00 p.m. on any day except for Sunday or a Federal holiday, or between the hours of 9:00 a.m. and 8:00 p.m. on Sunday or a Federal holiday.*

Neither the City's General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified

determination of what CEQA constitutes a substantial temporary or periodic noise increase. Therefore, a numerical construction threshold based on FTA Transit Noise and Vibration Impact Assessment Manual is used for analysis of daytime construction impacts, as discussed below.

According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA Leq as a reasonable threshold for noise sensitive residential land use. While the City of Orange does not identify any specific construction noise level threshold, the City of Orange General Plan EIR relies on the same FTA guidelines for noise and vibration relating to transportation and construction-induced vibration. The 80 dBA Leq daytime exterior construction noise level is derived from this same FTA document used throughout the General Plan EIR to establish reasonable construction threshold of significance.

❑ **Vibration**

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity.

To analyze vibration impacts originating from the operation and construction of the 534 Struck Avenue, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Orange does not identify specific vibration level limits. For analysis purposes, Urban Crossroads used the Caltrans Transportation and Construction Vibration Guidance Manual vibration damage to assess potential temporary construction-related impacts at adjacent building locations.

4.9.4 Basis for Determining Significance

According to Section XIII of the CEQA Guidelines, the proposed Project would result in a significant impact to noise if the Project or any Project-related component would 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;*

- *Generation of excessive ground borne vibration or ground borne noise levels;*

- *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.*

4.9.5 IMPACT ANALYSIS

Threshold a:	***Would the Project result in generation of 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?***

Noise generated at the Project site under existing conditions is limited to surface street vehicle noise which includes auto and heavy truck activities on the surrounding roadways (Struck Avenue, Collins Avenue, Parker Street, and Brenna Lane) and the railroad tracks located east of the Project site.

Redevelopment of the Project site with a new building and associated improvements has the potential to result in the generation of elevated noise levels during both near-term construction activities and under long-term operational conditions. Near-term (i.e., temporary) and long-term (i.e., permanent) noise level increases that would be associated with the Project are described below. Urban Crossroads took 24-hour noise measurements at 5 noise measurement locations depicted in Figure 4.9-1, *Noise Measurement Locations*, to assess the existing noise level environment. To assess the potential short-term construction and long-term operational noise impacts, Urban Crossroads identified 6 representative noise-sensitive receiver locations at which the Project's anticipated noise generation was compared against as shown in Figure 4.9-2, *Receiver Locations*.

A. Construction

The Project's only potential to cause a substantial temporary or periodic increase in ambient noise levels would occur during the construction phase. Construction activities on the Project site, especially those involving the use of heavy equipment, would create intermittent, temporary increases in ambient noise levels in the vicinity of the Project site. Noise generated by heavy construction equipment including trucks, graders, bulldozers, concrete mixers, and portable generators can reach high levels. However, construction-related noise increase would: 1) be transitory (i.e., varying from day-to-day and throughout the day), 2) completely cease upon completion of Project construction, and 3) not represent a recurring, periodic source of noise. Although periodic and temporary, construction noise has the potential to be substantial compared to existing ambient noise levels. As such, the Project's construction-related activities are required to comply with the City's Noise Ordinance (Municipal Code Section 8.24.040). The City's Noise Ordinance includes a provision that exempts construction activities during the hours of 7:00 am and 8:00 pm on any day except for Sunday or a Federal holiday, or between the hours of 9:00 am and 8:00 pm on a Sunday or a Federal holiday.

Source(s): Urban Crossroads (10-23-2022)

Figure 4.9-2

Not to Scale

Receiver Locations

To evaluate the Project's potential to generate potentially significant construction noise levels at the off-site receiver locations, the analysis is based on a threshold of 80 decibels (dBA) equivalent sound level (L_{eq}) for daytime construction-related noise. This threshold was established in FTA's Transit Noise and Vibration Impact Assessment Manual, as described above. As shown in Table 4.9-2,*Construction Noise Level Compliance* the Project's construction-related noise at the off-site receiver locations will satisfy the 80 dBA L_{eq} significance threshold. Therefore, impacts would be less than significant.

Table 4.9-2 Construction Noise Level Compliance

Receiver Location[1]	Construction Noise Level (dBA L_{eq})		
	Highest Noise Level[2]	Threshold[3]	Threshold Exceeded?[4]
R1	73.8	80	No
R2	66.2	80	No
R3	78.7	80	No
R4	70.3	80	No
R5	59.0	81	No
R6	57.1	82	No

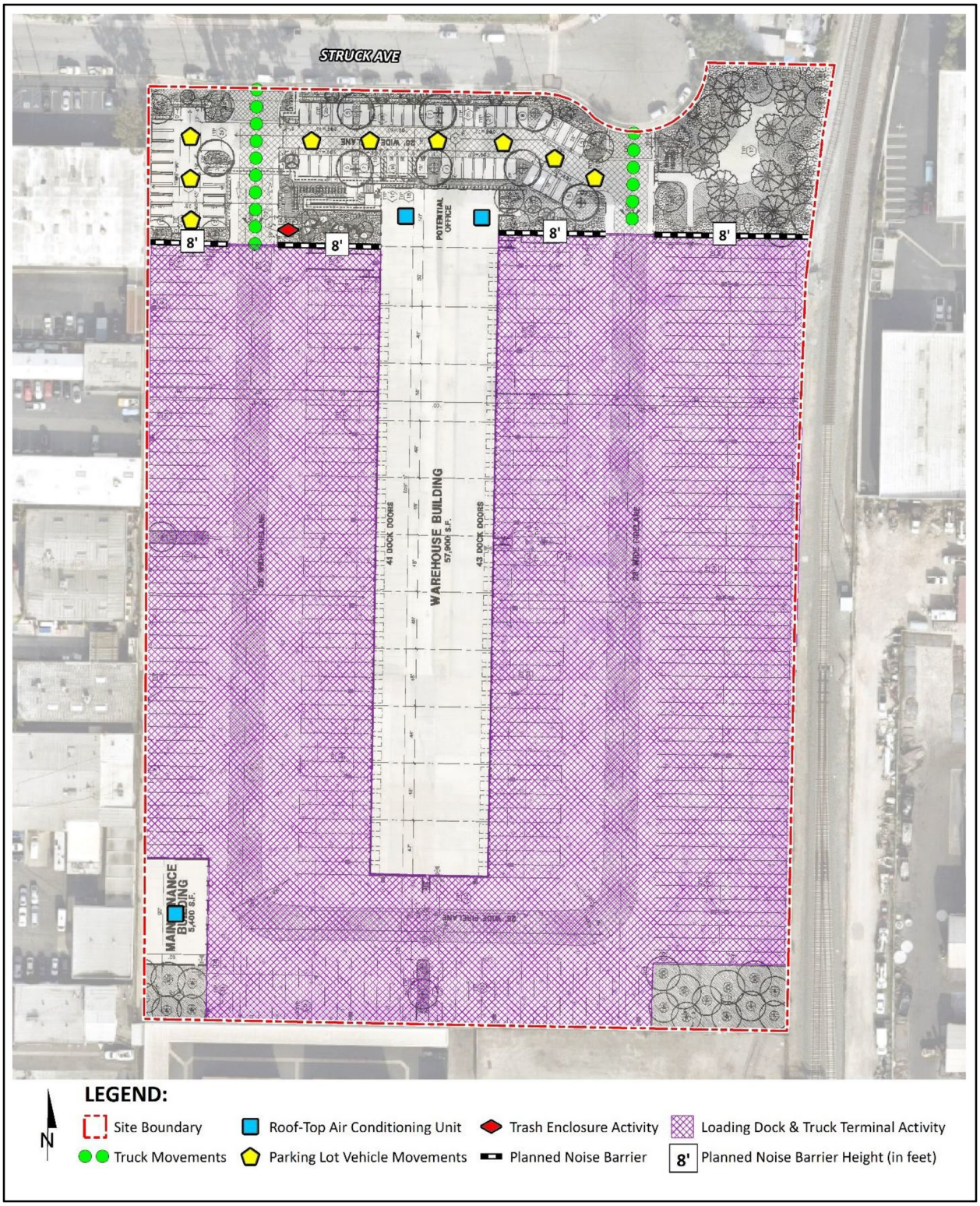
[1]Noise receiver locations are shown on Figure 4.9-2.
[2]Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations.
[3]FTA, Transit Noise and Vibration Impact Assessment Manual.
[4]Do the estimated Project construction noise levels exceed the construction noise level threshold?
Source: (Urban Crossroads, 2022a, Table 10-3)

B. Operational – Stationary

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Figure 4.9-2, resulting from the operation of the proposed 534 Struck Avenue Project. Figure 4.9-3, *Operational Noise Source Locations*, identifies the noise source locations used to assess the operational noise levels.

Future tenants of the proposed Project are currently unknown. Therefore, this operational noise analysis is intended to describe noise level impacts associated with the expected typical of warehouse use activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. The on-site Project-related noise sources are expected to include: loading dock activity, truck terminal activity, roof-top air conditioning units trash enclosure activity, parking lot vehicle movements and truck movements.

According to the City's Municipal Code Section 8.24.040, the maximum allowable exterior sound levels for uses in proximity to residential uses are 55 dBA L_{eq} from 7:00 am to 10:00 pm (daytime) and 50 dBA L_{eq} from 10:00 pm to 7:00 am (nighttime). Public facility uses do not have a threshold for maximum allowable exterior sound levels established in the Municipal Code.



Source(s): Urban Crossroads (10-23-2022)

Figure 4.9-3

Not to Scale

Operational Noise Source Locations

To estimate the Project's operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels anticipated with the development of the Project (see Table 4.9-3). It should be noted that the Project's projected noise levels assume the worst-case scenario environment with the loading dock activity, truck terminal activity, truck movements, and roof-top air conditioning units, trash enclosure activity, parking lot vehicle movements and truck movements all operating at the same time. These noise level impacts will likely vary throughout the day.

Table 4.9-3 Reference Noise Level Measurements

Noise Source[1]	Noise Source Height (Feet)	Min./ Hour[2]		Reference Noise Level (dBA L_{eq}) @ 50 Feet	Sound Power Level (dBA)[3]
		Day	Night		
Loading Dock and Truck Terminal Activity	8'	60	60	62.8	103.4
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Trash Enclosure Activity	5'	10	10	57.3	89.0
Parking Lot Vehicle Movements	5'	60	60	56.1	87.8
Truck Movements	8'	60	60	59.8	93.2

[1] As measured by Urban Crossroads, Inc.
[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.
Source: (Urban Crossroads, 2022a, Table 9-1)

1. Loading Dock and Truck Terminal Activity

The reference loading dock and truck terminal activities are intended to describe the typical operational noise source levels associated with the Project. This includes truck idling, deliveries, backup alarms, trailer movements, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. At a uniform reference distance of 50 feet, the reference noise level was 62.8 dBA Leq. The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes a semi-truck with trailer pass-by event, background switcher cab trailer towing, drop-off, idling, backup alarm events, employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck. Noise associated with loading dock and truck trailer activity is expected to operate for the entire hour (60 minutes).

2. Roof-Top Air Conditioning Units

The noise level measurements describe a single mechanical roof-top air conditioning unit. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA Leq. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

3. Trash Enclosure Activity

To describe the noise levels associated with a trash enclosure activity, reference noise level measurement was collected at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA Leq for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building. Typical trash enclosure activities are estimated to occur for 10 minutes per hour.

4. Parking Lot Vehicle Movements

To describe the on-site parking lot activity, a long-term 29-hour reference noise level measurement was collected in the center of activity within the staff parking lot of an Amazon warehouse distribution center. At 50 feet from the center of activity, the parking lot produced a reference noise level of 56.1 dBA Leq. Parking activities are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due cars pulling in and out of parking spaces in combination with car doors opening and closing.

5. Truck Movements

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represents multiple heavy trucks entering and exiting the outdoor loading dock area producing a reference noise level of 59.8 dBA Leq at 50 feet. The noise sources included at this measurement location account for trucks entering and existing the Project driveways and maneuvering in and out of the outdoor loading dock activity area.

6. Project Operational Noise Levels

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, truck terminal activity, roof-top air conditioning units trash enclosure activity, parking lot vehicle movements and truck movements, operational source noise levels were calculated that are

expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. See Tables 9-2 and 9-3 if the Noise Report (*Technical Appendix J* of this EIR) for the operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m and nighttime hours of 10:00 p.m. to 7:00 a.m, respectively. The daytime hourly noise levels at the off-site receiver locations are expected to range from 40.6 to 52.2 dBA Leq. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 40.6 to 52.2 dBA Leq. The differences between the daytime and nighttime noise levels are largely related to the estimated duration of noise activity as outlined in Table 4.9-3.

The Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Orange exterior noise level standards at nearby noise-sensitive receiver locations. Table 4.9-4, *Operational Noise Level Compliance*, shows the operational noise levels associated with the Project will satisfy the City of Orange daytime and nighttime exterior noise level standards. Therefore, the operational noise impacts are considered less than significant at the nearby noise-sensitive receiver locations.

Table 4.9-4 Operational Noise Level Compliance

Receiver Location[1]	Land Use	Noise Levels dBA L_{eq}					
		Project Operational Noise Levels[2]		Noise Level Standards[3]		Noise Level Standards Exceeded?[4]	
		Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	Public-Institutional	52.2	52.2	n/a	n/a	No	No
R2	Proposed Residential	46.7	46.7	55	50	No	No
R3	The HUB OC	51.7	51.7	n/a	n/a	No	No
R4	Residential	47.3	47.3	55	50	No	No
R5	Residential	42.9	42.9	55	50	No	No
R6	Industrial	40.6	40.6	n/a	n/a	No	No

[1]See Figure 4.9-2 for the receiver locations.
[2]Anticipated project operational noise levels.
[3]Exterior noise level standards.
[4]Do the estimated Project operational noise source activities exceed the noise level standards?
"Daytime" = 7:00 am – 10:00 pm; "Nightime" = 10:00pm – 7:00 am
Source: (Urban Crossroads, 2022a, Table 9-4)

C. Traffic-Related Off-Site Noise

The Project is anticipated to generate a net total of 396 vehicle trip-ends per day with 176 truck trip-ends per day (*Technical Appendix K1*). To assess the off-site transportation CNEL noise level impacts associated with the development of the Project, noise contours were developed based on the Traffic Analysis (*Technical Appendix K1*). The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of

vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 to 7-5 in the Noise Report (*Technical Appendix J*) present a summary of the exterior traffic noise levels for each traffic condition. Appendix 7.1 in the Noise Report (*Technical Appendix J*) includes the traffic noise level contours worksheets for each traffic condition.

Table 4.9-5, *Existing with Project Traffic Noise Level Increases*, shows the Existing with and without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 62.6 to 73.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. The Existing with Project conditions range from 62.8 to 73.1 dBA CNEL. The Project off-site traffic noise level increases range from 0.0 to 4.5 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise of greater than or equal to 3 dBA L_{eq} if ambient noise is greater than 65 dBA L_{eq} and greater or equal to 5 dBA L_{eq} if ambient noise is less than 65 dBA L_{eq}, land uses adjacent to the study area roadway segments would experience less than significant noise level increases on receiving land uses due to the Project-related traffic.

Table 4.9-5 Existing with Project Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Increment	Limit	Exceeded?
1	Main St.	n/o Struck Av.	71.0	71.0	0.0	3.0	No
2	Main St.	s/o Struck Av.	71.6	71.6	0.0	3.0	No
3	Batavia St.	n/o Katella Av.	69.9	69.9	0.0	3.0	No
4	Batavia St.	s/o Katella Av.	68.9	69.9	1.0	3.0	No
5	Batavia St.	s/o Struck Av.	69.4	69.5	0.1	3.0	No
6	Katella Av.	w/o Main St.	71.2	71.5	0.3	3.0	No
7	Katella Av.	e/o Main St.	71.9	72.2	0.3	3.0	No
8	Katella Av.	e/o Batavia Av.	72.4	72.5	0.1	3.0	No
9	Katella Av.	w/o SR-57 SB Ramps	73.0	73.0	0.0	3.0	No
10	Katella Av.	e/o SR-57 NB Ramps	72.8	73.1	0.3	3.0	No
11	Struck Av.	w/o Main St.	68.0	68.0	0.0	3.0	No
12	Struck Av.	e/o Main St.	62.7	62.8	0.1	5.0	No
13	Struck Av.	e/o Batavia Av.	62.6	67.1	4.5	5.0	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria?
Source: (Urban Crossroads, 2022a, Table 7-5)

Table 4.9-6, *Opening Year Conditions with Project Traffic Noise Level Increases*, presents the Opening Year Cumulative (OYC) with and without Project conditions CNEL noise levels. The OYC without Project exterior noise levels range from 63.5 to 73.2 dBA CNEL, without accounting for any noise

attenuation features such as noise barriers or topography; and with Project conditions will range from 63.6 to 73.3 dBA CNEL. The Project off-site traffic noise level increases range from 0.0 to 3.9 dBA CNEL. Based on the significance criteria for off-site traffic noise of greater than or equal to 3 dBA L_{eq} if ambient noise is greater than 65 dBA L_{eq} and greater or equal to 5 dBA L_{eq} if ambient noise is less than 65 dBA L_{eq}, land uses adjacent to the study area roadway segments would experience less than significant noise level increases on receiving land uses due to the Project-related traffic under OYC traffic conditions.

Table 4.9-6 Opening Year Conditions with Project Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Increment	Limit	Exceeded?
1	Main St.	n/o Struck Av.	71.1	71.1	0.0	3.0	No
2	Main St.	s/o Struck Av.	71.8	71.8	0.0	3.0	No
3	Batavia St.	n/o Katella Av.	70.2	70.3	0.1	3.0	No
4	Batavia St.	s/o Katella Av.	69.2	70.2	1.0	3.0	No
5	Batavia St.	s/o Struck Av.	69.7	69.8	0.1	3.0	No
6	Katella Av.	w/o Main St.	71.4	71.7	0.3	3.0	No
7	Katella Av.	e/o Main St.	72.1	72.4	0.3	3.0	No
8	Katella Av.	e/o Batavia Av.	72.6	72.7	0.1	3.0	No
9	Katella Av.	w/o SR-57 SB Ramps	73.2	73.2	0.0	3.0	No
10	Katella Av.	e/o SR-57 NB Ramps	73.1	73.3	0.2	3.0	No
11	Struck Av.	w/o Main St.	68.4	68.5	0.1	3.0	No
12	Struck Av.	e/o Main St.	63.5	63.6	0.1	5.0	No
13	Struck Av.	e/o Batavia Av.	63.6	67.5	3.9	5.0	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria?
Source: (Urban Crossroads, 2022a, Table 7-6)

Threshold b: ***Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?***

According to the FTA, vibration is the period oscillation of a medium or object. Sources of ground-borne vibrations include natural phenomena (e.g., earthquake, landslides, sea waves) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). To analyze vibration impacts originating from the operation and construction of the Project, vibration-generating activities are evaluated based on FTA methodology. The FTA Transit Noise and Vibration Impact Assessment Manual methodology provides guidelines for the maximum-acceptable vibration criteria. A significant impact would occur if the Project results in an exceedance of 75 vibration decibels (vdB).

A. Construction-Related Vibration Impacts

Construction activities on the Project site would utilize heavy equipment that has the potential to generate low levels of intermittent, localized ground-borne vibration. The Project's construction activities most likely to cause vibration impacts are:

- **Heavy Construction Equipment:** Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.

- **Trucks:** Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul route passes through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

As shown in Table 4.9-7, *Project Construction Vibration Levels*, at distances ranging from 31 feet to 563 feet from construction activity, construction vibration levels are calculated to range from 0.001 to 0.064 PPV (in/sec). Based on the maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), typical Project construction vibration levels will fall below the building damage thresholds at all noise sensitive receiver locations. Additionally, the vibration level reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur only during the times that heavy construction equipment is operating adjacent to the Project site perimeter. Therefore, Project-related vibration impacts are considered less than significant during typical construction activities at the Project site.

Table 4.9-7 Project Construction Vibration Levels

Receiver Location[1]	Distance to Construction Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]					Thresholds PPV (in/sec)[4]	Threshold Exceeded?[5]
		Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Levels		
R1	96	0.000	0.005	0.010	0.012	0.012	0.3	No
R2	245	0.000	0.001	0.002	0.003	0.003	0.3	No
R3	31	0.002	0.025	0.055	0.064	0.064	0.3	No
R4	126	0.000	0.003	0.007	0.008	0.008	0.3	No
R5	563	0.000	0.000	0.001	0.001	0.001	0.3	No
R6	59	0.001	0.010	0.021	0.025	0.025	0.3	No

[1] Receiver locations as shown on Figure 4.9-2.
[2] Distance from receiver to Project construction boundary.
[3] Based on the Vibration Source Levels of Construction Equipment (Table 10-4 of Urban Crossroads report).
[4] Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity
Source: (Urban Crossroads, 2022a), Table 10-5

B. Operational Vibration Impacts

Under long-term conditions, the Project would not include nor require equipment, facilities, or activities that would result in substantial or perceptible ground-borne vibration. Trucks would travel to and from the Project site during long-term operation; however, vibration levels for heavy trucks operating at low-to-normal speeds on smooth, paved surfaces–as expected on the Project site and surrounding roadways–typically do not exceed 0.004 in/sec PPV, which is lower than the Caltrans vibration thresholds of 0.3 in/sec PPV for building damage and 0.04 in/sec PPV annoyance. Accordingly, long-term operation of the Project would not generate or expose persons to excessive ground-borne vibration or ground-borne noise levels, and a less than significant impact would occur.

Threshold c:	***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?***

As previously discussed, the Project site is not in proximity to any private airstrip or airport and is not within an airport land use plan. The closest airport to the Project site is the Fullerton Municipal Airport located approximately 8.0 miles northwest. Implementation of the Project does not have the potential to expose people residing or working in the Project area to excessive noise levels associated with air travel. No impacts would occur.

4.9.6 CUMULATIVE IMPACT ANALYSIS

A. Construction Noise

Construction activities associated with the proposed Project, especially activities involving heavy equipment, would create intermittent periods of noise when construction equipment is in operation and cause a short-term increase in ambient noise levels. The list of cumulative projects that have the potential to collectively increase noise is provided in Table 4.0-1 in Section 4.0, *Environmental Analysis*, of this EIR. As detailed on that list, there are no ongoing or imminent construction projects in the immediate vicinity of the proposed Project site with construction periods that are expected to overlap with the Project. Accordingly, there is no potential for Project-related construction activities to contribute to cumulatively-considerable impacts to occupied sensitive receptor locations.

B. Stationary Noise

The analysis presented for Threshold "a" addresses the Project's contribution of noise to existing cumulative noise sources (i.e., ambient noise) in the Project area. As previously shown in this Subsection, the Project's noise contribution would not be perceptible to noise-sensitive receptors in the Project area during daytime or nighttime hours. The Project's permanent stationary noise impacts would not be cumulatively-considerable.

C. *Traffic Noise*

The analysis presented under Threshold "a" evaluates the Project's traffic noise contribution along study area roadways with consideration of near-term cumulative development. As summarized in that analysis, the Project's traffic noise contributions along study area roadways would not exceed applicable significance thresholds and, therefore, would not be cumulatively-considerable under near-term conditions.

Table 4.9-8, *Cumulative Traffic Noise Level Increases*, presents a summary of the cumulative noise level increases for each of the study area roadway segments. The cumulative traffic noise level increase increment describes the difference between the Opening Year with Project conditions and the Existing (baseline) conditions. Cumulative impacts are caused by Project traffic in combination with traffic from other closely related past, present, and reasonably foreseeable future projects rather than Project-only traffic.

The cumulative off-site traffic noise level increases presented on Table 4.9-8 are expected to range from 0.1 to 4.9 dBA CNEL and will not exceed the cumulative off-site traffic noise level increase thresholds on any of the study area roadway segments due to the cumulative and Project-related traffic. Therefore, the cumulative noise impacts are not cumulatively considerable, and the off-site traffic noise impacts are less than significant.

Table 4.9-8 Cumulative Traffic Noise Level Increases

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Noise Level Increase Threshold[2]	
			Existing No Project	OYC With Project	Cumulative Increase	Limit	Cumulative Impact?
1	Main St.	n/o Struck Av.	71.0	71.1	0.1	3.0	No
2	Main St.	s/o Struck Av.	71.6	71.8	0.2	3.0	No
3	Batavia St.	n/o Katella Av.	69.9	70.3	0.4	3.0	No
4	Batavia St.	s/o Katella Av.	68.9	70.2	1.3	3.0	No
5	Batavia St.	s/o Struck Av.	69.4	69.8	0.4	3.0	No
6	Katella Av.	w/o Main St.	71.2	71.7	0.5	3.0	No
7	Katella Av.	e/o Main St.	71.9	72.4	0.5	3.0	No
8	Katella Av.	e/o Batavia Av.	72.4	72.7	0.3	3.0	No
9	Katella Av.	w/o SR-57 SB Ramps	73.0	73.2	0.2	3.0	No
10	Katella Av.	e/o SR-57 NB Ramps	72.8	73.3	0.5	3.0	No
11	Struck Av.	w/o Main St.	68.0	68.5	0.5	3.0	No
12	Struck Av.	e/o Main St.	62.7	63.6	0.9	5.0	No
13	Struck Av.	e/o Batavia Av.	62.6	67.5	4.9	5.0	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria?

Source: (Urban Crossroads, 2022a, Table 7-7)

D. Ground-borne Vibration and Noise

During construction, the Project's peak vibration impacts would occur during the grading phase when large pieces of equipment, like bulldozers, are operating on-site. During the non-grading phases of Project construction, when smaller pieces of equipment are used on-site, the Project's vibration would be minimal. Vibration effects diminish rapidly from the source; therefore, the only reasonable sources of cumulative vibration in the vicinity of the Project site could occur on properties abutting these sites. As described above, there are no known active or pending construction projects abutting the Project site that would overlap with the Project's proposed construction schedule. Accordingly, there is no potential for the Project to contribute to the exposure of persons to substantial temporary ground-borne vibration or noise.

Under long-term conditions, the Project would not include or require equipment or activities that would result in perceptible ground-borne vibration beyond the Project site. Trucks would travel to and from the Project site along local roadways; however, vibration levels for heavy trucks operating at the posted speed limits on paved surfaces are not perceptible beyond the roadway. The Project would not cumulatively-contribute to the exposure of persons to excessive ground-borne vibration or noise levels during long-term operation.

E. Airport Noise

There are no conditions associated with implementation of the Project that would contribute airport noise or exposure of additional people to unacceptable levels of airport noise. Accordingly, the Project would have no potential to cumulatively contribute to impacts associated with noise from a public airport, public use airport, or private airstrip. Additionally, the Project site and the immediately surrounding area are not subject to substantial airport- or air traffic-related noise. Accordingly, there is no potential for cumulative development to expose persons residing or working in the Project area to excessive airport-related noise levels.

4.9.7 Significance of Impacts Before Mitigation

Threshold a: Less-than-Significant Impact. The Project would generate short-term construction and long-term operational noise but would not generate noise levels that exceed significance thresholds. The Project would not result in generation of substantial temporary or permanent increase in ambient noise levels in the vicinity of the project. Impacts are less than significant.

Threshold b: Less-than-Significant Impact. The Project's construction and operational activities would not result in excessive groundborne vibration or groundborne noise levels. Impacts are less than significant.

Threshold c: No Impact. The Project site is not located within two miles of a public airport or within an airport land use plan, nor is the Project site located within the vicinity of a private airstrip. No impact would occur.

4.9.8 MITIGATION

Project impacts would be less than significant and mitigation is not required.

4.10 TRANSPORTATION

This Subsection is based, primarily, on traffic analysis prepared by Urban Crossroads titled "534 Struck Avenue Traffic Analysis" dated October 10, 2022 (Urban Crossroads, 2022b); vehicle miles traveled reports prepared by Urban Crossroads, titled "534 Struck Avenue Vehicle Miles Traveled (VMT) Screening Evaluation" dated January 5, 2023 (Urban Crossroads, 2023e). These reports are included in this EIR as *Technical Appendices K1 and K2* respectively.

This Subsection assesses transportation impacts resulting from implementation of the Project. In accordance with Senate Bill (SB) 743, further discussed under Subsection 4.10.2 below, the California Natural Resources Agency (CNRA) adopted changes to the CEQA Guidelines in December 2018, which identify that starting on July 1, 2020, vehicle miles traveled (VMT) is the appropriate metric to evaluate a project's transportation impacts. As of December 2018, when the revised CEQA Guidelines were adopted, automobile delay, as measured by "level of service" (LOS) and other similar metrics, no longer constitutes a significant environmental effect under CEQA. Lead agencies in California are required to use VMT to evaluate project-related transportation impacts.

4.10.1 ENVIRONMENTAL SETTING

A. Existing Roadway System

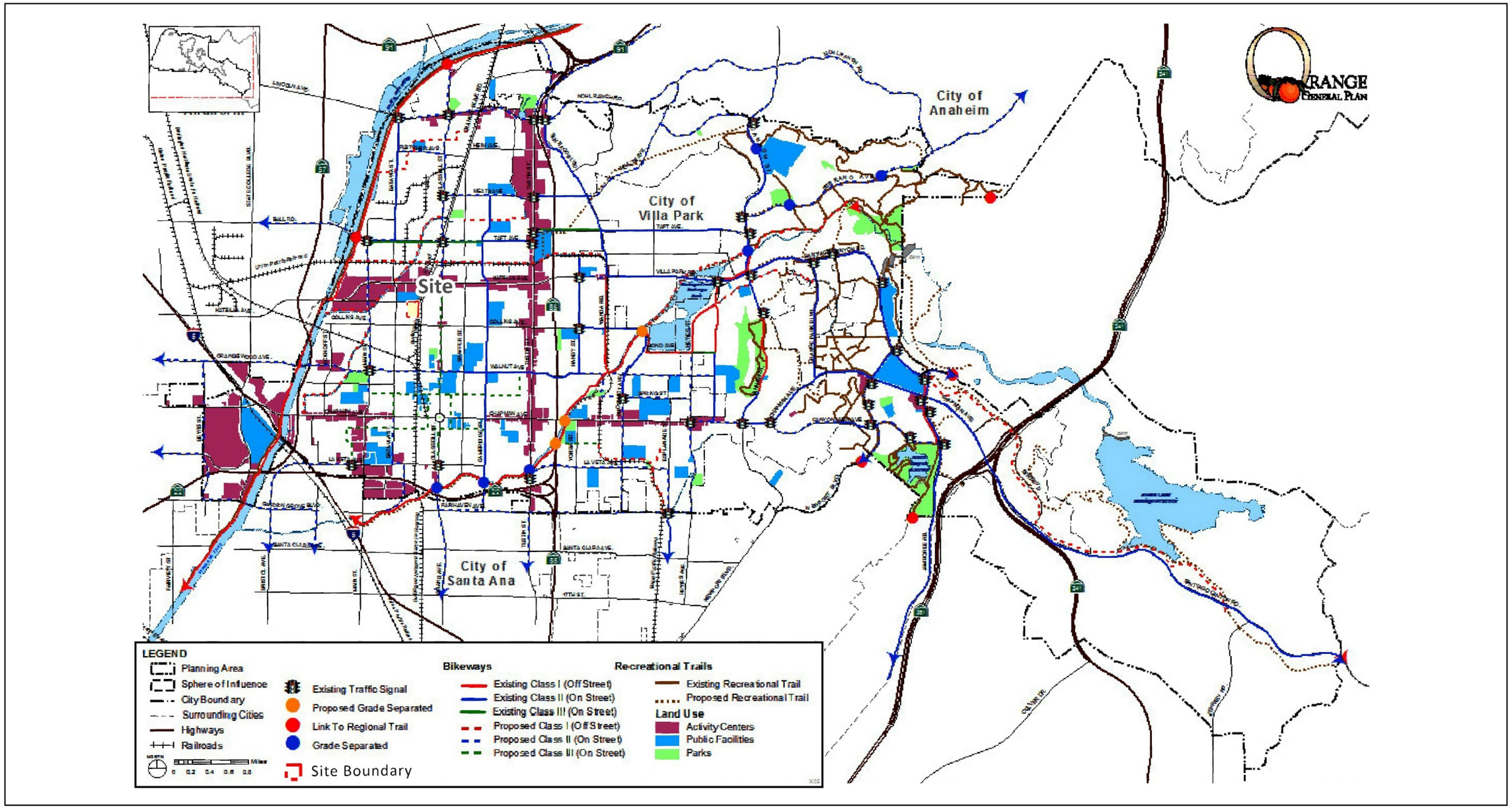
The Project site is generally located north of Collins Avenue, east of Batavia Street, south of Struck Avenue, and west of the Orange County Transportation Authority/Southern California Regional Rail Authority (OCTA/SCRRA) Railroad. Access to the Project site is via three two-way driveways along Struck Avenue. The primary regional vehicular travel route serving the Project area is SR-57 via Katella Avenue located approximately 1.26 miles west.

B. Existing Bicycle and Pedestrian Facilities

As shown in Figure 4.10-1, *City of Orange General Plan Bike Network*, the closest bike lane is a proposed Class I (off-road) bike facility proposed along the Collins Channel, approximately 0.3 miles northwest from the Project site. There is no existing Class II (on-street, striped) or Class III (signed, but not striped) bike lanes within the Project site and its surroundings. Under existing conditions, sidewalks are provided along Struck Avenue, except along the Project's site frontage. As shown in Figure 4.10-2, *Existing Pedestrian Facilities*, there are pedestrian facilities in place in the vicinity of the Project site.

C. Existing Transit Service

The Project site is currently served by Orange County Transit Authority (OCTA) with bus service along Katella Avenue Main Street. OCTA Route 50 and Route 153 run along Katella Avenue and portions of Main Street (north of Katella Avenue). OCTA Route 53 runs along Main Street. As shown in Figure 4.10-3, *Existing Transit Routes*, the closest existing bus stop is located at Batavia Street at Katella Avenue for OCTA Route 50, approximately 0.3 miles northwest from the Project site.

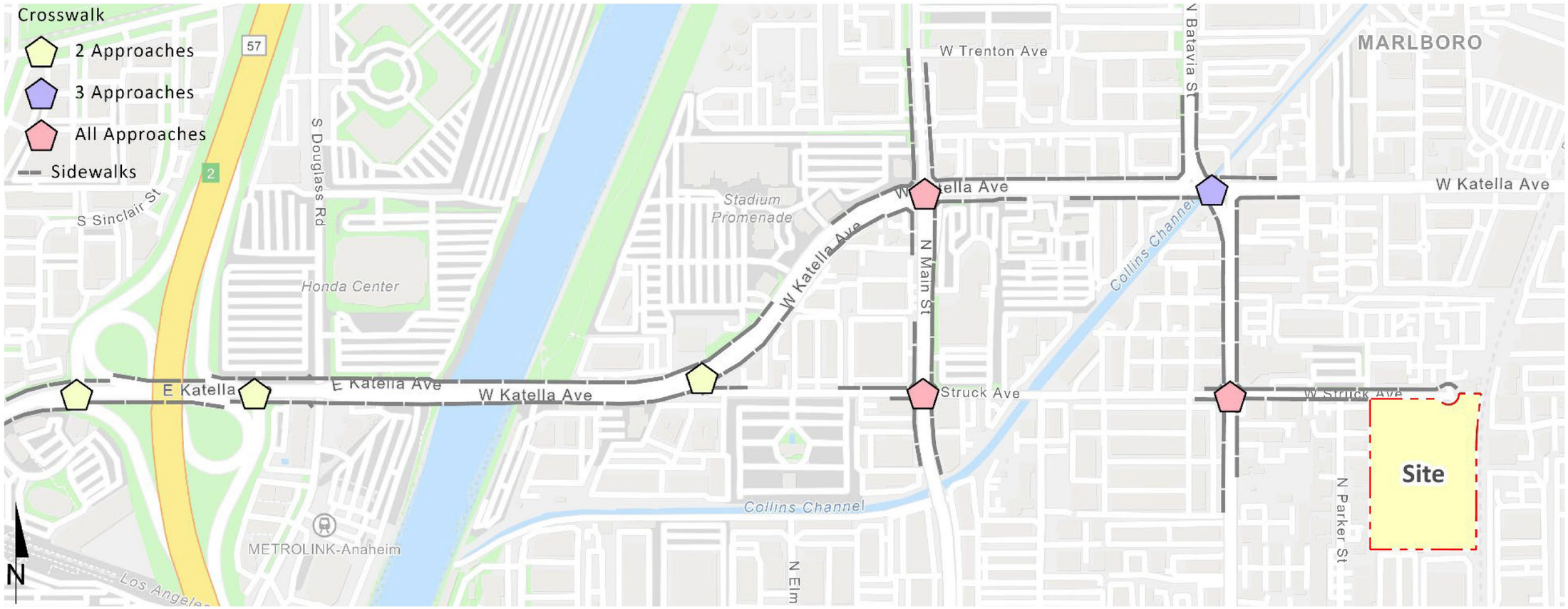


Source(s): Urban Crossorads (10-26-2022)

Figure 4.10-1

Not to Scale

City of Orange General Plan Bike Network

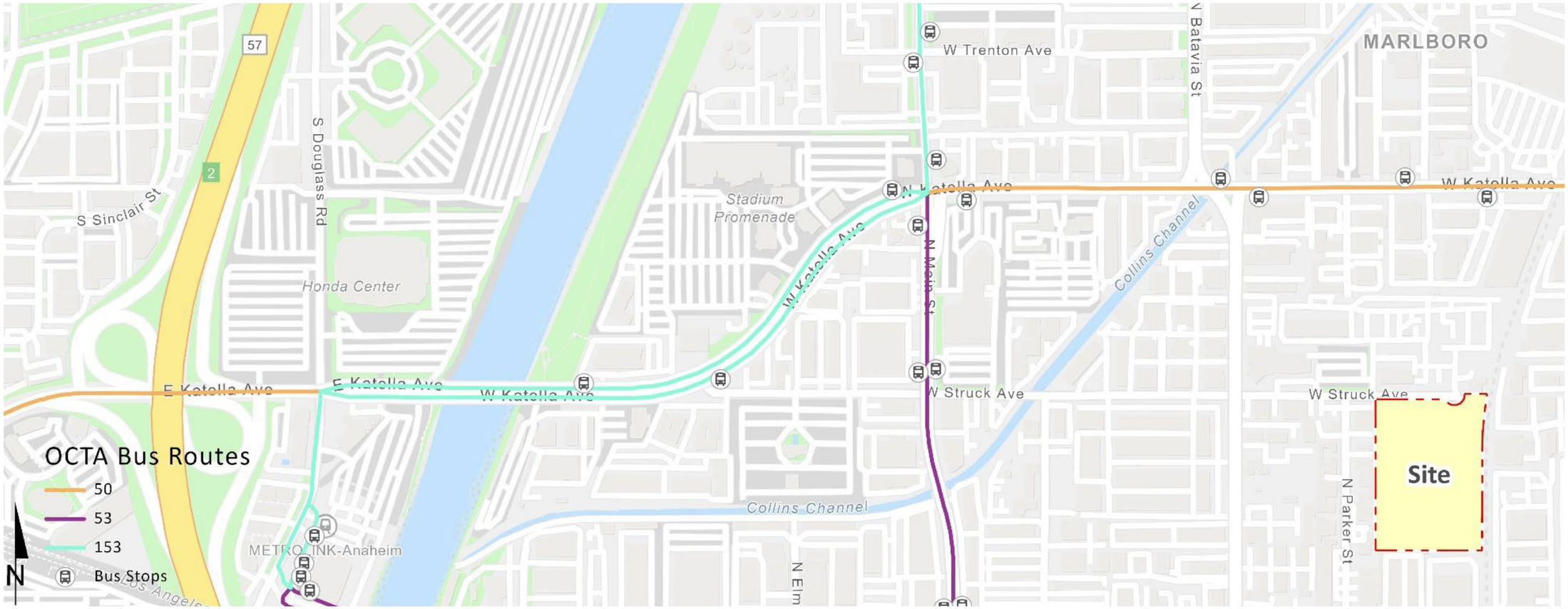


Source(s): Urban Crossorads (10-26-2022)

Not to Scale

Figure 4.10-2

Existing Pedestrian Facilities



Source(s): Urban Crossorads (10-26-2022)

Not to Scale

Figure 4.10-3

Existing Transit Routes

D. Existing Truck Routes

Both Katella Avenue and Batavia Street adjacent to the Project are identified as truck routes. These truck routes serve both the proposed Project and future cumulative development projects throughout the Project area.

4.10.2 REGULATORY FRAMEWORK

A. State Regulations

1. Senate Bill 743 and VMT-Based Analysis

SB 743 (Steinberg, 2013), which was codified in Public Resources Code section 21099, required changes to the guidelines implementing CEQA Guidelines regarding the analysis of transportation impacts. Pursuant to Section 21099(b)(1), the criteria for determining the significance of transportation impacts must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." (see generally, adopted CEQA Guidelines, § 15064.3, subd. (b) [Criteria for Analyzing Transportation Impacts].) With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, no longer constitutes a significant environmental effect under CEQA, except in specific circumstances identified in the CEQA Guidelines. (Pub. Resources Code, § 21099, subd. (b)(2))

B. Regional Regulations

1. SCAG Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is a regional agency established pursuant to California Government Code § 6500, also referred to as the Joint Powers Authority law. SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). The Project site is within SCAG's regional authority. On September 3, 2020, SCAG adopted the 2020-2045 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) ("RTP/SCS"; also referred to herein as "Connect SoCal") with goals to: 1) Encourage regional economic prosperity and global competitiveness; 2) Improve mobility, accessibility, reliability, and travel safety for people and goods; 3) Enhance the preservation, security, and resilience of the regional transportation system; 4) Increase person and goods movement and travel choices within the transportation system; 5) Reduce greenhouse gas emissions and improve air quality; 6) Support healthy and equitable communities; 7) Adapt to a changing climate and support an integrated regional development pattern and transportation network; 8) Leverage new transportation technologies and data-driven solutions that result in more efficient travel; 9) Encourage development of diverse housing types in areas that are supported by multiple transportation options; and 10) Promote conservation of natural and agricultural lands and restoration of habitats (SCAG, 2020). Performance measures and funding strategies also are included to ensure that the adopted goals are achieved through implementation of the RTP.

Connect SoCal includes long-range regional transportation plans, regional transportation improvement programs, regional housing needs allocations, and other plans for the region. Connect SoCal also provides objectives for meeting emissions reduction targets set forth by the California Air Resources Board (CARB); these objectives were provided in a direct response to SB 375 which was enacted to reduce greenhouse gas emissions from automobiles and light trucks through integrated transportation, land use, housing, and environmental planning (SCAG, 2020). Connect SoCal is updated periodically to allow for the consideration and inclusion of new transportation strategies and methods.

The Goods Movement Technical Report of Connect SoCal is applicable to the Project because the Project includes industrial uses, which are closely associated with, and rely directly on, the goods movement system (e.g., manufacturing, construction, retail trade, wholesale trade and transportation, and warehousing). In April 2018, SCAG published a document entitled Industrial Warehousing in the SCAG Region. According to the document, the SCAG region is a vibrant hub for international and domestic trade because of its large transportation base and extensive multimodal transportation system. The SCAG region's freight transportation system includes warehouses and distribution centers; the Ports of Los Angeles, Long Beach, and Hueneme; airports; rail intermodal terminals; rail lines, and local streets, State highways, and interstates. Together the system enables the movement of goods from source to market, facilitating uninterrupted global commerce. The region is home to approximately 34,000 warehouses with 1.17 billion square feet (s.f.) of warehouse building space, and undeveloped land that could accommodate an additional 338 million s.f. of new warehouse building space. These warehouses attract robust logistics activities and are a major reason the region is a critical mode in the global supply chain. (SCAG, 2018)

C. Local Regulations

1. City of Orange General Plan Circulation and Mobility Element

The City of Orange General Plan Circulation and Mobility Element prioritizes the issues and opportunities that exist within the City of Orange's transit network. The goals, policies, and implementation programs of the Circulation & Mobility Element seek to achieve a better balance between vehicular, pedestrian, and bicycle travel, and to provide a wide range of viable transportation options to Orange residents. The following six issues are addressed: (1) enhancing the local circulation system; (2) maintaining the regional circulation system; (3) maintaining a viable public transportation network; (4) creating a comprehensive system of sidewalks, trails, and bikeways; (5) providing adequate parking facilities; and (6) improving circulation system aesthetics and safety. (Orange, 2015d)

4.10.3 METHODOLOGY

CEQA Guidelines Section 15064.3(b) establishes criteria for evaluating a project's transportation impacts based on project type and using automobile VMT as the metric. As identified in Section 15064.3(b)(4) of the CEQA Guidelines, a lead agency has the discretion to choose the most appropriate methodology to evaluate a project's VMT. The Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA. Based on OPR's

Technical Advisory, the City of Orange has prepared their City of Orange Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment. The City Guidelines have been utilized to prepare the Project's VMT analysis.

For the purposes of fully disclosing potential VMT impacts, this analysis includes a VMT evaluation measuring Project VMT. City Guidelines identify Orange County Transportation Analysis Model (OCTAM) version 5.0 as the appropriate tool for conducting VMT analysis for land use projects in the City of Orange. OCTAM is a useful tool to estimate VMT as it considers interactions between different land uses based on socio-economic data such as population, households, and employment.

4.10.4 Basis for Determining Significance

According to Section XVI of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to transportation and traffic if the Project or any Project-related component would (OPR, 2019):

- *Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;*
- *Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);*
- *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);*
- *Result in inadequate emergency access.*

4.10.5 Impact 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?***

A. Project Trip Generation

The Institute of Transportation Engineers Trip Generation Manual includes trip generation rates for an Intermodal Truck Terminal (ITE Land Use Code 030), however, upon further review the land use was not deemed appropriate for use. Specifically, the rates included in the ITE Trip Generation Manual are based on data collected at only 2 or 4 sites (ranging in size from 10,000 to 35,000 square feet), which are all located outside of California and are dated from the 1990s and 2010s. ITE also has a cautionary note on the AM peak hour trip generation rates as the number of surveyed sites is below the ITE's recommended minimum of 3 sites.

In light of the proposed building size discrepancy and the desire to use data that is more current data that is specific to Southern California, driveway counts were collected at 5 existing facilities in order to generate a unique rate specific to the proposed Project. The sites that were specifically chosen are very similar in nature to the proposed Project. The data collected at the 5 sites indicates most of the

truck activity occurs outside of the typical morning and evening peak commute hours (7-9 AM and 4-6 PM). The number of dock doors has been utilized as the independent variable in calculating the trip generation rates as opposed to square footage since the proposed building is not intended to be used for the storage of materials. The trip generation for a truck terminal facility could be better correlated to the number of dock doors due to the truck activity associated with the transfer of goods. The empirical data provides a more conservative (higher) trip rate than trip generations rates under ITE Land Use Code 030.

As a result, implementation of the Project is anticipated to generate 396 two-way daily trips with 26 AM peak hour trips and 23 PM peak hour trips. (Urban Crossroads, 2022b)

B. Roadway Facilities

According to Figure CM-2 of the City General Plan Circulation and Mobility Element, Struck Avenue is classified as a Collector Street (2 lanes undivided), Batavia Street is classified as a Primary Arterial (4 lanes divided), and Katella Avenue is classified as a Smart Street (6-8 lanes divided). Additionally, the Katella Avenue/Batavia Street intersection is identified as a critical intersection, which is an intersection that deviates from the City's typical design standards by increasing the number of lanes at an intersection beyond what typically would be required. By increasing capacity at the critical intersection, the circulation link increases overall system capacity (Orange, 2015d).

As shown in Figure 4.10-4, *Truck Routes*, truck-trailers will utilize SR-57 via Katella Avenue to travel to the site. Truck-trailers exiting the site would travel west on Struck Avenue, turn right onto northbound Batavia Street, and turn left onto westbound Katella Avenue to access the SR-57. Truck-trailers entering the site would exit the SR-57 at Katella eastbound, turn right at Batavia Street southbound, and turn left onto Struck Avenue eastbound. Traveling eastbound from SR-57 on Katella Avenue, truck-trailers would be prohibited from turning right onto Struck Avenue to access the site. West of Batavia Street, all eastbound and westbound truck-trailer movement will occur on Katella Avenue. The Project would utilize routes consistent with the City's truck routes. Additionally, the City will impose conditions of approval to require 1) posting of the truck routes in the building; 2) tenant provided driver education on the truck route; and 3) truck route street signage. Therefore, implementation of the Project would not conflict with an applicable plan, ordinance, or policy addressing the circulation system. Impacts would be less than significant.

C. Transit

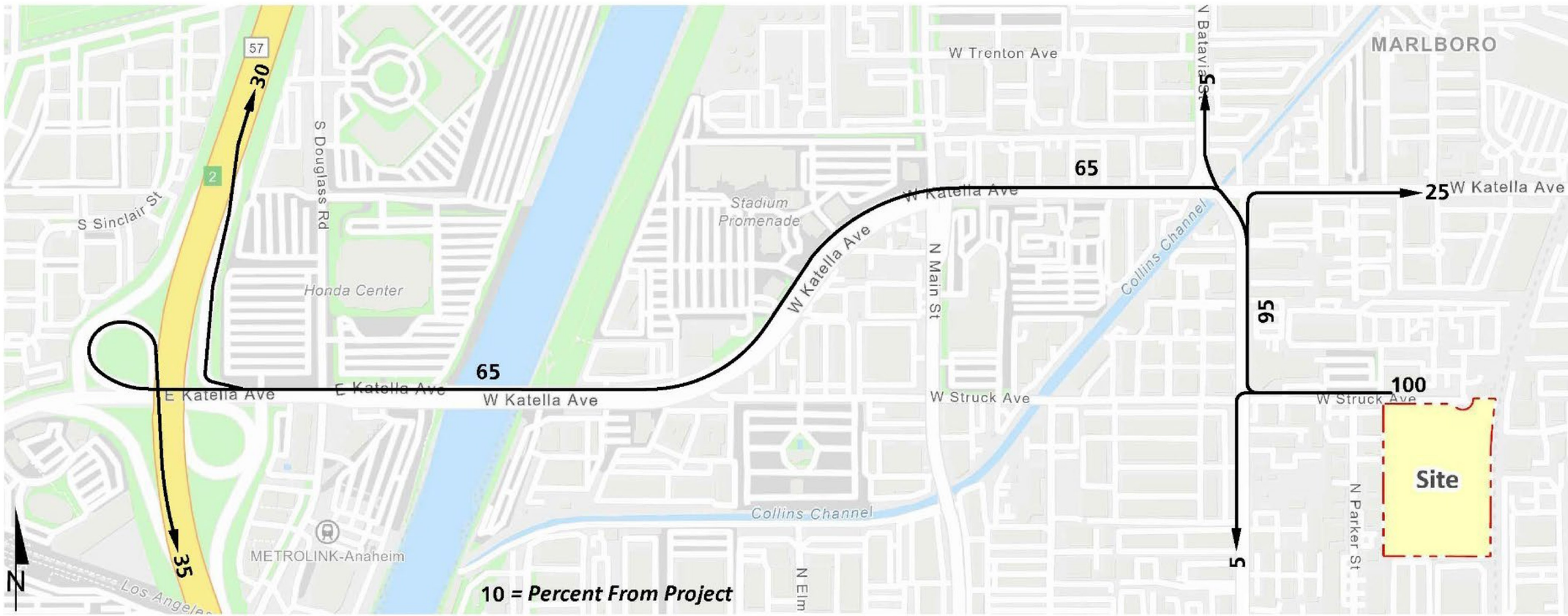
The OCTA provides bus service for the City. The nearest bus stop to the Project site is the Route 50 Katella-Batavia bus stop operated by OCTA located approximately 0.3 miles (approximate 4-minute walk) northwest. The City recognizes that ridership of bus systems will increase and has designed a land use plan that enables and accommodates increased transit use. The City has identified major commercial and employment areas which include the Town and County Road corridor, South Main Street, Katella Avenue, Uptown Orange, and Old Towne. The Project site is not located within the identified major commercial and employment areas of the City. Therefore, the Project does not have

the potential to interfere with the City's goal to provide convenient and attractive transit amenities and streetscape features to encourage transit use. No impacts would occur.

D. Bicycle and Pedestrian Facilities

The City of Orange recognizes walking and biking contribute to a healthy community and play significant roles as alternatives to the automobile. The City has identified mixed-use areas and reinvigorated commercial areas within the City as spaces that will provide people areas to walk and shop. The City's goal is to create and implement a pedestrian-oriented streetscape master plan addressing the key commercial corridors including Tustin Street, Chapman Avenue, Main Street, Lincoln Avenue, and Katella Avenue. The Project site not in any of the key commercial corridors. The Project site is within an urbanized and industrial portion of the City that is not conducive to walking. Under existing conditions, sidewalks are provided along Struck Avenue, except along the Project's site frontage. Implementation of the Project would not interfere with the City's pedestrian-oriented streetscape master plan. No impacts would occur.

As previously discussed, the Project site is within an industrialized area of the City. According to Figure CM-3 of the City's General Plan Circulation and Mobility Element, there are is no existing Class II (on-street, striped) or Class III (signed, but not striped) bike lanes within the Project site and its surroundings. Implementation of the Project would not interfere with the City's Bikeway Master Plan. No impacts would occur.



Source(s): Urban Crossroads (10-26-2022)

Not to Scale

Figure 4.10-4

Truck Routes

Threshold b: ***Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?***

Changes to State CEQA Guidelines were adopted in December 2018, which requires all lead agencies to adopt vehicle miles traveled (VMT) as a replacement for automobile delay-based level of service (LOS) as the new measurement for identifying transportation impacts for land use projects. This statewide mandate took effect on July 1, 2020.

The City of Orange adopted their own VMT analysis guidelines and thresholds on July 14, 2020. The City has chosen to utilize the North Orange County Collaborative VMT Traffic Study Screening Tool (Screening Tool) that identifies VMT screening criteria for a project based on the type of land use and its location within the City. The Screening tool is based on the screening criteria described in the adopted City Guidelines and follows the those recommended by the Office of Planning and Research (OPR) in their Technical Advisory on Evaluating Transportation Impacts in CEQA.

The City Guidelines provide a multi-step procedure to evaluate VMT screening criteria that can be used to identify when a proposed land use project is anticipated to result in a less than significant impact without conducting a more detailed project level VMT analysis. The screening criteria are listed as three steps:

- Transit Priority Area (TPA) Screening
- Low VMT Area Screening
- Project Type Screening

A land use project needs only to meet one of the above screening thresholds to result in a less than significant impact.

A. TPA Screening

The City's TIA Guidelines note that projects within a TPA, 0.5 miles of an existing "major transit stop," or an existing stop along a "high-quality transit corridor" will have a less than significant impact on VMT. According to the Screening Map, the Project site is within a TPA. Although the Project site is within a TPA, if the Project meets any of the following secondary screening checks, the Project would not meet the TPA Screening threshold:

- Has a FAR of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable SCS (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project site is located within ½ mile of an existing major transit stop, or along a high-quality transit corridor. However, the Project's proposed FAR would be less than 0.75; therefore, the Project would not meet the TPA Screening threshold.

B. Low VMT Area Screening

According to the City's TIA Guidelines, "residential and office projects located within a low VMT generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area." VMT performance for the traffic analysis zones (TAZ) containing the Project was collected using the Orange County Transportation Analysis Model (OCTAM). The TAZ containing the Project (i.e., OCTAM TAZ #457) has an existing VMT per service population of 24.85 VMT per service population and the City's impact threshold is 31.3 VMT per service population. The Project is located in a TAZ that generates VMT below the City's VMT impact threshold. The Low VMT Area screening threshold is met.

C. Project Type Screening

The City Guidelines provides a list of project types that are presumed to have a less than significant impact absent substantial evidence to the contrary. A brief list of these project types includes:

- Local serving essential services (i.e., public schools, parks, day care centers, etc.)
- Local serving retail (less than 50,000 square feet)
- Local serving hotels
- Assisted living facilities
- Community institutions (i.e., public libraries, fire stations, local government)
- Projects that generate less than 110 daily vehicle trips

The Project does not intend to develop any of the above outlined local serving uses and is estimated to generate daily vehicle trips that would exceed the 110 daily trip threshold. Therefore, the Project would not meet the Project Type Screening threshold.

D. Conclusion

Based on the review of applicable VMT screening thresholds, the Project meets the Low VMT Area screening criteria and would therefore result in a less than significant VMT impact.

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)?***

Vehicular access to the site would be provided via two driveways along the site's northern boundary on Struck Avenue. The Project's proposed driveway 1, located at the site's northwest corner, and driveway 2, located at the site's northeast corner, would accommodate the wide turning radius of the heavy trucks. Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at each applicable Project driveway anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers. Figure 4.10-5, *Project Driveway Truck Access*, shows that the Project driveways would accommodate the wide turning radius of the heavy trucks (WB-67, 53-foot trailer) as currently designed. Additionally, the truck exit would occur at the westernmost driveway (driveway 1) away from the existing driveway across Struck Avenue to the north, which would provide future access to the proposed Orange City Yard Affordable Housing Project, located approximately 220 feet north of the Project site. The Project would not increase hazards and impacts are less than significant.

Threshold d: ***Would the Project result in inadequate emergency access?***

According to the City General Plan Public Safety Element, the City has an emergency plan which establishes emergency preparedness and emergency response procedures. All City arterials are recognized as primary emergency response routes and non-arterials are recognized as secondary emergency response routes. The Project would have two driveways along Struck Avenue. All Project driveways would be subject to the City's site access and circulation requirements identified in OMC Chapter 12, Streets, Sidewalks, and Public Places. Additionally, the Project's internal drive aisles will provide adequate access for emergency vehicles. Moreover, all construction staging would occur within the boundaries of the Project site and would not interfere with the circulation of nearby roadways or implementation of the City's emergency plan. The Project would provide adequate emergency access for fire vehicles via Struck Avenue. Impacts would be less than significant.

Source(s): Urban Crossroads (10-26-2022)

Not to Scale

Figure 4.10-5

Project Driveway Truck Access

4.10.6 Cumulative Impact Analysis

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects and planned development. The analysis under Threshold "a" indicates that the Project would not conflict with relevant programs, plans, and policies addressing the circulation system. Each related project would be expected to comply with all applicable relevant programs, plans, and policies. Therefore, no cumulative impact would occur.

OPR's Technical Advisory states that "a project that falls below an efficiency-based threshold (e.g., VMT per service population) that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less than significant project impact would imply a less than significant cumulative impact and vice versa. This is similar to the analysis typically conducted for greenhouse gas emissions, air quality impacts, and impacts that utilize plan compliance as a threshold of significance." Since the Project was found to have a less than significant impact at the project level, it would result in a less than significant cumulative impact.

Based on the review of the Project site driveways, no safety concerns relating to geometric design of the Project site access points or emergency access would occur. Furthermore, the Project is compatible with the uses in the immediately surrounding area. Therefore, impacts are not considered to be cumulatively-considerable and no significant cumulative impact would occur.

4.10.7 Significance of Impacts Before Mitigation

Threshold a: Less than Significant Impact. The Project would not conflict with a program, plan, policy addressing the circulation system such that the Project would result in a significant impact on the environment.

Threshold b: Less than Significant Impact. The Project meets the Low VMT Area screening criteria and would result in a less than significant VMT impact.

Threshold c: Less than Significant Impact. The Project would not create or substantially increase safety hazards due to a design feature or incompatible use.

Threshold d: Less than Significant Impact. Adequate emergency access would be provided to the Project site during construction and long-term operation. The Project would not result in inadequate emergency access to the site or surrounding properties.

4.10.8 Mitigation

Impacts would be less than significant; therefore, mitigation is not required.

4.11 TRIBAL CULTURAL RESOURCES

The analysis in this Subsection relies on information from a cultural resource assessment report titled "*Cultural and Paleontological Resource Letter Report for the 534 Struck Avenue Project*," and dated April 30, 2021. The report was prepared by Duke CRM and is included as *Technical Appendix D* to this EIR. (Duke, 2021). The analysis in this Subsection also contains information obtained by the City during consultation with local Native American tribal representatives. All references used in this Subsection are listed in EIR Section 7.0, *References*.

Confidential information has been redacted from *Technical Appendix D* for purposes of public review. In addition, much of the written and oral communication between Native American tribes, the City, and Duke CRM is considered confidential in respect to places that may have traditional tribal cultural significance (Government Code Section 65352.4), and although relied upon in part to inform the preparation of this EIR Subsection, those communications are treated as confidential and are not available for public review. Under existing law, environmental documents must not include information about the location of archeological sites or sacred lands or any other information that is exempt from public disclosure pursuant to the Public Records Act (California Code Regulations Section 15120(d)).

4.11.1 EXISTING CONDITIONS

Refer to Subsection 4.3, *Cultural Resources*, for a description of the prehistoric period setting for southern California.

A. Project Site Conditions

The Project site is developed with an approximately 40,000 square foot (sf) manufacturing facility that was occupied until the end of 2020 by Nursery Supplies, Inc., a manufacturer of plastic nursery planting pots. The Project site is primarily hardscaped and ground surface visibility was limited to the perimeter with less than five percent visibility. Areas of exposed soils and sediments were subject to 10-15 meter pedestrian transects. All observed soils and sediments were fill, and no archeological or paleontological resources were observed during the survey.

A cultural resources records search was performed by Duke CRM for the Project at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton in order to identify any National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR) within one-half mile of the Project site. The results indicate that no previous cultural resource studies have included the Project site boundaries.

4.11.2 REGULATORY FRAMEWORK

The following is a brief description of applicable State environmental laws and related regulations governing the protection of tribal cultural resources.

A. State Plans, Policies, and Regulations

1. Assembly Bill 52 (AB 52)

California AB 52 (2014) Chapter 532 amended Section 5097.94 of, and added Sections 21073, 21074, 21080.3.1, 21080.3.2, 21802.3, 21083.09, 21084.2 and 21084.3 to the California Public Resources Code, relating to Native Americans. AB 52 was approved on September 25, 2014. The legislature added new requirements regarding tribal cultural resources in AB 52. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources (OPR, 2017a). By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process.

The Public Resources Code now establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." (Pub. Resources Code, Section 21084.2.) To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project (Pub. Resources Code, Section 21080.3.1.).

If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code Section 20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

Section 21074 of the Public Resources Code defines "tribal cultural resources." In brief, in order to be considered a "tribal cultural resource," a resource must be either:

(1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or

(2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

In the latter instance, the lead agency must determine that the resource meets the criteria for listing in the state register of historic resources. In applying those criteria, a lead agency must consider the value of the resource to the tribe. (OPR, 2017b)

2. State Health and Safety Code

California Health and Safety Code Section 7050.5(b) requires that excavation and disturbance activities must cease "In the event of discovery or recognition of any human remains in any location

other than a dedicated cemetery…" until the coroner can determine regarding the circumstances, manner, and cause of any death (CA Legislative Info, n.d.). The coroner is then required to make recommendations concerning the treatment and disposition of the human remains. Further, this section of the code makes it a misdemeanor to intentionally disturb, mutilate or remove interred human remains. Section 7051 specifies that the removal of human remains from "internment or a place of storage while awaiting internment" with the intent to sell them or to dissect them with "malice or wantonness" is a public offense punishable by imprisonment in a state prison. Lastly, Health and Safety Code Sections 8010-8011 establish the California Native American Graves Protection and Repatriation Act consistent with the federal law addressing the same. The Act stresses that "all California Indian human remains and cultural items are to be treated with dignity and respect." It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. It also outlines the need for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims.

California Health and Safety Code, Section 5097.98 states that whenever the commission receives notification of a discovery of Native American human remains pursuant to HSC subdivision (c) of Section 7050.5, it shall immediately notify those persons that are the most likely descendants. The descendants may inspect the Site and make recommendations to the landowner as to the treatment of the human remains. The landowner shall ensure that the immediate vicinity around the remains is not damaged or disturbed by further development activity until coordination has occurred with the descendants regarding their recommendations for treatment, taking into account the possibility of multiple human remains. The descendants shall complete their inspection and make recommendations within 48 hours of being granted access to the Site. (CA Legislative Info, n.d.)

4.11.3 Basis for Determining Significance

According to Section XVII of Appendix G to the CEQA Guidelines, the proposed Project would result in a significant impact to tribal resources if the Project or any Project-related component would (OPR, 2019):

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

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

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

4.11.4 Impact Analysis

Threshold a:	***Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?***

As analyzed in Section 4.3, *Cultural Resources*, Threshold a, there are no resources on the Project site that are eligible for listing in the National Register of Historic Places, California Register of Historical Resources, or in a local register of historical resources as defined by Public Resources Code Section 5020.1(k). Implementation of the Project would not result in a substantial adverse change in the significance of a listed historical resource. No impacts would occur.

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. In compliance with AB 52, the City of Orange distributed letters on July 9, 2020 to those Native American tribes that have requested notification for AB 52 notifying each tribe of the opportunity to consult with the City on the Project. Only the Gabrieleno Band of Mission Indians – Kizh Nation has requested consultation with the City of Orange. The City conducted Tribal Consultation with the Gabrieleno Band of Mission Indians – Kizh Nation on September 10, 2020. The results of the Sacred Lands File search were received from the NAHC on February 24, 2019. This search did not identify any sacred lands within the Project, nor in the vicinity.

Because the Project would require excavation for construction into previously undisturbed soils, there is a potential to uncover undiscovered prehistoric artifacts or tribal cultural resources during excavation. Therefore, while unlikely, the presence of subsurface tribal cultural resources on the Project site remains possible, and these could be affected by ground-disturbing activities associated with grading and construction at the Project site. As a result, impacts to tribal cultural resources are potential significant.

4.11.5 Cumulative Impact Analysis

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects and planned development in the vicinity of the Project site that have a potential for uncovering tribal cultural resources as defined by Public Resources Code 21074. Impacts

relating to tribal cultural resources impacts are site-specific and addressed on a site-by-site basis. Therefore, while there is a potential for an impact on a specific site, the impact would not ordinarily extend beyond the site or immediately surrounding area. There could be circumstances in which a tribal cultural resource extends over more than one property, but in that event, there could be a cumulative effect only if all affected properties were in the process of being developed and physical alterations to the ground were proposed in all of those projects. There are no adjacent related projects that could potentially result in affects to unknown tribal cultural resources that may lie in the subsurface of the Project site; therefore, there would be no cumulative impacts affecting tribal cultural resource.

4.11.6 Significance of Impacts Before Mitigation

Threshold a: Potentially Significant Direct Impact. The Project site does not contain any recorded, significant tribal cultural resource sites; therefore, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources. Nonetheless, Project construction activities have the potential to unearth and adversely impact tribal cultural resources that may be buried at the Project site.

4.11.7 Mitigation

MM 4.11-1 Prior to the commencement of any ground disturbing activity at the project site, the Project Applicant shall retain a Native American Monitor approved by the Gabrieleno Band of Mission Indians-Kizh Nation – the tribe that consulted on this project pursuant to Assembly Bill A52 (the "Tribe" or the "Consulting Tribe"). A copy of the executed contract shall be submitted to the City of Orange Planning and Building Department prior to the issuance of any permit necessary to commence a ground-disturbing activity. The Tribal monitor will only be present on-site during the construction phases that involve ground-disturbing activities into areas of undisturbed soils. Ground disturbing activities are defined by the Tribe as activities that may include, but are not limited to, pavement removal, potholing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the Project site. The Tribal Monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when all ground-disturbing activities on the Project site are completed, or when the Tribal Representatives and Tribal Monitor have indicated that all upcoming ground-disturbing activities at the Project site have little to no potential for impacting Tribal Cultural Resources.

Upon discovery of any Tribal Cultural Resources, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All Tribal Cultural Resources unearthed by project activities shall be evaluated by the qualified archaeologist and Tribal monitor approved by the Consulting Tribe. If the resources are Native American in origin, the Consulting Tribe will retain it/them in the form and/or manner the Tribe deems appropriate, for educational, cultural

and/or historic purposes. If human remains and/or grave goods are discovered or recognized at the Project site, all ground disturbance shall immediately cease, and the county coroner shall be notified per Public Resources Code Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2). Work may continue on other parts of the Project site while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5[f]). If a non-Native American resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource," time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and PRC Sections 21083.2(b) for unique archaeological resources.

4.11.8 Significance of Impacts After Mitigation

Threshold a: Less-than-Significant with Mitigation Incorporated. Implementation of Mitigation Measure MM 4.11-1 would ensure the proper identification and subsequent treatment of any significant tribal cultural resources that may be encountered during ground-disturbing activities associated with Project development. With implementation of the required mitigation, the Project's potential impact to significant tribal cultural resources would be reduced to less-than-significant.

5.0 OTHER CEQA CONSIDERATIONS

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

The CEQA Guidelines require that an EIR disclose the significant environmental effects of a proposed project that cannot be reduced to a level of insignificance if the project is implemented and, where impacts cannot be alleviated without imposing an alternative design, the reasons why the project is being proposed, notwithstanding its effect, should be described (CEQA Guidelines Section 15126(b) & Section 15126.2(c)). As described in detail in Section 4.0 of this EIR, after the consideration of Project design features, compliance with applicable federal, State, and local regulations, and the application of the feasible mitigation measures identified in this EIR, the Project is not expected to result in any significant and unavoidable environmental impact.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE CAUSED BY THE PROJECT SHOULD IT BE IMPLEMENTED

The CEQA Guidelines require EIRs to address any significant irreversible environmental changes that would be involved in the proposed action should it be implemented (CEQA Guidelines Section 15126.2(c)). An environmental change would fall into this category if: a) the project would involve a large commitment of non-renewable resources; b) the primary and secondary impacts of the project would generally commit future generations to similar uses; c) the project involves uses in which irreversible damage could result from any potential environmental accidents; or d) the proposed consumption of resources are not justified (e.g., the project results in the wasteful use of energy).

A. Would the project involve a large commitment of non-renewable resources?

Determining whether the Project may result in significant irreversible environmental changes requires a determination of whether key non-renewable resources would be degraded or destroyed in such a way that there would be little possibility of restoring them. Natural resources, in the form of construction materials and energy resources, would be used in the construction of the proposed Project. The consumption of these natural resources would represent an irreversible change to the environment. However, development of the Project site would have no measurable adverse effect on the availability of such resources, including resources that may be non-renewable (e.g., construction aggregates, fossil fuels) and, in fact, the Project would crush existing on-site concrete and re-use the crushed concrete as a base material during Project construction to minimize the demand for construction aggregates and fossil fuels (that would be used to power the haul trucks bringing aggregates to the Project site). Additionally, the Project is required by law to comply with the California Green Building Standards Code (CALGreen), which will minimize the Project's demand for energy, including energy produced from non-renewable sources. A more detailed discussion of Project energy consumption is provided in EIR Subsection 4.4, *Energy*.

B. Would the primary and secondary impacts of the project generally commit future generations to similar uses?

Implementation of the Project would commit the Project site to a truck terminal facility. The land use proposed is compatible previous historic uses of the property (e.g., manufacturing) and with the existing land use and zoning. Accordingly, the Project and its environmental effects would not compel or commit surrounding properties to land uses other than those that are existing today or those that are planned by the City's General Plan. For this reason, the Project would not result in a significant, irreversible change to nearby, off-site properties.

C. Would the project involve uses in which irreversible damage could result from any potential environmental accidents?

EIR Subsection 4.7, *Hazards and Hazardous Materials*, provides an analysis of the potential for hazardous materials to be transported to/from the Project site and/or used on the Project site during construction and operation. As concluded in Subsection 4.8, mandatory compliance with federal, State, and local regulations related to hazardous materials handling, storage, and use, in addition to compliance with the Soil Management Plan by all Project construction contractors (near term) and occupants (long-term) would ensure that any hazardous materials used on-site would be safely and appropriately handled to preclude any irreversible damage to the environment that could result if hazardous materials were released from the Site.

D. Would the project result in consumption of resources that are not justified (e.g., the project results in the wasteful use of energy)?

As discussed in detail under EIR Subsection 4.4, *Energy*, the Project would not result in a wasteful, inefficient, or unnecessary consumption of energy. Accordingly, the Project would not result in a significant, irreversible change to the environment related to energy use.

E. Summary

Based on the above, Project construction and operation would require the commitment of limited, slowly renewable and non-renewable resources. However, this commitment of resources would not be substantial and would be consistent with regional and local growth forecasts and development goals for the area. The loss of such resources would not be highly accelerated when compared to existing conditions, and such resources would not be used in an inefficient or wasteful manner. Project construction and operation would adhere to the sustainability requirements of Title 24, Green Building Code, and CALGreen. Therefore, the Project would not result in the commitment of large quantities of natural resources that would result in significant irreversible environmental changes.

5.3 GROWTH-INDUCING IMPACTS OF THE PROJECT

CEQA requires a discussion of the ways in which the proposed Project could be growth inducing. The CEQA Guidelines identify a project as growth inducing if it would foster economic or population

growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Guidelines Section 15126.2(d)). New employees and new residential populations represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area.

A project could indirectly induce growth at the local level by increasing the demand for additional goods and services associated with an increase in population or employment and thus reducing or removing the barriers to growth. This typically occurs in suburban or rural environs where population growth results in increased demand for service and commodity markets responding to the new population of residents or employees.

According to regional population projects included in SCAG's Connect SoCal, the City of Orange's population is projected to grow by 13,100 residents between 2016 and 2045 (approximately 0.3 percent annual growth (SCAG, 2020). Over this same time period, employment in the City is expected to add 8,300 new jobs (approximately 0.2 percent annual job growth) (ibid). Economic growth would likely take place as a result of the Project's operations as a truck terminal facility and all other legally permitted uses. The Project's employees (short-term construction and long-term operational) would purchase goods and services in the region, but any secondary increase in employment associated with meeting these goods and services demands is expected to be accommodated by existing goods and service providers and, based on the amount of existing and planned future commercial and retail services available in areas near the Project site, would be highly unlikely to result in any unanticipated, adverse physical impacts to the environment. In addition, the Project would create jobs, a majority of which would likely be filled by residents of the housing units either already built or planned for development within the City and nearby incorporated and unincorporated areas. Accordingly, because it is anticipated that most of the Project's future employees would already be living in the City or the immediate surrounding area, the Project's introduction of new employment opportunities on the Project site would not induce substantial growth in the area.

The General Plan land use designation for the site is Light Industrial (LI). As the Project vicinity is predominantly built-out, the development of the Project is unlikely to affect the existing uses within the surrounding properties. The Project is limited to the Project site's boundaries and does not include any components that would indirectly affect existing or planned uses on neighboring properties. Accordingly, the Project would not induce growth in the Project area.

Under CEQA, growth inducement is not considered necessarily detrimental, beneficial, or of little significance to the environment. Typically, growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population in excess of what is assumed in pertinent master plans, land use plans, or in projections made by regional planning agencies such as SCAG. Significant growth impacts also could occur if a project provides infrastructure or service capacity to accommodate growth beyond the levels currently permitted by local or regional plans and policies. In general, growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential

growth significantly affects the environment in some other way. The Project is consistent with the industrial land use designations applied to the Project site by the City's General Plan. The Project site and surrounding area is fully developed with industrial and commercial land uses. Further, implementation of the Project would not require the expansion of water and sewer infrastructure, as the Project would connect to existing water and sewer lines within Struck Avenue.

The operation and maintenance of the Project would generate up to approximately 60 to 130 jobs, but any potential growth-inducing impact of the employment of persons at the Project site was accounted for in the City's General Plan, as the Project would develop the Project site in compliance with the City's General Plan land use designation. Accordingly, the Project would not directly promote growth either at the Project site or at the adjacent and surrounding properties that were not accounted for in the City's General Plan.

In conclusion, not reasonably foreseeable that the Project would induce growth in the form of additional economic activity or employment that would result in measurable impacts on the off-site physical environment.

5.4 EFFECTS FOUND NOT TO BE SIGNIFICANT DURING THE EIR PREPARATION PROCESS

CEQA Guidelines Section 15128 requires that an EIR *"…contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."* During the preparation of this EIR, the Project was determined to clearly have no potential to result in significant impacts under nine (9) environmental issue areas: aesthetics, agriculture and forest resources, land use and planning, mineral resources, population and housing, public services, recreation, utilities and service systems, and wildfire. Therefore, these issue areas were not required to be analyzed in detail in EIR Section 4.0, *Environmental Analysis*. A brief analysis of the Project's impacts to aesthetics, agriculture and forest resources, land use and planning, mineral resources, population and housing, public services, recreation, utilities and service systems, and wildfire is presented below and on the following pages. The thresholds of significance used to evaluate the Project's potential impacts under each issue area are summarized directly from the CEQA Environmental Checklist.

5.4.1 AESTHETICS

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

A significant impact would occur if a project were to introduce incompatible scenic elements within a field of view containing a scenic vista or substantially block views of a scenic vista. Viewsheds refer to the visual qualities of the geographical area that is defined by the horizon, topography, and other natural features that give an area its visual boundary and context, or by artificial developments that have become prominent visual components of an area.

According to the Natural Resources Element of the City's General Plan, portions of the City of Orange are characterized by scenic vistas that include hillsides, ridgelines, or open space areas that provide a unifying visual backdrop to the urban environment. The Project site is within the western portion of the City, where the topography is relatively flat, and very little open space exists. The Project site does not contain any scenic resources and there are no scenic vistas within proximity to the Site. The Project area is within a highly urbanized industrial area. Implementation of the Project would not have an impact to a scenic vista.

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??***

Under existing conditions, the Project site does not contain any scenic resources such as, rock outcroppings, or historic buildings. The Project site contains street trees at the site's frontage along Struck Avenue. Implementation of the Project would result in the removal and replacement of street trees. The Project Applicant would be required to obtain a tree removal permit, per OMC Section 12.28.020 (*Permit-Required for Removal or Planting*).

Based on the California Department of Transportation (Caltrans) List of Eligible and Officially Designated State Scenic Highways, there are no designated or eligible State scenic highways located in proximity to the Project site (Caltrans, 2019). The nearest State designated scenic highway is a 4.2-mile portion of State Route 91 (SR-91) starting at State Route 55 (SR-55) to the city line of Anaheim located approximately 3.1 miles northeast (Google Earth, 2020). Implementation of the Project would not have the potential to substantially damage scenic resources within a State scenic highway corridor. No impacts would occur.

As shown in Figure NR-4, *Viewscape Corridors*, of the General Plan, the City identifies the visual corridors within the City limits. Figure NR-4 identifies the 4.2-mile portion of SR-91, Newport Boulevard from Crawford Canyon Road to Chapman Avenue, and Chapman Avenue to Santiago Canyon Road, a City designated scenic highway (Orange, 2015b). Due to site distance and topography, implementation of the Project would not have the potential to substantially damage scenic resources within City designated scenic corridors. No impacts 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 point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

The Project site is within an urbanized area of the City. Because the Project is in an urban area, the potential impacts of the Project under this threshold are assessed based on whether the Project would conflict with applicable zoning and other regulations governing scenic quality. The Project is consistent with the City's General Plan and zoning designations for the site.

City of Orange General Plan

Table 5-1, *General Plan Consistency Analysis*, below discusses the Project's consistency with the General Plan goals related to scenic quality.

Table 5-1 General Plan Consistency Analysis

Goals and Policies	Project Consistency
Land Use Element	
Maximum Intensity • 1.0 Floor Area Ratio (FAR)	**Consistent.** The Project site is designated for Light Industrial uses. The Light Industrial land use designation allows for a maximum FAR of 1.0. As shown on the Project's Site plans, the Project would have a maximum FAR of 0.75. Therefore, the Project would not exceed the maximum permitted FAR.
Height Limit • 3 Stories	**Consistent.** The proposed building would be single-story and constructed up to a height of 45 feet. The Project would not construct 3 stories and would therefore not exceed the permitted maximum height limit identified in the General Plan.
Policy 6.1: Ensure that new development is compatible with the style and design of established structures and the surrounding environment.	**Consistent.** The Project would redevelop the Site with a modern building. The Project's proposed style and design would be compatible with the surrounding environment.

Based on the foregoing analysis, the Project would not conflict with the site's underlying zoning classification or other regulations governing scenic quality. Impacts would be less-than-significant.

City of Orange Municipal Code (OMC)

The Project site is zoned Industrial Manufacturing (M-2) and as such, the Project would be required to comply with the development standards established in OMC Chapter 17.20, *Industrial Districts*. The intent and purpose of Chapter 17.20 are to encourage industrial facilities and related uses while recognizing the potential for compatibility between uses through appropriate development and performance standards (Orange, 2021). Chapter 17.20 also intends to promote orderly growth and development through minimal performance standards, sustained property values, protected public safety and health, and further amenities to achieve an environment that is commensurate with prolonged future growth, development, and economic stability. Table 5-2, *Zoning Development Standards Consistency Analysis*, addresses the Project's consistency with applicable development standards outlined in the OMC.

Table 5-2 Zoning Development Standards Consistency Analysis

Applicable Development Standard	Project Consistency
Industrial Manufacturing (M-2) Zoning District	
Maximum Permitted Building Height • 45 feet	**Consistent.** The Project involves the redevelopment of the Project site with up to a 45-foot-tall building. The proposed building would not exceed the Zoning Development Standards' height limit of 45 ft. Accordingly, the Project's proposed building height would comply with the City's permitted height in the M-2 zone.
Development Setbacks • Exterior Front, Side, and Rear Yards o When adjacent to or across from an alley from a residential zone – 20 feet o When adjacent to an arterial street – 20 feet o When adjacent to a local street – 10 feet • Interior Side and Rear Yards o When adjacent to a separate parcel – 0 Feet	**Consistent.** The Project site is located immediately south of Struck Avenue, a local street. The Project's closest setback to Struck Avenue will be approximately 80 feet. The Project site is bordered to the east, south, and west by separate parcels containing existing development. The Project's interior side and rear setbacks will be greater than 0 feet.
Landscaping Requirements • Promote a comprehensive planning effort in which all design elements of a project complement each other and are compatible with their surroundings. In addition, landscape design must be suitable for the topography and coordinated with the preparation of the site grading plan.	**Consistent.** The Project would incorporate a Project-specific landscape plan that is designed to be in accordance with the City's Landscape Ordinance. The Project's proposed landscaping would include drought tolerant trees, shrubs, and groundcover. Ornamental landscaping would be provided along the site's northern, eastern, and southern perimeter. Additionally, ornamental trees and shrubs are proposed along the proposed building's northern, eastern, and southern perimeter.
Screening of Mechanical Equipment • Shielded from view – All mechanical and air conditioning equipment shall be shielded and screened from view from adjacent streets and properties. The screening shall be architecturally integrated with the building. Ground-mounted equipment screening shall consist of a solid wall, solid fence, or sufficient landscaping. Otherwise, such equipment shall be enclosed in a building. • Setback Required – Mechanical equipment shall not be located in required yards or other setback areas.	**Consistent.** Roof-mounted mechanical equipment would be shielded and screened from view from the neighboring property and Struck Avenue. The proposed shielding and screening would be integrated with the building's design to seamlessly screen the mechanical equipment. The Project does not propose to locate mechanical equipment in yard or setback areas.
Trash enclosures	**Consistent.** The proposed trash enclosure for the Project would screen views on 3 sides with a 6-foot-

Applicable Development Standard	Project Consistency
• All developments shall be provided with trash collection areas adequately and conveniently placed throughout the development. Trash collection areas shall be screened from view on 3 sides by a 6-foot-high wall. A visually opaque, self-latching gate shall be provided.	high wall and will provide a visually opaque self-latching gate to access the trash enclosure.
Undergrounding of Utilities • Utility lines shall be required to be placed underground within all commercial or professional development, planned residential development, and residential subdivisions.	**Consistent.** The Project would install new utility lines underground connecting to the existing utility mains within Struck Avenue.

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?***

The Project site is currently developed with a manufacturing use (Nursery Supplies, Inc.) and is primarily surrounded by existing industrial development with the exception of Mary's Kitchen directly to the north. The Project site generates artificial lighting from building-mounted light fixtures. The Project site is within an urbanized area that includes several sources of artificial lighting including interior and exterior building lighting, parking lot lighting, security lighting, and street lighting along Struck Avenue. Other sources of artificial light include vehicle headlights traveling along Struck Avenue.

The Project would introduce new sources of light as necessary for security, safety, and wayfinding. The Project's proposed lighting would be similar to existing conditions; therefore, implementation of the Project would not introduce new sources of light that would substantially affect day or nighttime views in the area. Additionally, the Project's proposed lighting is required to be consistent with OMC Section 17.12.030, *Lighting*, and Section 17.20.280, *Emission of Lighting, Glare, Dust, and Heat*, which states that lighting shall be directed, controlled, screened, or shaded in a manner as not to shine directly on surrounding premises (Orange, 2021).

Glare is caused by light reflections from the pavement, vehicles, and building materials such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. Glare can create hazards to motorists and can be a nuisance for pedestrians and other viewers. The proposed building is located at the terminus of a cul-de-sac within a buildout area and will be constructed of concrete tilt-up walls. The Project's proposed building materials would not result in potential glare impacts within the Project site or surrounding areas, and notably at the street level. Low-reflective windows would be provided at the proposed office areas. Implementation of the Project would not introduce new sources of glare that would substantially affect day or nighttime views in the area.

5.4.2 AGRICULTURE AND FORESTRY RESOURCES

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?***

According to the California Department of Conservation's (DOC) California Important Farmland Finder, the Project site is classified as "Urban and Built-Up Land" (DOC, 2016b). The "Urban and Built-Up Land" classification describes land that is occupied by structures with a building density of at least 1 unit 10 1.5 acres, or approximately 6 structures to a 10-acre parcel (DOC, 2016b). The nearest Farmland to the Project site is located approximately 0.43 miles north; this land is classified by the DOC as "Unique Farmland," which describes land that contains lesser quality soils used to produce the State's leading crops. "Unique Farmland" is usually irrigated, buy may include non-irrigated orchards or vineyards as found in some climatic zones in California. Due to the Site's distance from designated Farmland, the Project would not have the potential to convert the Farmland to non-agricultural use. The Project does not have the potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use. No impacts would occur.

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

The Project site is zoned as Industrial Manufacturing (M-2) (Orange, 2020). The nearest land zoned for agricultural use is located approximately 4.1 miles northeast of the Project site. As such, the Project does not have the potential to conflict with existing zoning for agricultural use. No impacts would occur.

The Williamson Act is a Statewide mechanism for the preservation of agricultural land and open space land. The Act provides a comprehensive method for local governments to protect farmland and open space by allowing lands in agricultural use to be placed under contract (agricultural preserve) between local government and landowner. The Project site is not under a Williamson Act contract. Therefore, implementation of the Project does not have the potential to conflict with an existing Williamson Act contract. No impacts would occur.

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))?***

As previously discussed, the Project site is currently zoned as M-2. According to the City's Zoning Map, there are no lands within the City that are zoned for forest land, timberland, or timberland zoned Timberland Production (Orange, 2020). Therefore, the Project does not have the potential to conflict

with existing zoning or rezoning of forest land, timberland, or timberland zoned Timberland Production. 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?***

As discussed under the Agricultural and Forest Resources Threshold c, the Project site is zoned M-2 and there are no lands within the City that are zoned forestland. Additionally, the Project site is developed with a light industrial use. Therefore, the Project would not result in the loss of forest land or conversion of forest land to a non-forest use. No impacts would occur.

Threshold e:	***Would the 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?***

As previously discussed under Agriculture and Forest Resources Threshold a, the Project site is located approximately 0.43-mile southwest of Unique Farmland. Additionally, the Project site is within an urbanized area of the City that contains little open space. Due to the Site's distance from the Unique Farmland, the Project does not have the potential to convert Farmland to non-agricultural use. No impacts would occur.

5.4.3 Land Use and Planning

Threshold a:	***Would the Project physically divide an established community?***

The Project site is developed with the Nursery Supplies, Inc. manufacturing facility. Existing industrial development borders the Site to the south and west; the BNSF railroad track borders the Site to the east; and Struck Avenue and the public facility uses border the site to the north. The Project Applicant would redevelop the Site with another industrial use with associated parking and landscaping improvements. The Project would not have the potential to physically divide an established community. No impacts would occur.

Threshold b:	***Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?***

Under existing conditions, the Project site is designated for "Light Industrial" land uses by the City of Orange General Plan and "Industrial Manufacturing (M-2)" zone. The Project Applicant would redevelop the Project site in accordance with the underlying land use designations and applicable zoning ordinance development standards. As previously discussed under Aesthetics Threshold c in Table 5-1 and Table 5-2, the Project would not conflict with the General Plan. Although the proposed building would require a CUP for the proposed truck terminal use, the Project would not conflict with the Zoning Code. Because the Project would be consistent with the underlying General Plan designation for the Site, the Project would not conflict with any applicable goals, objectives, and

policies of South Coast AQMD's AQMP and SCAG's *Connect SoCal*, which base their assumptions and analyses upon the full build-out of the existing General Plans throughout the region. Refer also to Greenhouse Gas Emissions Threshold b in Section 4.6 of this EIR. No impacts would occur.

5.4.4 Mineral Resources

Threshold a:	***Would the Project result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?***

According to Appendix A of the City's General Plan EIR, the City's mineral resources are limited to sand and gravel resources (aggregate) along the Santa Ana River and Santiago Creek. The Project site is located within a developed, urbanized area of the City and is located approximately 0.87-mile east of the Santa Ana River and 1.9 miles north of the Santiago Creek. As such, no mineral resources are anticipated in the Project area and the implementation of the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State. No impacts would occur.

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?***

As previously discussed, the Project site is located approximately 0.87-mile east of the Santa Ana River and approximately 2.0 miles north of the Santiago Creek; therefore, the Project does not have the potential to contain any aggregate resources. Additionally, the Site is not permitted for mining use under the Light Industrial land use designation and Industrial Manufacturing zoning classification. Because the Project site is not delineated as containing mineral resources on the City's General Plan, the implementation of the Project does not have the potential to result in the loss of availability of a locally-important mineral resource recovery site. No impacts would occur.

5.4.5 Population and Housing

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?***

The Project does not include any residential uses; therefore, the Project does not have the potential to directly induce substantial unplanned population growth. Redevelopment of the Project site has the potential to generate 60 to 130 new jobs. According to the California Employment Development Department (EDD), as of April 2020, the City of Orange has a labor force of 67,200 persons and of that labor force, 8,300 are unemployed (unemployment rate of 12.4 percent) (EDD, 2020). According to SCAG's 2020-2045 Jurisdiction – Level Growth Forecast, the City of Orange is anticipated to employ approximately 131,300 persons (SCAG, 2020a). Project employment is well within the growth forecasts of the City and implementation of the Project would further balance the City's employment-to-population ratio. Therefore, the Project's proposed employees are not likely to relocate to the City,

rather, the new jobs associated with the Project would provide employment opportunities for individuals already residing in the City.

The Project involves redevelopment of the site with a permitted use within the Light Industrial land use designation and M-2 zoning classification. Accordingly, the Project would not result in growth that was not already anticipated by the City of Orange General Plan and General Plan EIR. Further, the Project site is already developed and contains existing infrastructure that serves the site's existing use. The Project would improve Struck Avenue along the site's frontage and connect to the existing utility connections. In doing so, the Project would be in conformance with the General Plan and applicable infrastructure master plans. Therefore, the Project would not induce substantial indirect population growth in the area.

Based on the foregoing analysis, the Project is not anticipated to induce substantial unplanned population growth in the area. Impacts would be less-than-significant.

Threshold b:	***Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?***

The Project site is developed with an approximate 40,000 sf manufacturing facility and does not contain any residential structures. Implementation of the Project would not displace any housing or people and no replacement housing would be required. No impacts would occur.

5.4.6 PUBLIC SERVICES

Threshold a:	***Would the Project result in substantial adverse physical impacts associated with the provision of 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?*** ***ii) Police Protection?*** ***iii) Schools?*** ***iv) Parks?*** ***v) Other Public Facilities?***

i) Fire Protection?

The Orange City Fire Department (OCFD) provides fire and emergency response to the City, including the Project site. According to the City General Plan EIR, the OCFD operates 8 fire stations within the City. OCFD Station No. 5, located at 1345 Maple Street, is the closest fire station to the Project site (located approximately 1.1 miles southwest). According to the OCFD, the average response time in 2019 was 3 minutes and 52 seconds (Stefano, 2020).

As previously discussed, the Project Applicant proposes to demolish the existing on-site structure and redevelop the Site with a building up to 57,900 sf in addition to a maintenance building. Because fire protection services are currently provided to the surrounding area, and based on the Site's close proximity to an existing fire station, the City's existing fire protection facilities would adequately serve the Project. The Project is not anticipated to result in the construction of new or physically altered fire facilities. The Project would be required by the OMC Chapter 15.38, *Fire Protection Facilities Program*, to pay a fire protection facilities fee to aid in offsetting the increased demand for fire services created by non-residential development. This fee is due prior to the issuance of a building permit.

The Project's proposed building would feature fire safety and suppression design, including the type of building construction, fire sprinklers, a fire hydrant system, and paved access. The proposed building would be a concrete tilt-up construction that contains a low fire hazard risk rating. Additionally, a fire alarm system is proposed to be installed, as well as an Early Suppression, Fast Response (ESFR) ceiling-mounted fire sprinklers. ESFR provides protection that exceeds that of in-rack systems. ESFR high output, high-volume systems are in ceiling spaces as with conventional fire sprinkler systems, but they incorporate large, high-volume, high-pressure heads to provide the necessary fire protection for buildings that may contain high-piled storage. While most other sprinklers are intended to control the growth of a fire, an ESFR sprinkler system is designed to suppress a fire, which knocks the fire down to its source.

Based on the foregoing, the Project would receive adequate fire protection services and would not result in the need for new or physically altered fire protection facilities. Impacts would be less-than-significant.

ii) Police Protection?

The City of Orange Police Department provides law enforcement services to the City, including the Project site. The Orange Police Department is located at 1107 N. Batavia Street, which is located approximately 406 feet northwest of the Project site. Implementation of the Project is anticipated to result in similar service calls (typical of an industrial facility) as the existing manufacturing use. According to the General Plan Public Safety Element, to maintain the City's ability to serve current residents and businesses, applicants are required to provide for adequate services and equipment to serve businesses of new developments. Land uses will be evaluated and modified, if necessary, to facilitate access to emergency services, meet service standards, and ensure land use compatibility. Therefore, it is anticipated that emergency response would occur with acceptable response times.

According to OMC Chapter 3.13, *Police Facility Development Fee*, the Project Applicant would be required to pay fair share fees to help finance police facilities required by new development to avoid adversely impacting existing police protection facilities. Additionally, the Project plans would be reviewed and approved by the City of Orange Building and Police Departments, which would ensure that adequate safety and crime prevention measures are provided within the Project's design.

Therefore, implementation of the Project is not anticipated to result in the new or physically altered police protection facilities. Impacts would be less-than-significant.

iii) Schools?

The City provides school services through the Orange Unified School District. The Project Applicant proposes to demolish the existing manufacturing facility and redevelop the site with a single building. Implementation of the Project does not have the potential to result in substantial direct growth in the population, nor an increase in student population. The Project would be required to pay appropriate school fees applicable to all new development in accordance with Assembly Bill (AB) 2926 and Senate Bill (SB) 50 to offset potential impacts on school services. No impact would occur.

iv) Parks?

According to the General Plan Natural Resources Element, the City owns and has developed 22 parks (Orange, 2015b). The City provides approximately 1.81 acres of parkland per 1,000 persons. The City anticipates developing approximately 43.5 acres of planned future parks; the nearest park to the Project site is Killefer Park located approximately 0.39-mile southeast. The proposed Project would not introduce new residents to the City necessitating the need for additional parks. No impact would occur.

v) Other public facilities?

Other public facilities include public libraries. The City's public libraries operate according to the Public Library Facilities Master Plan (2002-2020). This master plan outlines current and projected future demand based on the City's General Plan buildout; it is intended to ensure that the California State Library's recommended standard of 4 volumes and 0.7 square foot per capita is maintained and that the City's library service needs are met as future development occurs. The nearest library to the Project site is Charles P. Taft Library, located approximately 1.0-mile northeast. The proposed Project would not introduce new residents to the City necessitating the need for additional libraries or demand for library services. No impact would occur.

5.4.7 Recreation

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?***

As previously stated, the City has owned and developed 22 parks and approximately 15 miles of equestrian, biking, and recreational trails. Parks and open space make up 31.8 present of land use in the City (Orange, 2010a). The Project Applicant does not propose to construct any residential uses on the Project site. Therefore, the Project would not create a substantial population increase that would increase the use of existing neighborhood and regional parks or other recreational facilities, resulting in physical deterioration of park facilities. No impact would occur.

Threshold b:	***Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?***

The Project does not include recreational facilities or require the construction or expansion of recreational facilities. Implementation of the Project would not result in any adverse physical effects on the environment due to the construction of recreational facilities. No impact would occur.

5.4.8 UTILITIES AND SERVICE SYSTEMS

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 and Wastewater Treatment

The City of Orange Water Division provides potable water service (water supplies include imported water, groundwater, and surface water) to over 139,000 residents within the City's 32 square-mile planning area. The Orange County Sanitation District (OCSD) provides wastewater services to the City. Under existing conditions, the Project site is developed with a manufacturing facility. Implementation of the Project would demolish the existing approximately 40,000 sf manufacturing facility and redevelop the Site with an approximately 57,900 sf building in addition to a maintenance building. The Project would connect a new 3-inch water line, 3-inch fire line and 6-inch sewer lines to the existing 10-inch water line and 8-inch sewer line beneath Struck Avenue. Because the Project Applicant proposes to redevelop the Site with a permitted use under the Light Industrial land use designation and M-2 Zone Classification, the water demand from the Project site was anticipated and analyzed in the City's Urban Water Management Plan (UWMP). Therefore, the City's existing water infrastructure and treatment facilities are adequate to serve the Project. OMC Section 13.56.090, *Charges for Sewer Mains and Extensions*, imposes a sewer main connection fee on non-residential development in the City as a condition precedent to the issuance of a building permits to fund the Project's fair share of costs to upgrade the City's sewer system. Additionally, the Project would be required to pay ongoing user fees. Payment of these fees would offset the Project's potential increase in demand for wastewater collection services.

Although the Project would result in new water and sewer line connections, these connections would occur on-site and would be part of the Project's construction phase, which is evaluated throughout this EIR. The construction of the Project's water and sewer lines necessary to serve the Project would not result in any significant physical effects on the environment that are not already identified and disclosed as part of this EIR. Impacts would be less-than-significant.

Stormwater Drainage

Stormwater originating on the Project site sheet flows from the south to the northwest to an existing curb gutter along Struck Avenue. Runoff from the Project site enters the existing 30-inch storm drainage main beneath Struck Avenue, which then conveys flows to the Orange County storm drain system that discharges runoff to the Santa Ana River.

Refer to the analysis under Section 4.8, *Hydrology and Water Quality*, Threshold c.ii, of this EIR. As discussed, stormwater runoff would be treated on-site and would not require relocation or construction of new or expanded storm water drainage infrastructure which could cause significant environmental effects. Impacts would be less-than-significant.

Dry Utilities

Under existing conditions, the Project site is served by Southern California Edison (SCE) for electrical power, Southern California Gas Company (SoCal Gas) for natural gas, and AT&T for telephone and fiber optics. Connections to the existing utility networks are available in the Project area and any off-site improvements would occur within improved rights-of-way, which are inherent to the Project's construction phase and have been evaluated throughout this EIR. Where necessary, mitigation measures have been identified to reduce impacts to a level below significance. Because the Project site has been previously developed with a manufacturing facility that requires electric power, natural gas, and telecommunication services, implementation of the proposed Project is not anticipated to limit the ability of SCE, SoCalGas, or AT&T to provide service to Project. Therefore, the proposed Project would not require or result in the construction or expansion of new facilities, and impacts 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?***

The City of Orange provides water service to the City. Under existing conditions, the City of Orange provides water services to the Project site. The City receives its water from 2 main sources: groundwater from the Lower Santa Ana River Groundwater Basin, managed by the Orange County Water District (OCWD), and imported water from the MWD, managed by the Municipal Water District of Orange County. Groundwater is pumped from 15 active wells in the City. According to the City's Urban Water Management Plan (UWMP), the City relies on approximately 6,515 acre-feet per year (AFY) of imported water and 20,372 AFY of groundwater form the Lower Santa Ana River Groundwater Basin. Additionally, the City relied on 1,757 acre-feet of surface water purchased through the Serrano Water District in 2015.

The City's UWMP includes an analysis of water supply reliability projected through 2040 under normal years, single dry year, and multiple dry years. The City's total water demand for 2015 was

approximately 28,643 AF. The City's forecasts for projected water demand based on the population projections of the Southern California Associations of Governments (SCAG), which rely on the adopted land use designations contained within the general plans that cover the geographic area within City of Orange's service. Because the Project Applicant would redevelop the site with a use permitted under the Light Industrial land use designation, the Project would be consistent with the City's General Plan and, therefore, the water demand associated with the Project was considered in the demand anticipated by the 2015 UWMP and analyzed therein. As stated above, the City is anticipated to have adequate water supplies to meet all its demands until the year 2040 under a normal year, single dry year, and multiple dry years. Therefore, the City has sufficient water supplies available to serve the Project from existing entitlements/resources and no new or expanded entitlements are needed. Impacts 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?***

The OCSD provides wastewater treatment for the City of Orange via 2 reclamation plants: Reclamation Plant No.1 in Fountain Valley and Treatment Plant No. 2 in Huntington Beach. Reclamation Plant No. 1 has a total rated primary capacity of 108 million gallons per day (mgd) and a secondary treatment capacity of 80 mgd. Treatment Plant No. 2 has a total rated primary capacity of 168 mgd and a secondary treatment capacity of 90 mgd (Carollo, 2020). According to the City's General Plan EIR, the City's Sewer Master Plan estimated a wastewater generation rate of 23.7 mgd in the City, which includes wastewater flow from industrial, commercial, and residential land uses.

The Project site is developed with an approximately 40,000 sf manufacturing facility that requires wastewater treatment services. The Project Applicant would demolish the existing structure and redevelop the Site with an approximately 57,900 sf building in addition to a maintenance building. The Project Applicant would redevelop the Project site with a use that is consistent with the Site's underlying land use designation; therefore, the wastewater generation associated with the Project was considered in the demand anticipated by the City's General Plan EIR and the City's Sewer Master Plan and analyzed therein. As such, the OCSD's existing wastewater treatment facilities are anticipated to have adequate capacity to serve the Project's project demand in addition to its existing commitments. Impacts 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?***

The City of Orange contracts with a private service provider to collect solid waste, green waste (grass clippings, tree, and shrub clippings), and items for recycling. Waste collected from the City is disposed of at 1 of 3 landfills in Orange County: Olinda Alpha Landfill, Frank R. Bowerman Landfill, and the Pima Deshecha Landfill. The Orange County Integrated Waste Management Department (OCIWMD) owns and operates these landfills.

According to the California Department of Resources Recycling and Recovery (CalRecycle), the Olinda Alpha Landfill is permitted to accept 8,000 tons per day (tpd), the Frank R. Bowerman Landfill is permitted to accept 11,500 tpd, and the Prima Deshecha Landfill is permitted to accept 4,000 tpd. Additionally, the Olinda Alpha Landfill has a closure date of December 21, 2021; the Frank R. Bowerman Landfill has a closure date of December 31, 2053; and the Pima Deshecha Landfill has a closure date of December 31, 2102. (CalRecycle, 2020a; CalRecycle, 2020b; CalRecycle, 2020c) It should be noted that the Project is anticipated to be constructed by the year 2022 and by this time, the Olinda Alpha Landfill is expected to be closed.

Implementation of the Project would generate an incremental increase in solid waste volumes requiring off-site disposal during short-term construction and long-term operational activities. Additionally, the Project would be required to comply with mandatory waste reduction requirements as described below in Utilities and Service Systems Threshold g.

Construction Impact Analysis

Solid waste requiring disposal would be generated by the construction process, primarily consisting of discarded demolition materials and packaging. The Project would reuse 10,905 tons of crushed concrete and asphalt.

Based on the size of the Project (63,300 sf) and the United States Environmental Protection Agency's (US EPA) construction waste generation factor of 4.34 pounds per sf (lbs/sf) for non-residential uses, approximately 137.4 tons of waste is calculated to be generated during the Project's construction phase ([63,300 sf x 4.34 lbs/sf]/2,000 lbs/ton = 137.4 tons) (EPA, 2009, p. 10). California Assembly Bill 939 (AB 939) requires that a minimum of 50% of all solid waste be diverted from landfills (by recycling, reusing, and other waste reduction strategies); therefore, the Project is estimated to generate approximately 68.7 tons during its construction phase. The Project's construction phase is anticipated to last for approximately 220 days; therefore, the Project is calculated to generate approximately 0.31 tons of solid waste per day requiring landfill during its construction phase.

The Project's non-recyclable construction waste generated by the Project would be disposed of at 1 of the 3 landfills as described above. The Project's estimated total construction solid waste would represent approximately 0.9 percent of the daily tpd at Olinda Alpha Landfill, 0.6 percent at the Frank R. Bowerman Landfill, and 1.7 percent at the Prima Deshecha Landfill. As previously stated, the Olinda Alpha Landfill has a closure date of December 31, 2021, and the Project's construction is anticipated to be completed by 2022. Although the Olinda Alpha Landfill will be closed during a portion of the Project's construction phase, the Frank R. Bowerman and Pima Deshecha Landfill will be open during the Project's entire construction phase. These 2 landfills have sufficient daily capacity to accept solid waste generated by the Project's construction phase. Impacts would be less-than-significant.

Operational Impact Analysis

Based on a daily waste generation factor of 1.42 lbs of waste per 100 sf of industrial building obtained from CalRecycle, long-term, on-going operation of the Project would generate up to approximately 0.45 tons ([63,300 sf x {1.42 lbs/100sf}]/2,000 lbs/ton= 0.45 tons) of solid waste per day (CalRecycle, 2006). Implementation of the Project would result in an approximately 0.45-ton net daily increase in solid waste generation. It should be noted that by the time the Project is operational, the Olinda Alpha Landfill will be closed; however, the Frank R. Bowerman Landfill and Prima Deshecha Landfill are anticipated to be open during the lifetime of the Project. Although the implementation of the Project would increase the amount of solid waste generated at the Project site, the Project's projected solid waste would be below the Frank R. Bowerman and Prima Deshecha Landfill daily disposal volume. Additionally, according to AB 939, at least 50 percent of the Project's solid waste is required to be diverted from landfills; therefore, the Project would generate approximately 0.23 tons of solid waste per day requiring landfilling (0.45 tons per day x 50% = 0.23 tons per day).

The non-recyclable solid waste generated during the long-term operation of the Project would be disposed at 1 of the 2 landfills described above. The Project's estimated solid waste is well below the maximum daily capacities of any of the 2 landfills. The Project is not anticipated to cause these landfills to exceed their maximum daily permitted solid waste amounts. 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?***

AB 939 requires that local jurisdictions divert at least 50 percent of all solid waste generated by January 1, 2000. SB 2202 clarified that local governments shall continue to diver 50 percent of all solid waste on and after January 1, 2000. SB 1016 introduced a per capita disposal measurement system that measures the 50 percent diversion requirement using a disposal measurement equivalent. For the 2017 reporting year, the City's per employee disposal rate was 7.10 lbs/person/day, which is less than the City's Disposal Rate Target of 14.4 lbs/person/day.

Additionally, in accordance with the California Solid Waste Reuse and Recycling Act of 1991 (Cal Pub Res. Code Section 42911), the Project is required to provide adequate areas for collecting and loading recyclable materials where solid waste is collected. The collection areas are required to be shown on construction drawings and be in place before occupancy permits are issued. Additionally, in compliance with AB 341 (Mandatory Commercial Recycling Program), the future occupant of the Project would be required to arrange for recycling services, if the occupant generates four (4) or more cubic yards of solid waste per week. The implementation of these mandatory requirements would reduce the amount of solid waste generated by the Project and diverted to landfills, which in turn will aid in the extension of the life of affected disposal sites. The Project would be required to comply with all applicable solid waste statutes and regulations. Impacts would be less-than-significant.

5.4.9 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

Threshold a: ***Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?***

Threshold b: ***Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, would the Project thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a 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?***

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?***

The State Responsibility Area (SRA) is the land where the State of California is financially responsible for the preservation and suppression of wildfires. The SRA does not include lands within city boundaries or in federal ownership; therefore, the Project site does not have the potential to be in an SRA. Based on the review of Figure PS-1, *Environmental and Natural Hazard Policy Map*, of the City's General Plan Public Safety Element, the Project site is not within a Very High Fire Hazard Severity Zone (VHFHSZ) (Orange, 2010b). Additionally, according to CalFire, the Project site is not within a VHFHSZ (CalFire, 2011). As such, no impacts related to wildfire would occur.

6.0 ALTERNATIVES TO THE PROJECT

6.1 INTRODUCTION

An Environmental Impact Report (EIR) must identify ways to mitigate or avoid the significant effects that a project may have on the environment. In compliance with Section 15126.6(a) of the California Environmental Quality Act (CEQA) Guidelines, an EIR must "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 significant effects of the project, and evaluate the comparative merits of the alternatives". This section identifies potential alternatives to the Project and evaluates them, as required by CEQA.

Key provisions of the State CEQA Guidelines on alternatives (Section 15126.6[b] – 15126.6[f]) are provided below to explain the foundation and requirements for the alternatives analysis in the EIR.

- The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objective, or would be more costly (Section 15126.6[b]).
- The specific alternative of 'no project' shall also be evaluated along with its impact (Section 15126.6[e][1]).
- The "no project" analysis shall discuss the existing conditions at the time the Notice of Preparation is published, and at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (Section 15126.6[e][2]).
- The range of alternatives required in an EIR is governed by the "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent) (Section 15126.6[f]).

- For alternative locations, "only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR" (Section 15126.6[f][2][A]).
- If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project which must be in close proximity to natural resources at a given location (Section 15126.6[f][2][B]).
- An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (Section 15126.6[f][3]).

6.2 PROJECT OBJECTIVES

As stated in Section 3.0 of this EIR, and pursuant to Section 15124 of the CEQA Guidelines, the objectives that have been established for the Project are listed below.

1. Create a professional, well-maintained and attractive environment for the development of a truck terminal consistent with the underlying zoning adjacent to nearby transportation infrastructure such as the SR-57 and I-5.

2. Provide the entitlements and framework for the development of a truck terminal with warehouse and office spaces that are responsive to local and regional trade demands.

3. Provide development that will enhance the City's economic well-being and employment opportunities for community residents.

4. Develop the site with a use that has architectural design and operational characteristics that are compatible with other existing and planned development in the local area.

5. Provide a fully secured premise with active management to strengthen the security and safety for the local area.

6. Redevelop the Project site with a new modern building that meet current California Building Code and California Green Building Code Standards with increased energy efficiency with existing available infrastructure.

6.3 SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS

As demonstrated in Section 4.0 of this EIR, implementation of the Project would not result in significant adverse environmental effects that cannot be mitigated to below a level of significance after the implementation of Project design features, mandatory regulatory requirements, and feasible mitigation measures.

It should be noted that although the Project would not result in any significant and unavoidable impacts, Project-level mitigation measures are required to reduce potentially significant impacts to levels considered less than significant for the following topical issues: Biological Resources (due to the potential to impact nesting migratory birds protected by the MBTA and California Fish and Game Code); Cultural Resources (due to the potential to encounter buried archaeological resources); Geology and Soils (due to the potential to encounter buried paleontological resources); Hazards and Hazardous Materials (due to the potential to uncover contaminated soils); and Tribal Cultural Resources (due to the potential to encounter buried tribal cultural resources) . These potentially significant impacts are associated with construction activities, not operation of the Project.

6.4 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR DETAILED ANALYSIS

An EIR is required to identify any alternatives that were considered by the Lead Agency but were rejected as infeasible. Among the factors described by CEQA Guidelines Section 15126.6 in determining whether to exclude alternatives from detailed consideration in the EIR are: a) failure to meet most of the basic project objectives, b) infeasibility, or c) inability to avoid significant environmental impacts. With respect to the feasibility of potential alternatives to the Project, CEQA Guidelines Section 15126.6(f)(1) notes:

> *"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 alternatives to be evaluated in this EIR, a number of possible alternatives were initially considered and, for a variety of reasons, rejected. Alternatives were rejected because either: 1) they could not accomplish the basic objectives of the Project, 2) they would not have resulted in a reduction of significant adverse environmental impacts, or 3) they were considered infeasible to construct or operate. A summary of the alternatives that were considered but rejected are described below.

6.4.1 ALTERNATIVE SITE

CEQA requires that the discussion of alternatives focus on alternatives to the Project or its location that are capable of avoiding or substantially lessening any significant effects of the Project. The key question and first step in the analysis is determining whether any of the significant effects of the project would be avoided or substantially lessened by developing the project at another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (CEQA Guidelines Section 15126.6(f)(2)).

To meet the Project Objectives and implement the Project, the Alternative Site for consideration in this analysis could include other parcels within the Light Industrial land use areas where the City of Orange anticipates future industrial development. For this alternative, any development within these areas would need to be consistent with the Project, the Project Objectives, and development anticipated in the area, as presented in City of Orange General Plan and zoning. Implementing the Project on a different parcel would require acquisition of developed property, demolition of existing operational structures, and discontinuing existing land uses, which is likely to disrupt existing businesses and operations, and would result in environmental impacts similar to those identified for the Project.

The Project's potentially significant impacts – all of which are related to aspects of the Project's construction and would be reduced to less than significant levels with the application of mitigation measures identified in this EIR – are also likely to occur at other sites in the City. Development at an Alternative Site would only move Project impacts to a different location. Additionally, the Project-related increase in truck and vehicular trips and the associated air pollutant emissions, off-site increases in traffic-related noise, and GHG emissions, which would be less than significant with the Project, would also occur with development at an alternative site.

It would not be feasible for the owner to control or otherwise have access to another site of a similar size to the Project site. CEQA does not require the consideration of infeasible sites that are not owned by the landowner or that could not be reasonably acquired by the landowner to be analyzed as alternatives to the Project (State CEQA Guidelines, Section 15126.6[f][1]).

6.4.2 Alternative Development Project On-Site

It is typical to consider alternative development scenarios for a Project (reduced intensity, reduced development area, alternative site plan, alternative use, etc.) when identifying potential alternatives to avoid or reduce potential significant impacts resulting from construction or operation of a project to a less than significant level. As previously identified, and as demonstrated through the analysis presented in Section 4.0 of this EIR, the Project would not result in any significant and unavoidable impacts. The Project's potential impacts are less than significant with incorporation of the Project-level mitigation measures in this EIR.

Implementation of an alternative development scenario at the Project site that could potentially meet the established Project Objectives would require the removal of the existing building, site preparation, grading/excavation, and building construction. All impacts that require Project-level mitigation are associated with construction activities, not operation, and would therefore also occur under a potential alternative development scenario onsite. For that reason, there is no need to further evaluate alternative development scenarios.

6.4.3 Alternative Land Use

An Alternative Land Use was considered in response to public comment received during the scoping meeting requesting an alternative that considered development of the site with smaller buildings for

small businesses. To accommodate this request, the Alternative Land Use assumes the development of a total of 60,000 sf of business park uses within a single building or multiple buildings with multiple small business tenants. The ITE Trip Generation Manual includes trip generation rates for Business Park (ITE Land Use Code 770). This rate includes business park uses that consists of a group of flex-type or incubator one- or two-story buildings served by a common roadway system. Tenants may be start-up companies or small mature companies that require a variety of space. The space may include offices, retail and wholesale stores, restaurants, recreational areas and warehousing, manufacturing, light industrial, or scientific research functions. Based on 60,000 sf of business park uses, this alternative would generate 81 AM peak hour, 73 PM peak hour, and 746 average daily trips.

Because this alternative would involve redevelopment of the site, impacts related to biological resources, cultural resources, paleontological resources, hazardous materials, and tribal cultural resources would remain the same as the Project. Mitigation measures are required to reduce these potentially significant impacts to a level of less than significant. Under this alternative, the projected trips would increase from 396 to 746 average daily trips, resulting in an increase in impacts related to air quality, energy, GHG emissions, and off-site traffic related noise impacts. Because this alternative would increase environmental impacts and would not reduce any of the Project's significant impacts, this alternative was rejected from further evaluation.

6.5 ALTERNATIVES ANALYSIS

When considering potential alternatives to the Project, the City focused on alternatives that are required by CEQA or that would avoid or reduce the potentially significant impacts. As discussed previously, because the Project's potentially significant impacts, prior to mitigation, are related to construction, alternatives that would avoid these impacts are: 1) a no project/no development alternative and 2) an alternative that considers retention and reuse of the existing building.

Section 15126.6(e) of the State CEQA Guidelines requires than an EIR evaluate a "no project" alternative to allow decision makers to compare the impacts of approving a project with the impacts of not approving that project. Section 15126.6(e)(3) of the State CEQA Guidelines describes the two general types of no project alternatives: (1) when the project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, the no project alternative would be the continuation of that plan; and (2) when the project is other than a land use/regulatory plan (such as a specific development on an identifiable property), the no project alternative is the circumstance under which the project does not proceed. Both no project alternatives have been evaluated herein.

For the alternatives evaluated below, it is assumed that relevant regulatory requirements and Project-specific mitigation measures would also be implemented and thus serve to reduce or avoid potential significant impacts similar to the Project.

6.5.1 NO PROJECT/NO DEVELOPMENT ALTERNATIVE

The No Project/No Development Alternative considers no development on the Project site beyond what occurs on the site under existing conditions (as described in EIR Section 3.0). As such, the Project site would remain with an existing vacated 40,000 square foot concrete tilt-up manufacturing building. Under this alternative, no future operations or improvements would be made to the Project site and none of the Project's parking, utility, and infrastructure improvements would occur.

A. Comparative Analysis of Environmental Impacts

The focus of this analysis is to determine if the No Project/No Development Alternative is capable of eliminating or reducing the potentially significant environmental effects of the Project. The No Project/No Development Alternative would leave the site vacant with the existing manufacturing building and associated parking, therefore, no environmental impacts would occur. This alternative would eliminate the Project's construction-related impacts to biological resources, cultural resources, paleontological resources, and tribal cultural resources.

B. Conclusion

The No Project/No Development Alternative would result in no physical environmental impacts to the Project site. However, this alternative would fail to meet all of the Project's objectives, as described in Subsection 6.2.

6.5.2 NO PROJECT/EXISTING ZONING ALTERNATIVE

The No Project/Existing Zoning Alternative considers redevelopment of the Project site with a warehouse building that would be allowed under the existing M-2 zoning. Under this alternative, the site would be redeveloped with a 201,520 square foot warehouse building which represents continuation of development consistent with the existing community development type and zoning designations.

A. Comparative Analysis of Environmental Impacts

The focus of this analysis is to determine if the No Project/Existing Zoning Alternative is capable of eliminating or reducing the potentially significant environmental effects of the Project. Because this alternative would result in redevelopment of the Project site, it would result in the same construction-related impacts to biological resources, cultural resources, paleontological resources, hazardous materials, and tribal cultural resources as the Project.

B. Conclusion

Avoid or Substantially Lessen the Significant Impacts of the Project

As presented in Section 4.0 of this EIR, all potentially significant impacts of the Project can be mitigated to less than significant and no significant and unavoidable impacts would occur. Project-

level mitigation measures are required to reduce potentially significant impacts to levels considered less than significant for inadvertent discovery of archaeological, paleontological, or tribal cultural resources. In addition, Project-level mitigation measures are required to reduce potentially significant impacts to levels considered less than significant for biological resources (potential to impact nesting migratory birds protected by the MBTA and California Fish and Game Code) and hazardous materials (potential contaminated soils). The No Project/Existing Zoning Alternative would not avoid or substantially lessen any of the Project's significant impacts.

Attainment of Project Objectives

The No Project/Existing Zoning Alternative would involve redevelopment of the site with a 201,520 square foot warehouse building. This alternative would not fully meet Project Objectives 1 (Create a professional, well-maintained and attractive environment for the development of a truck terminal consistent with the underlying zoning adjacent to nearby transportation infrastructure such as the SR-57 and I-5) and 2 (Provide the entitlements and framework for the development of a truck terminal with warehouse and office spaces that are responsive to local and regional trade demands) because the site would not be developed with a truck terminal use. The remaining Project Objectives 3–6 as listed under Subsection 6.2, would be attained with this alternative.

6.5.3 REUSE ALTERNATIVE

The Reuse Alternative addressed in this section assumes the Project does not proceed and the existing 40,000 square-foot concrete tilt-up manufacturing building and parking lot would remain and be reused by a future tenant. Until the end of 2020, the Project site was occupied by Nursery Supplies, Inc., a manufacturer of plastic nursery planting pots. Under the Reuse Alternative, the existing building and associated facilities on-site would be retained and reoccupied for use with a similar manufacturing use that is consistent with that allowed by-right pursuant to the M-2 zone. The M-2 zone intends to provide the continuation and development of heavy manufacturing industries in a location where they are compatible with and will not adversely impact adjacent land uses.

A. Comparative Analysis of Environmental Impacts

The focus of this analysis is to determine if the Reuse Alternative is capable of eliminating or reducing the potentially significant environmental effects of the Project. As previously noted, the Project would not result in any significant and unavoidable impacts; therefore, the analysis addresses significant effects that might occur if the identified Project-level mitigation measures are not applied.

With respect to archaeological, paleontological, and tribal cultural resources, the Reuse Alternative would not involve any excavation or grading activities. Therefore, the potential to discover previously unidentified archaeological, paleontological, and tribal cultural resources is eliminated. Reuse of the existing building would not require removal of trees on site. As such, the potential for impacts to biological resources under the Reuse Alternative would be less than with the Project. However, the Reuse Alternative would not result in remediation of the site in the event that unknown contaminated

soils are present. Additionally, this alternative would result in increased operational energy demand and GHG emissions compared to the Project, because it would not redevelop the Project site with a new modern building that meets current California Building Code and California Green Building Code Standards with increased energy efficiency with existing available infrastructure.

The Project would not result in any significant impacts before mitigation for any other topical issues and therefore do not need to be assessed under the Reuse Alternative.

B. Conclusions

Avoid or Substantially Lessen the Significant Impacts of the Project

As presented in Sections 4.0 of this EIR, the Project would not result in any significant and unavoidable impacts; therefore, the Reuse Alternative would not avoid or substantially lessen a significant and unavoidable impact. However, Project-level mitigation measures are required to reduce potentially significant impacts to levels considered less than significant for inadvertent discovery of archaeological, paleontological, or tribal cultural resources. In addition, Project-level mitigation measures are required to reduce potentially significant impacts to levels considered less than significant for biological resources (potential to impact nesting migratory birds protected by the MBTA and California Fish and Game Code) and hazardous materials (potential discovery of contaminated soils). These potentially significant impacts are associated with construction activities, not operation of the Project. As described above, the Reuse Alternative would eliminate these impacts and mitigation measures would not be required, because no grading would occur. However, as noted above, the Reuse Alternative would not result in remediation of the site in the event that unknown contaminated soils are present. Additionally, this alternative would result in increased operational energy demand and GHG emissions compared to the Project, because it would not redevelop the Project site with a new modern building that meets current California Building Code and California Green Building Code Standards with increased energy efficiency with existing available infrastructure.

Attainment of Project Objectives

The discussion below addresses the ability of the Reuse Alternative to attain the project objectives.

1. **Create a professional, well-maintained and attractive environment for the development of a truck terminal consistent with the underlying zoning adjacent to nearby transportation infrastructure such as the SR-57 and I-5.** The Reuse Alternative would not involve the redevelopment of the Project site with a truck terminal, rather it would involve the continued use or reuse of the existing building and facilities at the Project site for manufacturing use. Therefore, the Reuse Alternative does not meet the overall intent of this Project objective and redevelopment of the Project site is necessary to accomplish this objective.

2. **Provide the entitlements and framework for the development of a truck terminal with warehouse and office spaces that are responsive to local and regional trade demands.** The Reuse Alternative would not include entitlements for redevelopment responsive to local and regional trade demands. Additionally, the existing outdated and underutilized building would not have the ability to attract a high-quality tenant responsive to local and regional trade demands. The Reuse Alternative does not meet the overall intent of this Project objective and redevelopment of the Project site is necessary to accomplish this objective.

3. **Provide development that will enhance the City's economic well-being and employment opportunities for community residents.** While the Reuse Alternative could conceivably continue to generate revenue and employment opportunities, the existing outdated and underutilized building constructed in 1977 would not have the ability to attract a high-quality tenant to enhance additional property tax revenue and employment opportunities for the City. Therefore, the Reuse Alternative would not meet this objective.

4. **Develop the site with a use that has architectural design and operational characteristics that are compatible with other existing and planned development in the local area.** The existing building is compatible with other existing development in the local area. However, the Reuse Alternative would not result in a new modern building that would complement new and planned development in the local area. Therefore, the Reuse Alternative partially meets this objective.

5. **Provide a fully secured premise with active management to strengthen the security and safety for the local area.** The Reuse Alternative would not include the installation of an approximately 8-foot-high tubular steel fencing along the site's perimeter to protect visitors and/or employees on-site from vandalism and theft and from traversing the OCTA/SCRRA Railroad track immediately east of the site. In addition, the Reuse Alternative would not provide active management on-site for safety and security. Therefore, the Reuse Alternative would not meet this objective.

6. **Redevelop the Project site with a new modern building that meet current California Building Code and California Green Building Code Standards with increased energy efficiency with existing available infrastructure.** The Reuse Alternative would not involve the redevelopment of the Project site, rather it would involve the continued use or reuse of the existing building that was constructed in 1977. The Project would not result in the development of a modern building that meets current building code standards and would not be as energy efficient as redevelopment of the site. Therefore, the Reuse Alternative would not meet current California Building Code and California Green Building Code standards.

6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of an environmentally superior alternative. As discussed above, the No Project/No Development Alternative, would not require grading or construction and would not cause construction-related impacts.

Section 15126.6(e)(2) of the CEQA Guidelines states that, if the No Project/No Development Alternative is the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other alternatives. The Reuse Alternative has been selected as the environmentally superior alternative. This alternative would not avoid or substantially lessen a significant and unavoidable impact. Because no grading would occur under the Reuse Alternative, impacts related to archaeological resources, biological resources, paleontological resources, hazardous materials, and tribal cultural resources would be eliminated. However, the Reuse Alternative would not result in remediation of the site in the event that unknown contaminated soils are present during grading. Additionally, this alternative would result in increased operational energy demand and GHG emissions compared to the Project, because it would not redevelop the Project site with a new modern building that meets current California Building Code and California Green Building Code standards with increased energy efficiency with existing available infrastructure. As described above, the Reuse Alternative does not meet the overall intent of Project Objectives 1, 2, 3, 5, and 6; and only partially meets Project Objective 4.

For the reasons outlined in Section 6.4 above, there is no need to further evaluate alternative sites or alternative development scenarios (reduced intensity, reduced development area, alternative site plan, etc.) compared to the Project. Any alternative development scenario would have similar impacts as the Project related to construction activities, and the Project would not result in any significant operational impacts that would be avoided by a development alternative.

7.0 REFERENCES

7.1 PERSONS CONTRIBUTING TO EIR PREPARATION

7.1.1 CITY OF ORANGE

Robert Garcia, Senior Planner

7.1.2 T&B PLANNING, INC.

Nicole Morse, Esq.
Principal

Kristen Goddard, AICP
Senior Planner

Tracy Chu
Assistant Project Manager

Cristina Maxey
Graphic Specialist

Rhea Smith
GIS/Graphics Technician

7.2 DOCUMENTS APPENDED TO THIS EIR

The following reports, studies, and supporting documentation were used in preparing the 534 Struck Avenue Project EIR and are bound separately as Technical Appendices. A copy of the Technical Appendices is available for review at the City of Orange, Planning Division, Community Development Department, 300 East Chapman Avenue, Orange, CA 92866.

Appendix A1: Written Comments on the Mitigated Negative Declaration (MND)

Appendix A2: Notice of Preparation (NOP), and Written Comments on the NOP.

Appendix B1: Urban Crossroads, 2023a. *534 Struck Avenue Air Quality Impact Analysis*. January 12, 2023.

Appendix B2: Urban Crossroads, 2023b. *534 Struck Avenue Mobile Source Health Risk Assessment*. January 12, 2023.

Appendix C: Noreas, Inc., 2023 *Struck Avenue Project General Biological Technical Report.* February 2023.

Appendix D: Duke Cultural Resources Management, 2021. *Cultural and Paleontological Resource Letter Report for the 534 Struck Avenue Project, City of Orange, Orange County, California*. April 30, 2021.

Appendix E: Urban Crossroads, 2023c. *534 Struck Avenue Energy Analysis*. January 12, 2023.

Appendix F: GeoTek, 2020a. *Geotechnical and Infiltration Evaluation, Proposed Warehouse Facility, 534 West Struck Avenue, Orange, Orange County, California*. March 31, 2020.

Appendix G: Urban Crossroads, 2023d. *534 Struck Avenue Greenhouse Gas Analysis*. January 12, 2023

Appendix H1: GeoTek, 2020b. *Phase I Environmental Site Assessment, Assessor's Parcel Number (APN) 375-331-04, 534 Struck Avenue, Orange, Orange County, California 92867*. March 31, 2020.

Appendix H2: GeoTek, 2020c. *Limited Phase II Environmental Site Assessment, 534 Struck Avenue, Orange, Orange County, California 92867*. June 30, 2020.

Appendix H3: Ramboll, 2020. *Soil Management Plan, Proposed Industrial Development, 534 Struck Avenue, Orange, California*. August 12, 2020.

Appendix I1: Albert A. Webb Associates, 2021a. *Priority Water Quality Management Plan*. November 2021.

Appendix I2: Albert A. Webb Associates, 2021b. *Preliminary Drainage Study*. February 2021.

Appendix J: Urban Crossroads, 2022a. *534 Struck Avenue Noise and Vibration Analysis, City of Orange*. October 23, 2022.

Appendix K1: Urban Crossroads, 2022b. *534 Struck Avenue Traffic Analysis*. October 26, 2022.

Appendix K2: Urban Crossroads, 2023e. *534 Struck Avenue Vehicle Miles Travelled (VMT) Screening Evaluation*. January 5, 2023.

7.3 DOCUMENTS INCORPORATED BY REFERENCE

The following reports, studies, and supporting documentation were used in the preparation of this EIR and are incorporated by reference within this EIR. A copy of the following reports, studies, and supporting documentation is a matter of public record and is generally available to the public at the location listed.

Cited As:	***Citation:***
Orange, 2010a	City of Orange, 2010. *General Plan EIR*. March 2010. Accessed January 27, 2022. Available on-line: https://www.cityoforange.org/our-city/departments/community-development/general-plan
Orange, 2010b	City of Orange, 2010. *City of Orange General Plan*. March 2010. Accessed January 13, 2022. Available on-line: https://www.cityoforange.org/our-city/departments/community-development/general-plan
Orange, 2011	City of Orange, 2011. *Stormwater Local Implementation Plan*. July 2011. Available on-line: https://www.cityoforange.org/our-city/departments/public-works/engineering-division/storm-water/local-implementation-plan
Orange, 2015a	City of Orange, 2015. *General Plan Land Use Element*. December 2015. Accessed January 12, 2022. Available on-line: https://www.cityoforange.org/home/showpublisheddocument/208/637698172555630000
Orange, 2015b	City of Orange, 2015. *General Plan Natural Resources Element*. December 8, 2015. Accessed January 12, 2022. Available on-line: https://www.cityoforange.org/home/showpublisheddocument/210/637698172559270000
Orange, 2015c	City of Orange, 2015. *General Plan Cultural Resources & Historic Preservation*. December 2015. Accessed January 12, 2022. Available on-line: https://www.cityoforange.org/home/showpublisheddocument/196/637698172534300000
Orange, 2015d	City of Orange, 2015. *General Plan Circulation and Mobility Element*. December 8, 2015. Accessed January 12, 2022. Available on-line: https://www.cityoforange.org/home/showpublisheddocument/192/637698172525970000
Orange, 2020	City of Orange, 2020. *Zoning Map*. September 1, 2020. Accessed January 12, 2022. Available on-line: https://www.cityoforange.org/home/showpublisheddocument/40/637707607413300000
Orange, 2021	City of Orange, 2021. *City of Orange Municipal Code*. November 9, 2021. Accessed January 12, 2022. Available on-line: https://library.qcode.us/lib/orange_ca/pub/municipal_code

7.4 DOCUMENTS AND WEBSITES CONSULTED

Cited As:	***Citation:***
BSC, n.d.	Building Standards Commission, n.d. *California Building Standards Code*. No date. Accessed Available on-line: https://www.dgs.ca.gov/BSC/Codes
CAB, n.d.	California Architects Board, n.d. *Essential Services Building Seismic Safety Act*. No date. Available on-line: https://www.cab.ca.gov/general_information/esbssa.shtml
CA Legislative Info, n.d.	CA Legislative Information, n.d. *Fish and Game Code, Division 4, Chapter 2*. No date. Accessed Available on-line: http://www.leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?division=4.&chapter=1.&part=2.&lawCode=FGC
CA Legislative Info, n.d.	CA Legislative Information, n.d. *Public Resources Code, Section 5097.98*. No date. Accessed January 27, 2022. Available on-line: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5097.98
CA Legislative Info, n.d.	CA Legislative Information, n.d. *Health and Safety Code 7050.5*. No date. Accessed January 27, 2022. Available on-line: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC&sectionNum=7050.5
CA Legislative Info, n.d.	CA Legislative Information, n.d. *Alquist-Priolo Earthquake Fault Zoning Act*. No date. Available on-line: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?division=2.&chapter=7.5.&lawCode=PRC
CA Legislative Info, n.d.	CA Legislative Information, n.d. *Natural Hazards Disclosure Act.* No date. Available on-line: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=1103.2.&lawCode=CIV
CA Legislative Info, n.d.	CA Legislative Information, n.d. *Hazardous Waste Control Law*. No date. Available on-line: https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=HSC&division=20.&title=&part=&chapter=6.5.&article=
CA Legislative Info, n.d.	CA Legislative Information, n.d. *California Water Code*. No date. Available on-line: http://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=WAT&tocTitle=+Water+Code+-+WAT
CalFire, 2011	California Department of Forestry and Fire Protection. 2011. *Very High Fire Hazard Severity Zones in LRA*. October 2011. Accessed January 27, 2022. Available on-line: https://osfm.fire.ca.gov/media/5892/c30_orange_vhfhsz_2.pdf
CalRecycle, 2006	California Department of Resources Recycling and Recovery. 2006. *Estimated Solid Waste Generation Rates*. 2006. Accessed January 27, 2022. Available on-line: https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates

CalRecycle, 2020a	California Department of Resources Recycling and Recovery, 2020. *Olinda Alpha Landfill.* 2020. Accessed January 27, 2022. Available on-line: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2757?siteID=2093
CalRecycle, 2020b	California Department of Resources Recycling and Recovery, 2020. *Frank R. Bowerman Landfill.* 2020. Accessed January 27, 2022. Available on-line: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2103
CalRecycle, 2020c	California Department of Resources Recycling and Recovery, 2020. *Pima Deschecha Landfill.* 2020. Accessed January 27, 2022. Available on-line: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/2085
Caltrans, 2019	California Department of Transportation. 2019. *List of Eligible and Officially Designated State Scenic Highway*. August 2019. Accessed January 27, 2022. Available on-line: https://dot.ca.gov/-/media/dot-media/programs/design/documents/desig-and-eligible-aug2019_a11y.xlsx
Carollo, 2020	Carollo Engineers, Inc. (Carollo). 2020. *Upgrades to Plants Nos. 1 and 2.* Accessed May 12, 2020. Available: https://www.carollo.com/projects/ocsd-upgrades-to-plant-nos-1-and-2
CBSC, 2019	California Building Standards Code, 2019. *Guide to Title 24 California Building Standards Code*. Available on-line: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/Guidebooks---Title-24
CDC, n.d.	California Department of Conservation. n.d. *Seismic Hazards Mapping Act*. No date. Available on-line: https://www.conservation.ca.gov/cgs/shma
CDFW, n.d.	California Department of Fish and Wildlife, n.d. *Threatened and Endangered Species*. No date. Accessed January 27, 2022. Available on-line: https://www.wildlife.ca.gov/Conservation/CESA
CDFW, n.d.	California Department of Fish and Wildlife, n.d. *Natural Community Conservation Planning (NCCP)*. No date. Accessed January 27, 2022. Available on-line: https://www.wildlife.ca.gov/conservation/planning/nccp
Center for Climate and Energy Solutions, 2015	Center for Climate and Energy Solutions, 2015. *Outcomes of the U.N. Climate Change Conference in Paris*. December 12, 2015. Available on-line: https://www.c2es.org/wp-content/uploads/2015/12/outcomes-of-the-u-n-climate-change-conference-in-paris.pdf
CNRA, 2019	California Natural Resources Agency, 2019. CEQA Article 5. 2019. Accessed January 27, 2022. Available on-line: https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2019_CEQA_Statutes_and_Guidelines.pdf
DOC, 2016a	California Department of Conservation, 2016. *Earthquake Zones of Required Investigation*. 2016. Available on-line: https://maps.conservation.ca.gov/cgs/EQZApp/

DOC, 2016b	California Department of Conservation, 2016. *Calfornia Important Farmland Finder*. 2016. Accessed January 27, 2022. Available on-line: https://maps.conservation.ca.gov/DLRP/CIFF/
DTSC, n.d.	California Department of Toxic Substances Control, n.d. *Official California Code of Regulations (CCR), Title 22, Division 4.5*. No date. Available on-line: https://dtsc.ca.gov/title22/
DTSC, 2019	California Department of Toxic Substances Control, 2019. *Hazardous Waste and Hazardous Substances Law Code Excerpts*. Available on-line: https://dtsc.ca.gov/wp-content/uploads/sites/31/2019/06/HSC-2018-Full-Doc.pdf
DWR, n.d.	California Department of Water Resources, n.d. *Sustainable Groundwater Management Act (SGMA)*. No date. Available on-line: https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management
DWR, 2020	California Department of Water Resources, 2020. *Basin Prioritization*. May 1, 2020. Available on-line: https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization
EDD, 2020	California Employment Development Department. 2020. *Monthly Labor Force Data for Cities and Census Designated Places - April 2020, Orange County*. 2020. Accessed January 27, 2022. Available on-line: https://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html
EDR, 2016	EDR, 2016. *Guidance on ASTM's REC-HERC-CREC Definitions*. April 18, 2016. Accessed January 27, 2022. Available on-line: https://edrnet.com/guide-rec-definitions/
EPA, 2009	United States Environmental Protection Agency, 2009. *Estimating 2003 Building-Related Construction and Demolition Materials Amounts*. 2009. Accessed January 27, 2022. Available on-line: https://www.epa.gov/sites/production/files/2017-09/documents/estimating2003buildingrelatedcanddmaterialsamounts.pdf
EPA, 2019	United States Environmental Protection Agency, 2019. *Summary of the Occupational Safety and Health Act*. Available on-line: https://www.epa.gov/laws-regulations/summary-occupational-safety-and-health-act
EPA, 2020a	United States Environmental Protection Agency, 2020. *Summary of Clean Water Act*. September 9, 2020. Available on-line: https://www.epa.gov/laws-regulations/summary-clean-water-act
EPA, 2020b	United States Environmental Protection Agency, 2020. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act*. Available on-line: https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act
EPA, 2020c	United States Environmental Protection Agency, 2020. *Summary of the Resource Conservation and Recovery Act*. Available on-line: https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act

EPA, 2020d	United States Environmental Protection Agency, 2020. *Summary of the Toxic Substances Control Act*. Available on-line: https://www.epa.gov/laws-regulations/summary-toxic-substances-control-act
EPA, 2020e	United States Environmental Protection Agency, 2020. *Summary of the Noise Control Act*. Available on-line: https://www.epa.gov/laws-regulations/summary-noise-control-act
FEMA, 2009	Federal Emergency Management Agency, 2009. *FEMA FIRM No. 06059C0161J*. December 3, 2009. Accessed January 27, 2022. Available on-line: https://msc.fema.gov/portal/search?AddressQuery=534%20struck%20avenue%2C%20orange%2C%20ca#searchresultsanchor
FHWA, 2017	Federal Highway Administration, 2017. *Highway Traffic Noise*. June 6, 2017. Accessed January 27, 2022. Available on-line: https://www.fhwa.dot.gov/environment/noise/
FTA, 2006	Federal Transit Administration, 2006. *Transit Noise and Vibration Impact Assessment*. May 2006. Accessed January 27, 2022. Available on-line: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf
FTA, 2018	Federal Transit Administration, 2018. *Transit Noise and Vibration Impact Assessment Manual.* September 2018. Available on-line: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf
Google Earth Pro, 2021	Google Earth Pro, 2021. Multiple Dates. *Version 7.3.2.5776*. Computer Software.
NAHC, n.d.	Native American Heritage Commission, n.d. *State Laws and Codes*. No date. Accessed January 27, 2022. Available on-line: http://nahc.ca.gov/codes/state-laws-and-codes/
NOAA, n.d.	National Oceanic and Atmospheric Administration, n.d. *American Indian Religious Freedom Act*. No date. Accessed January 27, 2022. Available on-line: https://coast.noaa.gov/data/Documents/OceanLawSearch/Summary%20of%20Law%20-%20American%20Indian%20Religious%20Freedom%20Act.pdf
NPS, n.d.	National Parks Service, n.d. *California Administrative Code, Title 14, Section 4308*. No date. Accessed January 27, 2022. Available on-line: https://www.parks.ca.gov/pages/627/files/california%20code%20of%20regulations.doc
NPS, n.d.	National Parks Service, n.d. *Fossils and Paleontology Laws, Regulations, and Policies*. No date. Available on-line: https://www.nps.gov/subjects/fossils/fossil-protection.htm
NPS, 2021a	National Park Service, 2021. The National Historic Preservation Program: Overview. October 20, 2021. Accessed January 27, 2022. Available on-line: https://www.nps.gov/archeology/tools/laws/nhpa.htm

NPS, 2021b	National Park Service, 2021. National Historic Landmarks Program. September 3, 2021. Accessed January 27, 2022. Available on-line: https://www.nps.gov/orgs/1582/index.htm
NPS, 2021c	National Park Service, 2021. The Native American Graves Protection and Repatriation Act. March 30, 2021. Accessed January 27, 2022. Available on-line: https://www.nps.gov/archeology/tools/laws/nagpra.htm
NPS, 2021d	National Park Service, 2021. About the Antiquities Act. October 20, 2021. Accessed January 27, 2022. Available on-line: https://www.nps.gov/archeology/sites/antiquities/about.htm
NPS, 2020	National Park Service, 2020a. *National Register of Historic Places FAQ*. September 23, 2021. Accessed January 27, 2022. Available on-line: https://www.nps.gov/subjects/nationalregister/faqs.htm
OHP, n.d.	Office of Historic Preservation, n.d. *California Register of Historical Resources*. No date. Accessed January 27, 2022. Available on-line: http://ohp.parks.ca.gov/?page_id=21238
OPR, 2005	Governor's Office of Planning and Research, 2005. *Tribal Consultation Guidelines*. November 14, 2005. Accessed January 27, 2002. Available on-line: http://opr.ca.gov/docs/011414_Updated_Guidelines_922.pdf
OPR, 2017a	Governor's Office of Planning and Research, 2017. *General Plan Guidelines*. 2017. Accessed January 27, 2022. Available on-line: https://www.opr.ca.gov/planning/general-plan/guidelines.html
OPR, 2017b	Governor's Office of Planning and Research, 2017. *Technical Advisory AB 52 and Tribal Cultural Resources in CEQA*. June 2017. Accessed January 27, 2022. Available on-line: http://nahc.ca.gov/wp-content/uploads/2017/06/Technical-Advisory-AB-52-and-Tribal-Cultural-Resources-in-CEQA.pdf
OPR, 2019	Governor's Office of Planning and Research, 2019. *Guidelines for the Implementation of the California Environmental Quality Act*. 2019. Accessed January 27, 2022. Available on-line: http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf
OSHA, 2002	Occupational Safety and Health Administration, 2002. *Hearing Conservation*. 2002. Accessed January 27, 2022. Available on-line: https://www.osha.gov/sites/default/files/publications/osha3074.pdf
OSHA, n.d.	Occupational Safety and Health Administration, n.d. *Trucking Industry*. No date. Available on-line: https://www.osha.gov/trucking-industry
OSHA, n.d.	Occupational Safety and Health Administration, n.d. *California State Plan*. No date. Available on-line: https://www.osha.gov/dcsp/osp/stateprogs/california.html
SARWQCB, 2019	Santa Ana Regional Water Quality Control Board, 2019. *Santa Ana River Basin Water Quality Control Plan*. June 2019. Accessed January 14, 2022. Available on-line: https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/

SAWPA, 2019	Santa Ana Watershed Project Authority, 2019. *Integrated Regional Water Management Plan* (IRWM). February 19, 2019. Accessed January 14, 2022. Available on-line: https://sawpa.org/owow/owow-irwm-plans/
SCAG, 2018	Southern California Association of Governments, 2018. *Industrial Warehousing in the SCAG Region*. April 2018. Available on-line: https://scag.ca.gov/sites/main/files/file-attachments/final_report_03_30_18.pdf?1604268012
SCAG, 2020a	Southern California Association of Governments, 2020. *2020-2045 RTP/SCS*. September 3, 2020. Accessed January 27, 2022. Available on-line: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176
SCAG, 2020b	Southern California Association of Governments, 2020. *Connect SoCal Demographics and Growth Forecast*. September 3, 2020. Accessed January 27, 2022. Available on-line: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579
SCEC, 1999	Southern California Earthquake Center, 1999. *Guidelines for Analyzing and Mitigating Liquefaction in CA*. March 1999. Accessed January 27, 2022. Available on-line: https://www.tugraz.at/fileadmin/user_upload/Institute/IAG/Files/33_Liquefaction_Mitigation-DMG_SP117.pdf
SWRCB, 2014	California State Water Resources Control Board, 2014. *0A – Federal, State and Local Laws, Policy and Regulations*. June 23, 2014. Available on-line: http://waterboards.ca.gov/water_issues/programs/nps/encyclopedia/0a_laws_policy.shtml
SWRCB, 2016	California State Water Resources Control Board, 2016. *A Compilation of Water Quality Goals*. January 2016. Available on-line: http://www.waterboards.ca.gov/water_issues/programs/water_quality_goals/docs/wq_goals_text.pdf
SWRCB, 2017	California State Water Resources Control Board, 2017. *Watershed Management*. August 3, 2017. Available on-line: http://www.waterboards.ca.gov/water_issues/programs/watershed/
USFWS, 2017	United States Fish and Wildlife Service, 2017. *ESA Basics*. February 2017. Accessed January 27, 2022. Available on-line: https://www.fws.gov/law/endangered-species-act
USFWS, 2020	United States Fish and Wildlife Service, 2020. *Migratory Bird Treaty Act*. April 16, 2020. Accessed January 27, 2022. Available on-line: https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php

7.5 PERSONS CONSULTED/WRITTEN OR VERBAL COMMUNICATION

7.5.1 PUBLIC SERVICE CORRESPONDENCE

Orange City Fire Department
Robert Stefano, Deputy Chief of Operations

7.5.2 TRIBAL CONSULTATION

Gabrieleno Band of Mission Indians – Kizh Nation
Andrew Salas, Chairman

Gabrielino/Tongva Nation
Samuel Dunlap, Cultural Resources Director

San Gabriel Band of Mission Indians
Anthony Morales, Chief

Torres Martinez Desert Cahuilla Indians
Michael Mirelez, Cultural Coordinator