



Draft Environmental Impact Report

SCH No. 2018041001

THE PARK @ LIVE OAK SPECIFIC PLAN

1200, 1220, and 1270 Arrow Highway
City of Irwindale, California

Lead Agency



City of Irwindale
5050 North Irwindale Avenue
Irwindale, CA 91706

Draft EIR | March 15, 2019

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City of Irwindale
5050 North Irwindale Avenue
Irwindale, CA 91706

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Lead Agency Discretionary Permits

General Plan Amendment (GPA) No. 01-2017
The Park @ Live Oak Specific Plan
Zone Change (ZC) No. 01-2017
Tentative Parcel Map (TPM) No. 82551
Development Agreement (DA) 01-2017

Draft EIR: March 15, 2019



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- B1: Air Quality Impact Analysis
- B2: Mobile Source Health Risk Assessment
- B3: Supplemental Air Quality Assessment
- C: Energy Analysis
- D: Geotechnical Report
- E: Greenhouse Gas Emissions Analysis
- F: Phase I Environmental Site Assessment
- G1: Preliminary Hydrology Report
- G2: Low Impact Development
- H: Noise Impact Analysis
- I1: Traffic Impact Analysis
- I2: Traffic Access Evaluation Memorandum
- J1: Water Supply Assessment
- J2: Water Supply Well Technical Memorandum
- J3: Sewer Area Study
- K: Biological Resources Letter Report
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ACRONYMS, ABBREVIATIONS, AND UNITS OF MEASURE

<u>Noted As:</u>	<u>Definition</u>
§	Section
a.m.	Ante Meridiem (between the hours of midnight and noon)
AB	Assembly Bill
AB 1493	Pavley Fuel Efficiency Standards
AB 52	Native Americans: California Environmental Quality Act
ACMs	Alternative Calculation Methods
ACOE	Army Corps of Engineers
ADT	Average Daily Traffic
AERMOD	Air Quality Dispersion Modeling
AFY	Acre Feet per Year
AGI	Anacapa Geoservices, Inc.
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
AMSL	Above Mean Sea Level
A-P Act	Alquist-Priolo Earthquake Fault Zoning Act
APS	Alternative Planning Strategy
APN	Assessor Parcel Number
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASTM	American Society of Testing and Materials
BAAQMD	Bay Area Air Quality Management District
BAU	Business as Usual
BFSA	Brian F. Smith & Associates
bgs	Below ground surface
BMPs	Best Management Practices
BPUSD	Baldwin Park Unified School District
BSA	Biological Study Area
CA	California
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod™	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation



CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASQUA	California Stormwater Quality Association
CAT	Climate Action Team
CAW	California American Water
CBC	California Building Code
CBSC	California Building Standards Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCCC	California Climate Change Center
CDC	California Department of Conservation
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEPA	California Environmental Protection Agency
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFC	California Fire Code
CFCs	Chlorofluorocarbons
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CGC	California Government Code
CGS	California Geologic Survey
CH ₄	Methane
CHE	Cargo handling equipment
CHRIS	California Historic Resources Information System
CIWMB	California Integrated Waste Management Board
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
COHb	Carboxyhemoglobin
COG	Council of Governments
CPUC	California Public Utilities Commission
CSU	California State University
CTC	California Transportation Commission
CTP	Clean Truck Program
CUP	Conditional Use Permit
CVUSD	Corina-Valley Unified School District
CWA	Clean Water Act
CWC	California Water Code
CWHR	California Wildlife Habitat Relationships



CY	Cubic Yards
CZ	Change of Zone
DA	Development Agreement
dB	Decibel
dBA	A-weighted Decibels
DOSH	Division of Occupational Safety and Health
DPM	Diesel Particulate Matter
DRRP	Diesel Risk Reduction Plan
DTSC	Department of Toxic Substances Control
DU	Dwelling Unit
DWR	Department of Water Resources
E+P	Existing plus Project Conditions
EDR	Environmental Data Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMFAC	Emission Factor Model
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-To-Know Act
ESA	Environmental Site Assessment
ESFR	Early Suppression, Fast Response
EV	Electric Vehicle
F	Fahrenheit
FAA	Federal Aviation Administration
FAR	floor area ratio
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIA	Fiscal Impact Analysis
FICON	Federal Interagency Committee on Noise
FTA	Federal Transit Association
FY	Fiscal Year
FYI	For Your Information
GCC	Global Climate Change
Gg	Gigagrams
GHG	Greenhouse Gas



GP	General Plan
GPA	General Plan Amendment
gpm	Gallons per minute
GPS	Global Positioning System
GSA	Groundwater Sustainability Agencies
GWP	Global Warming Potential
H ₂ O	Water Vapor
HCM	Highway Capacity Manual
HDG	HD Geosolutions, Inc.
HDV	Heavy duty vehicles
HFCs	Hydrofluorocarbons
HI	Hazard Index
HHD	Heavy-heavy duty trucks
HMBEP	Hazardous Materials Business Emergency Plan
HMTA	Hazardous Materials Transportation Act
HMTUSA	Hazardous Materials Transportation Uniform Safety Act
Hp	Horsepower
HPLV	High Pressure Low Volume
HSC	Health and Safety Code
HSWA	Federal Hazardous Solid Waste Amendment
HWCL	Hazardous Waste Control Law
I	Interstate
ICU	Intersection Capacity Utilization
IDEFO	Inert Debris Engineered Fill Operation
IE	Infrastructure Element
IEPR	Integrated Energy Policy Report
IMWU	Integrated Waste Management Act
IPD	Irwindale Police Department
IS	Initial Study
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
JPA	Joint Powers Authority
Kg	kilogram
kBTU	kilo-British thermal units
kWh	kilowatt-hour
LACDPW	Los Angeles County Department of Public Works
LACSD	Los Angeles County Sanitation District
LACFD	Los Angeles County Fire Department



LACTMA	Los Angeles County Metropolitan Transport Authority
LAFCD	Los Angeles Flood Control District
LARWQCB	Los Angeles Regional Water Quality Control Board
lbs	pounds
LCA	Life-cycle analysis
LCFS	low carbon fuel standard
LDA	Light duty autos
LDV	light duty vehicles
LED	Light-emitting diode
LHD	light-heavy duty trucks
LID	Low Impact development
Leq	equivalent continuous sound level
LOS	Level of Service
LRA	Local Responsibility Areas
LSA	Larry Seeman Associates
LSTs	Localized Significance Thresholds
m ³	Cubic Meter
m-2	heavy manufacturing zone
MACT	Maximum achievable control technology
MATES	Multiple air toxic exposure study
MEISC	maximally exposed individual school child
MEIR	maximally exposed individual receptor
MEIW	maximally exposed individual worker
mg	milligrams
MGD	million gallons per day
MHD	medium-heavy duty truck
MICR	Maximum Individual Cancer Risk
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MMTs	million metric tons
MMTCO _{2e}	million metric tons of carbon dioxide equivalent
Mph	Miles per hour
MPO	Metropolitan Planning Organization
MRF	Material Recovery Facility
MSGB	Main San Gabriel Basin
MTCO _{2e}	Metric Tons of Carbon Dioxide Equivalent
NAHC	Native American Heritage Commission
NAAQS	National Ambient Air Quality Standards
NAIOP	Commercial Real Estate Development Association
NDC	nationally determined contributions
NEPSSA	Narrow Endemic Plant Species Survey Area



NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
N ₂	Nitrogen
N ₂ O	Nitrous Oxide
NOP	Notice of Preparation
NPA	no project alternative
NPC	National Park Service
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O ₂	Oxygen
O ₃	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
Ord.	Ordinance
OSHA	Occupational Safety and Health Administration
OSY	Operating safe yield
Pb	Lead
PCEs	Passenger Car Equivalent
PeMS	Caltrans' Performance System Website
PF	Public Facilities land use designation
PFCs	Perfluorocarbons
p.m.	Post Meridiem (between the hours of noon and midnight)
PM _{2.5}	Fine Particulate Matter (2.5 microns or smaller)
PM ₁₀	Fine Particulate Matter (10 microns or smaller)
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Professional Regulation Commission
PRC	Public Resources Code
PSE	Public Safety Element
PV	photovoltaic
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized environmental Concerns
RECLAIM	Regional Clean Air Incentives Market
REL	Reference Exposure Level
rm	room
RME	Resource management element



RMS	root mean square
ROGs	Reactive Organic Gasses
ROW	Right of Way
RPS	Renewable Portfolio Standards
RPZ	Runway Protection Zone
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SB 18	Bill of Rights for Children and Youth of California
SB 1078	California Renewable Portfolio Standards
SBTCA	San Bernardino County Transport Authority
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCH	California State Clearinghouse (Office of Planning and Research)
SCS	Sustainable Communities Strategy
SCWR	Southern Cottonwood Willow Riparian
SDWA	Safe Drinking Water Act
SF ₆	Sulfur Hexafluoride
SF/s.f.	square foot or square feet
SFL	Sacred Lands File
SFP	School facilities program
SGMA	Sustainable groundwater management act
SHMA	Seismic Hazards Mapping Act
SIP	State Implementation Plan
SMARA	Surface Mining Reclamation Act
SNUR	Significant New Use Rule
SO ₂	Sulfur Dioxide
SO ₄	Sulfates
SO _x	Sulfur Oxides
SP	Specific Plan
SPA	Specific Plan Amendment
SR	State Route
SRA	State Responsibility Areas
SRRE	Source Reduction and Recycling Element
St.	Street
STC	Sound Transmission Class
SUSMP	Standard Urban Stormwater Management Plan
SWPPP	Storm Water Pollution Prevention Plan



SWRCB	State Water Regional Control Board
TAC	Toxic Air Contaminants
TEA-21	Transportation Equality Act for 21 st Century
TIA	Traffic Impact Analysis
TPM	Tentative Parcel Map
TSCEA	Toxic Substance Control Act
TSF	Thousand Square Feet
µg	microgram
UNFCCC	United Nations' Framework Convention on Climate Change
U.S.	United States
USEPA	United States Environmental Protection Agency
USGS	United States Geological Society
USGVMWD	Upper San Gabriel Valley Municipal Water District
UTR	Utility tractors
UWMP	Urban Water Management Plan
VdB	decibel notation
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
WDR	Water Discharge report
WRP	Water Reclamation Plant
WRRRA	Water Reuse and Recycle Act
WSA	Water Supply Assessment
WSC Inc.	Water Systems Consulting, Inc.
yr	year
ZC	zone change



S.0 EXECUTIVE SUMMARY

S.1 INTRODUCTION

The California Environmental Quality Act (CEQA), Public Resources Code §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.

This Environmental Impact Report (EIR), having California State Clearinghouse (SCH) No. 2018041001, was prepared in accordance with CEQA Guidelines Article 9, §15120 to §15132 to evaluate the potential environmental impacts associated with planning, constructing, and operating the proposed The Park @ Live Oak Specific Plan (hereafter, the "Project" or "proposed Project"). This EIR does not recommend approval, approval with modification, or denial of the proposed Project; rather, this EIR is a source of impartial information regarding potential impacts that the Project may cause to the physical environment. The Draft EIR will be available for public review for a minimum period of 45 days. After consideration of public comment, the City of Irwindale will consider certifying the Final EIR and adopting required findings in conjunction with Project approval. In the case that there are any adverse environmental impacts that cannot be fully mitigated, the City of Irwindale must adopt a Statement of Overriding Considerations, stating why the City is taking action to approve the Project with or without modification despite its unavoidable impacts.

This Executive Summary complies with CEQA Guidelines §15123, "Summary." This EIR document includes a description of the proposed Project and evaluates the physical environmental effects that could result from Project implementation. The City of Irwindale determined that the scope of this EIR should cover 13 subject areas. The scope was determined through the completion of an Initial Study accepted by the City of Irwindale's independent judgment pursuant to CEQA Guidelines §15063, and in consideration of public comment received by the City in response to this EIR's Notice of Preparation (NOP). In addition, the City of Irwindale considered the substantive content of the CEQA Guidelines revisions approved by the State in December 2018 to ensure that this EIR complies with the revised CEQA Guidelines. The Initial Study, NOP, and written comments received by the City in response to the NOP, are attached to this EIR as *Technical Appendix A*. As determined by the Initial Study and in consideration of public comment on the NOP and the December 2018 CEQA Guidelines revisions, the 13 environmental subject areas that could be reasonably and significantly affected by planning, constructing, and/or operating the proposed Project are analyzed herein, including:

1. Aesthetics
2. Air Quality
3. Energy
4. Geology and Soils
5. Greenhouse Gas Emissions
6. Hazards and Hazardous Materials



7. Hydrology and Water Quality
8. Land Use and Planning
9. Noise
10. Public Services
11. Transportation
12. Tribal Cultural Resources
13. Utilities and Service Systems

Refer to EIR Section 4.0, *Environmental Analysis*, for a full account and analysis of the subject matters listed above. Subject areas for which the Initial Study concluded that impacts would be clearly less than significant and that do not warrant further analysis in this EIR are addressed in EIR Section 5.0, *Other CEQA Considerations*.

For each of the 13 subject areas analyzed in detail in Section 4.0, this EIR describes: 1) the physical conditions that existed at the approximate time this EIR's NOP was filed with the California State Clearinghouse (April 2018), inclusive of ongoing mine reclamation activities that are not subject of analysis in this EIR; 2) discloses the type and magnitude of potential environmental impacts resulting from Project planning, construction, and operation; and 3) if warranted, recommends feasible mitigation measures that have a proportional nexus to the Project's impacts and that would reduce or avoid significant adverse environmental impacts that the proposed Project may cause. A summary of the proposed Project's significant environmental impacts and the mitigation measures imposed by the City of Irwindale on the Project to lessen or avoid those impacts is included in this Executive Summary as Table S-1, *Mitigation Monitoring and Reporting Program*. The City of Irwindale applies mitigation measures which it determines 1) are feasible and practical for project applicants to implement, 2) are feasible and practical for the City of Irwindale 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 analyze an exhaustive list of every imaginable mitigation measure, or measures that are duplicative of mandatory regulatory requirements.

This EIR also discusses alternatives to the proposed Project. Alternatives are described that would attain most of the Project's objectives while avoiding or substantially lessening the proposed Project's significant adverse environmental effects. A full discussion of Project alternatives is found in EIR Section 6.0, *Alternatives*.

S.2 PROJECT OVERVIEW

S.2.1 LOCATION AND REGIONAL SETTING

The approximately 78.3-acre Project site is located in the City of Irwindale, California. The City of Irwindale is located approximately 14.5 miles northeast of downtown Los Angeles in eastern Los Angeles County, in an area known as the San Gabriel Valley. Los Angeles County is abutted by Orange County to the south, San Bernardino County to the east, Kern County to the north, and Ventura County to the northwest.



At the local scale, the Project site is located at the street addresses of 1200, 1220, and 1270 Arrow Highway; north of Live Oak Avenue; east of the intersection of Live Oak Avenue and Arrow Highway; south of Arrow Highway; and west of the Interstate 605 (I-605) Freeway. Interstate 210 (I-210) is located approximately 1.5 miles to the north of the Project site and Interstate 10 (I-10) is located approximately 2.9 miles to the south of the Project site. The Project site encompasses Assessor's Parcel Numbers (APNs) 8532-001-002, 8532-001-006, and 8532-001-900.

S.2.2 BACKGROUND

The Project site is a former sand and gravel quarry that operated from approximately 1960 to 2002. Over the course of the active quarry life, approximately 10 million cubic yards (c.y.) of material were extracted. As of April 2018, approximately 7.7 million c.y. of inert materials had been placed back into the former quarry pit as part of the property's reclamation process to accommodate an end use (HD Geosolutions, Inc., 2018, p. 5). Currently, the Project site is under an active reclamation process involving an IDEFO. An IDEFO is a fill operation where inert debris consisting of clean dirt, concrete, and brick is placed into the quarry to raise it to natural grade, upon which an end use can be developed. The IDEFO is permitted by City of Irwindale Grading Permit No. 05061504220003, issued on November 16, 2016, which allows for reclamation of the site through the placement of approximately 2.5 million cubic yards of fill material (City of Irwindale, 2016). Reclamation of the site as authorized by Grading Permit No. 05061504220003 is an existing, permitted activity and is not subject to evaluation in this EIR. Project-related construction activities cannot feasibly commence on any of the former sand/gravel quarry portions of site that are subject to reclamation until such a time that reclamation activities on those portions of the site to be developed have resulted in the completion of level pads that are suitable for development with only limited (i.e., "precise") grading required.

S.2.3 PROJECT OBJECTIVES

The fundamental purpose of the proposed Project is to develop an industrial/commercial business park on the Project site to make productive use of a reclaimed property that previously operated as a sand and gravel quarry. The Project would achieve this primary objective through the following basic objectives.

- A. Maximize the development potential of a former sand and gravel quarry as soon as feasibly possible so that the property will be economically productive when reclamation activities cease.
- B. Create a comprehensive master plan for the development of the former sand and gravel quarry as an industrial/commercial business park that will attract quality tenants.
- C. Develop an industrial/commercial business park that is feasible to construct and operate and that is economically competitive with other similar centers in the southern California region, which will assist the City of Irwindale in competing economically on a domestic and international scale through the efficient and cost-effective movement of goods.



- D. Provide economic and job growth opportunities in and near the City of Irwindale by diversifying the available range of industrial, business park, and retail uses through the development of a large property with employment-generating land uses with long-term economic viability that complements the diversity of uses already present and planned in the City.
- E. Provide for uses that will generate tax revenue for the City of Irwindale through increased property and sales taxes from point-of sale tenants and retail purchases in order to support the City's ongoing municipal operations.
- F. Provide an attractive, state-of-the-art industrial/commercial business center that meets current industry standards for operational design criteria and minimizes conflicts to the extent possible with surrounding existing and planned uses.
- G. Provide opportunities for warehouse/distribution building users to locate in the City of Irwindale by offering buildings with loading bays in close proximity to existing I-605 on- and off-ramps.
- H. Provide industrial/commercial business park that takes advantage of the proximity to I-605 and its connection to other freeways and transportation corridors to reduce traffic congestion on surface streets and to reduce concomitant vehicular-related air pollutant emissions associated with inefficient travel patterns.
- I. Fill an existing need for truck-based goods distribution facilities in the land-constrained metropolitan region of Los Angeles County.
- J. Accommodate new development in a phased, orderly manner that is coordinated with the provision of necessary infrastructure and public improvements.

S.2.4 PROJECT DESCRIPTION SUMMARY

The Project entails the development of a 78.3-acre property as an industrial/commercial business park. The principal discretionary actions required from the City of Irwindale to implement the proposed Project include the approvals of a General Plan Amendment (GPA) No. 01-2017, Specific Plan (The Park @ Live Oak Specific Plan), Zone Change (ZC) No. 01-2017, Tentative Parcel Map (TPM) No. 82551 and Development Agreement (DA) No. 01-2017. Additional discretionary and administrative actions that would be necessary to implement the proposed Project are listed in Table 3-4, *Matrix of Project Approvals/Permits*. All future development on the property would be required to substantially conform to the proposed Specific Plan.

Implementation of The Park @ Live Oak Specific Plan would result in development of seven (7) Planning Areas with a maximum of 1,550,000 square feet (s.f.) of building space. Of the 1,550,000 s.f., a minimum of 15,000 s.f. of commercial space is required and a maximum of 98,600 s.f. of commercial space is permitted in and across Planning Areas 1A, 2A, 3A, and 4. Planning Areas 1, 2, and 3 designate a total of 39.3 acres for "Industrial/Business Park" land uses and would house users such as general light industrial, manufacturing, warehouse/distribution, shipping/parcel delivery, and



e-commerce fulfillment center operations. Planning Areas 1A, 2A, 3A, and 4 designate 39.0 acres for “Commercial/Industrial” land uses and would provide for such enterprises as a gas station, convenience market, drive-thru or sit-down restaurants, retail stores, and similar use types. The portions of Planning Areas 1A, 2A, 3A, and 4 that are not developed with commercial land uses would be developed with industrial-type uses. (T&B Planning, Inc., 2019, p. 12)

The proposed GPA No. 01-2017 would amend the City of Irwindale’s General Plan Land Use Map by changing the land use designation for the 78.3-acre Project site from “Regional Commercial” to “Commercial/Industrial.” The “Commercial/Industrial” designation would allow for the Project site to be developed in accordance with the land uses and development standards set forth in The Park @ Live Oak Specific Plan.

The proposed Zone Change (ZC) No. 01-2017 would amend the City of Irwindale’s Zoning Map to change the existing zoning designations of the Project site from “Heavy Manufacturing” (M-2) and “Quarry Overlay Zone (Q)” to “The Park @ Live Oak Specific Plan.” The Park @ Live Oak Specific Plan zoning designation would allow for a variety of uses including general light industrial, manufacturing, warehouse/distribution, e-commerce fulfillment center operations, commercial uses, retail services, professional offices, and other uses permitted by The Park @ Live Oak Specific Plan. A complete list of the Project’s proposed permitted uses is provided within Table III-1, *Permitted Uses*, of The Park @ Live Oak Specific Plan.

Proposed Tentative Parcel Map (TPM) No. 82551 proposes to subdivide the approximately 78.3-acre Project site into specific lot configurations within each Planning Area to allow for the proposed development. The TPM would establish a subdivision of 13 numbered lots for development and five lettered lots for common areas such as landscaping, surface water quality basins, and roads.

Lastly, a Development Agreement (DA) No. 01-2017 would be executed between the Project Applicant and the City of Irwindale strictly in relation to the proposed Project. California Government Code §§ 65864-65869.5 authorize the use of development agreements between any city, county, or city and county, with any person having a legal or equitable interest in real property for the development of the property. The DA would provide the Project Applicant with assurance that development of the Project may proceed subject to the rules and regulations in effect at the time of Project approval.

S.3 EIR PROCESS

As a first step in complying with the procedural requirements of CEQA for an EIR, an Initial Study was prepared by the City of Irwindale to determine whether any aspect of the proposed Project, either individually or cumulatively, may cause a significant adverse effect on the physical environment (refer to EIR *Technical Appendix A* for a copy of the Initial Study). For this Project, the Initial Study indicated that this EIR should focus on the 13 environmental subject areas listed above in Subsection S.1. After completion of the Initial Study, the City filed a NOP with the California Office of Planning



and Research (State Clearinghouse) to indicate that an EIR would be prepared. The Initial Study and NOP were distributed for a 30-day public review period, which began on April 2, 2018.

The City of Irwindale 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. In addition, and pursuant to CEQA Guidelines §15082(c)(1), an advertised public meeting (called a scoping session) was held on April 26, 2018 at the Irwindale Community Center, to solicit direct input regarding the scope of environmental issues to be evaluated in the EIR.

This EIR is being circulated for review and comment by the public and other interested parties, agencies, and organizations for 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, an advertisement will be published in a newspaper of general circulation in the Project area, and copies of the Draft EIR and its Technical Appendices will be available for review at the locations indicated in the public notices.

Written comments on the Draft EIR should be addressed as follows. No other forms of public comment on the Draft EIR will be accepted other than written comments mailed or e-mailed to:

Marilyn Simpson, AICP
Community Development Manager/City Planner
City of Irwindale City Hall
5050 Irwindale Avenue
Irwindale, CA 91706
E-mail: msimpson@IrwindaleCA.gov

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 proposed Project. The Final EIR will then be considered by the City of Irwindale Planning Commission, prior to deciding to make a recommendation to the Irwindale City Council to approve, approve with modification, or reject the proposed Project. The Irwindale City Council will consider certifying the Final EIR and adopting required findings in conjunction with Project approval. Approval of the proposed Project 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, the City must adopt a Mitigation, Monitoring, and Reporting Program (MMRP), which describes the process to ensure implementation of the mitigation measures identified in the Final EIR. The MMRP will ensure CEQA compliance during Project construction and operation.

S.4 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

CEQA Guidelines §15123(b)(2) requires that areas of controversy known to the Lead Agency (City of Irwindale) be identified in the Executive Summary. There are no other components of the Project that



are known to the Lead Agency to be controversial nor are there any outstanding issues that need to be resolved.

For a list of concerns raised during in public comments on this EIR's Notice of Preparation (NOP), refer to Table 1-1, *Summary of NOP Comments*.

S.5 ALTERNATIVES TO THE PROPOSED PROJECT

In compliance with CEQA Guidelines §15126.6, an EIR must describe a range of reasonable alternatives to the Project or to the location of the Project. Each alternative must be able to feasibly attain most of the Project's objectives and avoid or substantially lessen the Project's significant effects on the environment. A detailed description of each alternative evaluated in this EIR, as well as an analysis of the potential environmental impacts associated with each alternative, is provided in EIR Section 6.0, *Alternatives*. Also described in Section 6.0 is a list of alternatives that were considered but rejected from further analysis.

According to Southern California Association of Government's (SCAG) *Comprehensive Regional Goods Movement Plan and Implementation Strategy*, the SCAG region will run out of suitably zoned vacant land designated for warehouse facilities in about the year 2028. At that time, forecasts show that the demand for warehousing space will be over one billion square feet. The report goes on to state that unless other land not currently zoned for warehousing becomes available, SCAG forecasts that by year 2035, a projected shortfall of space of approximately 227 million square feet will occur (SCAG, 2013, p. 4-39). Thus, it is likely that selection of an alternative site would merely displace the warehousing component of the proposed Project to another location, resulting in the same or greater environmental effects, given the regional demand for logistics and warehousing space in the SCAG region.

The alternatives considered by this EIR include those listed below. Refer to Table 6-1, *Alternatives to the Proposed Project – Comparison of Environmental Impacts*, for a summary of impacts that would be avoided, reduced, or increased as a result of each alternative.

S.5.1 NO PROJECT/NO DEVELOPMENT ALTERNATIVE

The No Development Alternative considers no development on the Project site beyond that which occurs under existing conditions. As such, the entire 78.3-acre site would remain vacant and undeveloped at the completion of the IDEFO activities currently occurring at the Project site under the approved Grading Permit No. 05061504220003. Under this alternative, no improvements would be made to the Project site following completion of IDEFO activities and closure of Grading Permit No. 05061504220003. This alternative was selected by the Lead Agency to compare the environmental effects of the proposed Project with an alternative that would leave the property in its existing (post-IDEFO activities) condition. No buildings, permanent man-made structures/facilities or other discernable man-made features will be present on the Project site at the completion of IDEFO activities.



S.5.2 INDUSTRIAL BUSINESS PARK ALTERNATIVE

The Industrial Business Park Alternative contemplates development of the entirety of the Project site with Industrial/Business Park land uses (as described in EIR Section 3.0, *Project Description*). This alternative would effectively implement the proposed The Park @ Live Oak Specific Plan land use plan with the exception that commercial land uses would no longer be permitted within any of the Planning Areas (the proposed Project allows for up to 98,600 s.f. of commercial building square footage within Planning Areas 1A, 2A, 3A, and 4, combined). All other aspects of The Park @ Live Oak Specific Plan would remain unchanged under this alternative. Up to 1,451,400 s.f. of industrial/business park uses could be developed under this alternative. The Industrial Business Park Alternative reduces the Project's vehicular trip generation through eliminating the Project's most traffic-intensive land use (commercial) and developing those areas with a land use (Industrial/Business Park), which would effectively result in an approximately 63% reduction in total daily vehicle trips (actual vehicles) compared to the proposed Project. Because this alternative would generate substantially fewer vehicle trips, it would result in concomitant reductions to the Project's significant and unavoidable impacts to air quality, GHG emissions, and transportation/traffic impacts. Pursuant to CEQA Guidelines § 15126.6, the Industrial Business Park Alternative is identified as the Environmentally Superior Alternative.

S.5.3 HIGH-CUBE WAREHOUSE ALTERNATIVE

The High-Cube Warehouse Alternative contemplates restricting the range of permitted uses in Planning Areas 1, 2, and 3 (designated for Industrial/Business Park land uses by The Park @ Live Oak Specific Plan) to only high-cube warehouse land uses. Specifically, this alternative contemplates homogenous development of Planning Areas 1, 2, and 3 with buildings that would only accommodate building users that meet the definition of "short-term high cube transload warehouses" by the Institution of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017), Code 154, which includes transload and short-term high-cube warehouse facilities. According to the ITE Manual, 10th Edition, transload facilities have a primary function of consolidation and distribution of pallet loads (or larger) for manufacturers, wholesalers, or retailers. Transload facilities typically have little storage duration, high throughput, and are high-efficiency facilities. Short-term high-cube warehouses are high-efficiency distribution facilities often with custom/special features built into structure movement of large volumes of freight with only short-term storage of products. Therefore, this alternative contemplates development of Planning Areas 1, 2, and 3 with up to 1,451,400 s.f. of high-cube transload and short-term storage warehouse building square footage. All other aspects of The Park @ Live Oak Specific Plan would remain unchanged under this alternative.

The High-Cube Warehouse Alternative reduces the Project's vehicular trip generation through the application of ITE Code 154 to Planning Areas 1, 2, and 3 to calculate the total daily trips (actual vehicles) that would be generated by these Planning Areas. To calculate the Project's trip generation for Planning Areas 1 through 3, the Traffic Impact Analysis (EIR *Technical Appendix II*) for the proposed Project applied ITE Code 154 (High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) and ITE Code 155 (High-Cube Fulfillment Center Warehouse) to Planning Area 1; ITE Code 110 (General Light Industrial), ITE Code 150 (Warehousing), and ITE Code 154



(High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) to Planning Area 2; and ITE Code 140 (Manufacturing) and ITE Code 150 (Warehousing) to Planning Area 3. This alternative applies ITE Code 154 (High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) to Planning Areas 1 through 3 because it has the lowest daily vehicle trip generation rate (1.4 vehicles per thousand square feet per day) compared to all of the other above-listed ITE codes. As such, the High Cube Warehouse Alternative would result in an approximate 22.8% reduction in total daily vehicle trips compared to the proposed Project. Because this alternative would generate substantially fewer vehicle trips (approximately 22.8%), it would result in concomitant reductions to the Project's significant and unavoidable impacts to air quality, GHG emissions, and transportation/traffic impacts.

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

S.6.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

The scope of this EIR includes 13 subject areas determined through the completion of an Initial Study prepared by the City of Irwindale pursuant to CEQA Guidelines §15063 and CEQA Statute §21002(e), as well as consideration of public comments received by the City on this EIR's NOP and during the April 26, 2018 public scoping session. The Initial Study, NOP, and public comments received in response to the NOP, are attached to this EIR as *Technical Appendix A*. Subject areas for which City concluded that impacts clearly would be less than significant and that do not warrant further analysis in this EIR include: Agriculture and Forestry Resources; Biological Resources; Cultural Resources; Mineral Resources; Population and Housing; and Recreation. This EIR addresses these six (6) topics in EIR Subsection 5.0, *Other CEQA Considerations*.

S.6.2 IMPACTS OF THE PROPOSED PROJECT

Table S-1, *Mitigation Monitoring and Reporting Program*, provides a summary of the proposed Project's environmental impacts, as required by CEQA Guidelines §15123(a). Also presented are the mitigation measures imposed on the Project by the City of Irwindale to further avoid adverse environmental impacts or to reduce their level of significance. After the application of all feasible mitigation measures, the Project would result in the following significant and unavoidable environmental effects:

- **Air Quality Threshold a: Significant and Unavoidable Direct and Cumulatively Considerable Impact.** Even with the incorporation of the required mitigation measures and regulatory requirements specified in EIR Subsection 4.2, the Project's operational emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) would exceed South Coast Air Quality Management District (SCAQMD) Daily Regional Thresholds for these pollutants, meaning the Project would conflict with Consistency Criterion No. 1 of the 2016 Air Quality Management Plan (AQMP). No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Irwindale to enforce that have a proportional nexus to the Project's level of impact, as the source of a large majority of these emissions is tailpipe emissions from cars and trucks traveling to and from the Project site. The



City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site. As such, it is concluded that the Project's inconsistency with the SCAQMD 2016 AQMP would result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.

- **Air Quality Threshold b: Significant and Unavoidable Direct and Cumulatively Considerable Impact.** Even with the incorporation of the required mitigation measures and regulatory requirements specified in EIR Subsection 4.2, Project-related emissions of NO_x and VOCs would still be above the SCAQMD Daily Regional Thresholds for these pollutants. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Irwindale to enforce that have a proportional nexus to the Project's level of impact, as the source of a large majority of these emissions is tailpipe emissions from cars and trucks traveling to and from the Project site. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site. As such, it is concluded that the Project's long-term emissions of VOCs and NO_x would result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.
- **Greenhouse Gas Emissions Thresholds a and b: Significant and Unavoidable Cumulatively Considerable Impact.** Greenhouse gases would be emitted by the Project-related construction and operational activities, primarily from mobile sources (vehicles traveling to and from the Project site). Given the methodologies applied in the GHG analysis and the conservatively estimated number of traffic trips and vehicle miles traveled that are assumed in the analysis, the Project's annual GHG emissions is calculated at 46,531.47 metric tons of carbon dioxide equivalent (MTCO_{2e}) per year, which exceeds the 3,000 MTCO_{2e} per year threshold, which is the quantitative threshold of significance used by this EIR. Also, although the Project would not conflict with applicable regulations, policies, plans, and policy goals adopted for the purpose of reducing GHG emissions, there is a lack of substantial evidence to definitively conclude that the Project's incremental GHG emissions would not incrementally contribute to the State's potential inability to meet its climate change goals. Mitigation measures are imposed, but additional feasible mitigation measures with a proportional nexus to the Project's level of impact are not available to further reduce Project-related GHG emissions. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site.
- **Transportation Threshold a: Significant and Unavoidable Direct and Cumulatively Considerable Impact.** With the incorporation of all feasible mitigation measures, the addition of Project-related traffic to the existing and planned circulation network would directly impact two (2) intersections (Intersection #11 – Private Drive B at Arrow Highway [proposed by the Project] and Intersection #30 – Maine Avenue & Arrow Highway) and make cumulatively considerable contributions to 10 intersections that are not feasible to fully mitigate. The Project



Applicant would make roadway improvements to address direct impacts and pay fair share fees to address cumulatively considerable impacts; however, because improvements to the affected facilities cannot be assured and may not be in place before the Project becomes operational, this EIR recognizes the impacts as significant and unavoidable, until the needed improvements are implemented.

The Project also would result in a significant direct and cumulatively considerable traffic impacts to I-605 Freeway facilities. All state highway system facilities in the Project study area are under the jurisdiction of Caltrans. As such, the City of Irwindale cannot assure the construction of improvements to state highway facilities that may be needed to improve traffic flow. Furthermore, Caltrans does not have any formal funding mechanism in place at this time to which development projects can make a fair-share payment to contribute to future improvements and off-set cumulatively considerable traffic impacts. The Project Applicant would be required to pay such fair-share payment to Caltrans, if a fee program is established by Caltrans prior to the issuance of Project building permits; however, there is no assurance that such a fee program will be established. Also, there is no assurance that planned improvements will be in place prior to the time that the Project begins to contribute traffic to the facilities.



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 Aesthetics					
Summary of Impacts					
<p><u>Threshold a:</u> The Project site does not compromise all or part of a scenic vista. The Project site is currently undergoing quarry reclamation activities and does not contain any potential scenic vistas. The nearest potential scenic vistas include public views of the San Gabriel Mountains to the north and Puente Hills to the south. However, views of the higher elevations of the San Gabriel Mountains and Puente Hills would remain available and the existing mountain views along a majority of the surrounding roadway segments would remain similar to existing conditions. Impacts to scenic vistas would be less than significant and no other recognized scenic vistas are present that the Project could affect.</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<p><u>Threshold b:</u> The Project site does not contain any scenic resources and is not located within or visible from any state scenic highways. Therefore, the Project would have no potential to substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. No impact would occur.</p>	No Mitigation is Required.	N/A	N/A	N/A	No Impact
<p><u>Threshold c:</u> The proposed Project would change the existing visual character of the Project site from an active quarry reclamation site to a developed master-</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p>planned industrial and commercial business park. Construction activities would result in a temporary change to the visual character of the Project site through the introduction of construction equipment, staging areas, and construction machinery, which would not represent a substantial change from the existing visual character of the Project site; impacts would be less than significant. Under long-term conditions, buildout of the proposed Project would change the existing visual character of the site from an active quarry reclamation operation to an industrial and commercial business park developed in accordance with the standards and design guidelines of The Park @ Live Oak Specific Plan. Adherence to the design guidelines of The Park @ Live Oak Specific Plan would not conflict with any applicable zoning or other regulations governing scenic quality and would ensure that the Project would result in less-than-significant long-term impacts associated with degradation of public views.</p>					
<p><u>Threshold d:</u> The Project would not create substantial light or glare. Compliance with the outdoor lighting requirements from The Park @ Live Oak Specific Plan would ensure less-than-significant impacts associated with light and glare affecting day or nighttime views in the area.</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>stockpiles, and areas undergoing active ground disturbance within the Project site are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas by water truck, sprinkler system, or other comparable means, shall occur in the mid-morning, afternoon, and after work is done for the day. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite.</p> <p>b) Temporary signs shall be installed on the construction site along all unpaved roads indicating a maximum speed limit of 15 miles per hour (MPH). The signs shall be installed before construction activities commence and remain in place for the duration of construction activities that include vehicle activities on unpaved roads.</p> <p>c) Gravel pads must be installed at all access points to prevent tracking of mud onto public roads.</p> <p>d) Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect (e.g., Install wheel shakers, wheel washers, and limit site access.)</p> <p>e) When materials are transported off-site, all material shall be covered or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.</p> <p>f) All street frontages adjacent to the construction site shall be swept at least once a day using SCAQMD Rule 1186 certified street sweepers utilizing reclaimed water trucks if visible soil materials are carried to adjacent streets.</p> <p>g) Post a publicly visible sign with the telephone number and person to contact regarding dust</p>				



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>complaints. This person shall respond and initiate corrective action within 24 hours.</p> <p>h) Any vegetative cover to be utilized onsite shall be planted as soon as possible to reduce the disturbed area subject to wind erosion. Irrigation systems required for these plants shall be installed as soon as possible to maintain good ground cover and to minimize wind erosion of the soil</p> <p>i) Any on-site stock piles of debris, dirt, or other dusty material shall be covered or watered as necessary to minimize fugitive dust pursuant to SCAQMD Rule 403.</p> <p>j) A high wind response plan shall be formulated and implemented for enhanced dust control if winds are forecast to exceed 25 mph in any upcoming 24-hour period.</p> <p>MM 4.2-3 Project construction activities shall comply with the provisions of South Coast Air Quality Management District Rule 1186 “PM10 Emissions from Paved and Unpaved Roads and Livestock Operations” and Rule 1186.1, “Less-Polluting Street Sweepers” by complying with the following requirements. To ensure and enforce compliance with these requirements, prior to grading and building permit issuance, the City of Irwindale shall verify that the following notes are included on the grading and building plans. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Irwindale staff or its designee to confirm compliance. The notes also shall be specified in bid documents issued to prospective construction contractors.</p> <p>a) If visible dirt or accumulated dust is carried onto paved roads during construction, the contractor shall</p>	<p>Project Applicant; Grading Contractor</p>	<p>City of Irwindale Building and Safety Department</p>	<p>Prior to issuance of a Project-related grading or building permit</p>	



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>remove such dirt and dust at the end of each work day by street cleaning.</p> <p>b) Street sweepers shall be certified by the South Coast Air Quality Management District as meeting the Rule 1186 sweeper certification procedures and requirements for PM₁₀-efficient sweepers. All street sweepers having a gross vehicle weight of 14,000 pounds or more shall be powered with alternative (non-diesel) fuel or otherwise comply with South Coast Air Quality Management District Rule 1186.1.</p> <p>MM 4.2-4 Project construction activities shall comply with California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025, "Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles" and 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" by complying with the following requirement. To ensure and enforce compliance with the five (5) minute idling restriction and thereby limit the release of diesel particulate matter, oxides of nitrogen, and other criteria pollutants into the atmosphere from the burning of fuel, prior to grading permit and building permit issuance, the City of Irwindale shall verify that the following note is included on the grading and building plans. Project construction contractors shall be required to ensure compliance with the note and permit periodic inspection of the construction site by City of Irwindale staff or its designee to confirm compliance. This note also shall be specified in bid documents issued to prospective construction contractors.</p>	<p>Project Applicant; Construction Contractor</p>	<p>City of Irwindale Building and Safety Department</p>	<p>Prior to issuance of a Project-related grading or building permit</p>	



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>a) Temporary signs shall be placed on the construction site at all construction vehicle entry points and at all loading, unloading, and equipment staging areas indicating that heavy duty trucks and diesel-powered construction equipment are prohibited from idling for more than three (3) minutes. The signs shall be installed before construction activities commence and remain in place during the duration of construction activities at all loading, unloading, and equipment staging areas.</p> <p>MM 4.2-5 The Project shall comply with the provisions of SCAQMD Rule 431.2, “Sulfur Content of Liquid Fuels” by complying with the following requirement. To ensure and enforce compliance with this requirement and thereby limit the release of SO_x into the atmosphere from the burning of fuel, prior to grading and building permit issuance, the City of Irwindale shall verify that the following note is included on the grading and building plans. Project contractors shall be required to ensure compliance with this note and permit periodic inspection of the construction site by City of Irwindale staff or its designee to confirm compliance. This note also shall be specified in bid documents issued to prospective construction contractors.</p> <p>a) All liquid fuels shall have a sulfur content of not more than 0.05 percent by weight, except as provided for by South Coast Air Quality Management District Rule 431.2.</p> <p>MM 4.2-6 As a condition of building permit issuance, the City of Irwindale shall require installation of passenger car EV charging stations and</p>	<p>Project Applicant; Construction Contractor</p> <p>Project Applicant</p>	<p>City of Irwindale Building and Safety Department</p> <p>City of Irwindale Building and Safety Department</p>	<p>Prior to issuance of a Project-related grading or building permit</p> <p>Prior to issuance of Project- related building permit</p>	



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>designated carpool parking stalls per the provisions of the California Green Building Standards Code.</p> <p>MM 4.2-7 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than three (3) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of a certificate of occupancy, the City of Irwindale shall conduct a site inspection to ensure that the signs are in place.</p> <p>MM 4.2-8 As a condition of certificates of occupancy, owner users and tenants of buildings with loading docks shall be required to ensure that all heavy-heavy duty (HHD) vehicles accessing the building comply with 13 California Code of Regulations Section 2025, as may be amended (the "Regulations"), and that all HHD vehicles accessing the Project site comply with the required registration and reporting provisions of the Regulations. Developer and all successors also shall include these obligations in all leases of buildings with loading docks. The building owner and occupant shall allow periodic inspection of the site by the City of Irwindale or its designee to confirm compliance.</p> <p>MM 4.2-9 As a condition of certificates of occupancy, all on-site outdoor cargo handling equipment (including yard trucks, hostlers, yard goats,</p>	<p>Project Applicant and all successors</p> <p>Project Applicant and all successors</p> <p>Project Applicant and all successors</p>	<p>City of Irwindale Building and Safety Department</p> <p>City of Irwindale Building and Safety Department</p> <p>City of Irwindale Building and Safety Department</p>	<p>Prior to the issuance of a certificate of occupancy</p> <p>Prior to issuance of certificates of occupancy</p> <p>Prior to issuance of certificates of occupancy</p>	



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>pallet jacks, forklifts, and other on-site equipment) shall be required to be powered by electricity, compressed natural gas, propane, or diesel-fueled engines that comply with the CARB/USEPA Tier IV Engine standards for off-road vehicles or better (defined as emitting less than or equal to 0.015 grams per brake horsepower-hour [g/bhp-hr] for PM₁₀) and all indoor cargo handling equipment shall be required to be powered by electricity, compressed natural gas, or propane. Use of indoor diesel-fueled equipment shall be prohibited. Developer and all successors also shall include these obligations in all building leases. The building owner and occupant shall allow periodic inspection of the site by the City of Irwindale or its designee to confirm compliance.</p> <p>MM 4.2-10 Prior to the issuance of a building permit for any building having over 200,000 square feet of floor space, the City of Irwindale shall verify that the building's roof is designed to accommodate a photovoltaic (PV) solar array taking into consideration limitations imposed by other rooftop equipment, roof warranties, building and fire code requirements, and other physical or legal limitations. The building shall be constructed with an adequately sized electrical panel(s) to accommodate PV arrays in the future. The electrical system and infrastructure shall be clearly labeled with noticeable and permanent signage which informs future occupants/owners of the existence of this infrastructure.</p> <p>MM 4.2-11 Prior to the issuance of a building permit for any building with loading docks having over 200,000 square feet of floor space, the City of Irwindale shall verify that the building will be constructed with an adequately sized electrical panel(s) and conduit to accommodate future EV</p>	<p>Project Applicant; Construction Contractor</p> <p>Project Applicant; Construction Contractor</p>	<p>City of Irwindale Building and Safety Department</p> <p>City of Irwindale Building and Safety Department</p>	<p>Prior to the issuance of a building permit for any building having over 200,000 square feet of floor space</p> <p>Prior to the issuance of a building permit for any building with loading docks having over 200,000 square feet of floor space</p>	



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>charging stations at 2% of the tractor trailer parking spaces, in an appropriate location on the building site where truck charging would likely occur in the future when EV trucks become commercially available.</p> <p>MM 4.2-12 Prior to the issuance of a building permit or certificate of occupancy for any warehouse building that will contain chilled, cooled, or freezer warehouse space, the City of Irwindale shall confirm that the loading docks designated to handle temperature-controlled trucks are equipped with electrical plug-ins to allow cooling of the trailer when the diesel truck engine is turned off.</p>	Project Applicant; Construction Contractor	City of Irwindale Building and Safety Department	Prior to the issuance of a building permit for any warehouse building with chilled, cooled or freezer warehouse space	
<p><u>Threshold b:</u> Even with the incorporation of the required mitigation measures and regulatory requirements specified in EIR Subsection 4.2, Project-related emissions of NO_x and VOCs would still be above the SCAQMD Daily Regional Thresholds for these pollutants. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Irwindale to enforce that have a proportional nexus to the Project's level of impact, as the source of a large majority of these emissions is tailpipe emissions from cars and trucks traveling to and from the Project site. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site. As such, it is concluded that the Project's long-term emissions of VOCs and NO_x would result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.</p>	Mitigation Measures MM 4.2-1 through MM 4.2-12 shall apply.	See above	See above	See above	Significant and Unavoidable Direct and Cumulatively Considerable Impact



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p><u>Threshold c:</u> Project emissions during construction and operation would not exceed the SCAQMD's LSTs for CO, NO_x, PM₁₀, or PM_{2.5}. The carcinogenic risk attributable to TAC emissions from the proposed Project would not exceed the SCAQMD threshold for direct and cumulatively considerable emissions. Non-cancer risks would also be below the SCAQMD's threshold for direct and cumulatively considerable emissions and would be less than significant. Emissions also would not exceed LSTs and would not cause or contribute to a CO "Hot Spot."</p>	<p>No Mitigation is Required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Less Than Significant</p>
<p><u>Threshold d:</u> 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 Irwindale and SCAQMD would reduce odor impacts to less-than-significant levels. Near- and long-term odor impacts would be less than significant.</p>	<p>No Mitigation is Required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Less Than Significant</p>
<p>4.3 Energy</p>					
<p>Summary of Impacts</p>					
<p><u>Threshold a:</u> 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</p>	<p>No Mitigation is Required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Less Than Significant</p>

THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
impacts associated with energy consumption would be less than significant.					
<u>Threshold b:</u> The Project would not cause or result in the need for additional energy production or transmission facilities. The Project would not engage in the wasteful or inefficient uses of energy and the Project would not obstruct the achievement of energy conservation goals within the State of California. Thus, the Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
4.4 Geology & Soils					
Summary of Impacts					
<u>Threshold a:</u> The Project would have no impact or less-than-significant impacts due to the direct or indirect exposure of people or structures to earthquake faults, strong seismic ground shaking, liquefaction, and landslides. Implementation of the proposed Project would result in a potentially significant impact as a result of seismically-induced settlement on the Project site margins (within the native materials located above the areas of the former quarry slopes and on the westerly portion of the site). Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-4 would ensure that impacts associated with seismically-induced settlement would be reduced to a level below significance.	<p>MM 4.4-1 Prior to the issuance of the first grading or building permit within each of the construction phase areas, the City of Irwindale shall confirm that the activities authorized by approved Grading Permit No. 05061504220003 are complete in the each of the respective construction phase areas, and that the final geologic and soil conditions of the site, as called for by the approved Grading Permit No. 05061504220003, are documented in a final report prepared by a licensed geologist or civil engineer.</p> <p>MM 4.4-2 Project construction activities shall be required to comply with the recommendations contained in Section 8 of the Geotechnical Report prepared by HD Geosolutions Inc., dated April 17, 2018, and included as Technical Appendix D to The Park @ Live Oak Draft EIR. The recommendations contain specifications for grading, building foundations, building floor slabs, basement and retaining walls, and paving.</p>	Project Applicant; Grading Contractor	City of Irwindale Building and Safety Department	Prior to the issuance of grading or building permit	Less Than Significant
		Project Applicant; Construction Contractor	City of Irwindale Building and Safety Department	Prior to the issuance of Project-related building permit	



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>grading permit or building permit, a licensed geotechnical engineer shall examine the soil and geologic conditions, review detailed construction plans, and provide recommendations in a written report to address potential seismically-induced settlement hazards that may be associated with the building. Recommendations may include deepened foundations, removal of the uncompacted soil and replacement with fill material similar in nature to that which was placed and compacted as part of the IDEFO, the use of structural slabs, or comparable method to provide adequate foundation support and building performance. The report shall be approved by the City of Irwindale and the recommendations contained in the report shall be implemented and required as building permit conditions of approval. No building permit shall be issued for building foundation construction in an area of the property that was not compacted as part of the IDEFO until the licensed geotechnical engineer has either deemed the existing soil and geologic conditions suitable for the proposed development, or, if deemed unsuitable under existing conditions, until the recommendations for addressing potential seismically-induced settlement are identified and indicated on construction plans and documents. As part of the City's final grading and/or building verification, the City shall ensure that all recommendations of the Project's geotechnical engineer have been constructed in conformance with the approved building and construction plans.</p>				
<p>Threshold b: With mandatory compliance to the Project-specific SWPPP, LID, Industrial General Permit, the City's MS4 NPDES Municipal Stormwater Permit, and SCAQMD Rule 403, impacts associated</p>	<p>No Mitigation is Required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Less Than Significant</p>



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
with substantial soil erosion or the loss of topsoil would be less than significant.					
<u>Threshold c:</u> Impacts associated with on- or off-site landslide, subsidence, and collapse would be less than significant. However, the margins (within the native materials located above the areas of the former quarry slopes and the westerly portion of the Project site) of the Project site possess a potential for seismically-induced settlement, which is a potentially significant impact.	Mitigation Measures MM 4.4-1 through MM 4.4-4 shall apply.	See above	See above	See above	Less Than Significant
<u>Threshold d:</u> The Project would not be located on expansive soils, and impacts associated with expansive soils would be less than significant.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<u>Threshold e:</u> The Project would not install septic tanks or alternative wastewater disposal systems. Accordingly, no impact would occur associated with soil compatibility for wastewater disposal systems.	No Mitigation is Required.	N/A	N/A	N/A	No Impact
<u>Threshold f:</u> The Project site has been disturbed by a former surface mine and does not contain any unique geologic features or any known paleontological resources. No impacts would occur to such resources as a result of Project implementation.	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
4.5 Greenhouse Gas Emissions					
Summary of Impacts					
<p><u>Threshold a:</u> The Project's total annual GHG emissions are calculated to be approximately 46,531.47 MTCO₂e per year, which exceeds SCAQMD's annual mixed-use GHG emissions threshold of 3,000 MTCO₂e. Because the Project's annual GHG emissions would exceed the 3,000 MTCO₂e per year threshold, the Project would result in cumulatively considerable impacts with respect to this threshold. Neither the Project Applicant nor the City of Irwindale can affect or mandate substantive reductions in mobile-source GHG emissions above and beyond the mitigation measures presented in EIR Section 4.2, <i>Air Quality</i>. As such, no other feasible mitigation measures are available to reduce the Project's GHG emissions to below a level of significance, and the cumulatively considerable impacts associated with the Project's GHG emissions would remain significant and unavoidable.</p>	<p>MM 4.5-1 All truck courts of industrial, warehouse, and manufacturing facilities that will receive direct sunlight shall be composed of light-colored concrete instead of asphalt. Concrete has a higher heat reflectance value than asphalt. Prior to the issuance of building permits, the City of Irwindale shall review building plans to ensure that light-colored concrete is specified as the surface material in these truck court areas.</p>	Project Applicant; Construction Contractor	City of Irwindale Building and Safety Department	Prior to the issuance of building permits	Significant and Unavoidable Cumulatively Considerable Impact
	<p>MM 4.5-2 All air-conditioned building spaces shall have a primary roofing material that is light colored and has a solar reflective index (SRI) value of at least 39 on a scale of 0 (most absorptive) to 100 (most reflective). Prior to the issuance of building permits, the City of Irwindale shall review building plans to ensure these roof material specifications.</p>	Project Applicant; Construction Contractor	City of Irwindale Building and Safety Department	Prior to the issuance of building permits	
<p><u>Threshold b:</u> The Project would not conflict with applicable regulations, policies, plans, and policy goals adopted for the purpose of reducing GHG emissions. Regardless, there is a lack of substantial evidence to definitively conclude that the Project's incremental GHG emissions would not incrementally contribute to the State's potential inability to meet its climate change goals. Thus, this is regarded as a significant cumulatively considerable impact.</p>	Mitigation Measures MM 4.2-1 to MM 4.2-12, MM 4.5-1, and MM 4.5-2 shall apply.	See above	See above	See above	Significant and Unavoidable Cumulatively Considerable Impact



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.6 Hazards and Hazardous Materials					
Summary of Impacts					
<p><u>Thresholds a and b:</u> The Project-specific Phase I ESA (EIR <i>Technical Appendix F</i>) did not identify any existing RECs or other environmental concerns at the site that would create a hazard to the public during construction or operation of the Project. The Project would involve the construction of uses in conformance with the proposed The Park @ Live Oak Specific Plan. Future operators at the Project site 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 Los Angeles County Fire Department, Health Hazardous Materials Division. Accordingly, the Project would result in less-than-significant impacts with respect to hazardous materials.</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<p><u>Threshold c:</u> The Project site is not located within one-quarter mile of any existing or proposed schools, and therefore has no potential to have a cumulatively considerable effect associated with the emission or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school. The construction and operation of the proposed Project does not have any components that would contribute to or result in an increase in the likelihood that hazardous materials would be handled or emitted within the</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
vicinity of a school. Impacts would be less than significant absent mitigation.					
<u>Threshold d:</u> The Project site is not listed on any of the hazardous waste and substances site lists compiled and maintained by the State of California pursuant to Government Code Section 65962.5. Accordingly, no impact would occur.	No Mitigation is Required.	N/A	N/A	N/A	No Impact
<u>Threshold e:</u> The nearest airport is the El Monte Municipal Airport, located approximately 2.8 miles southwest of the Project site. The Project site is not located within the RPZs or AIA for the El Monte Municipal Airport. Therefore, the proposed Project would not result in hazards that could occur from development located within an airport land use plan or within 2.0 miles of a public airport or public use airport. The proposed Project has no potential to create an airport safety hazard, and no impact would occur.	No Mitigation is Required.	N/A	N/A	N/A	No Impact
<u>Threshold f:</u> The Project would be designed, constructed, and maintained in accordance with applicable standards associated with vehicular access, ensuring that adequate emergency access and evacuation would be provided during operation of the Project. Accordingly, no impacts would occur with respect to operation of the Project. With mandatory implementation of the Traffic Control Plan, construction of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or an emergency	Mitigation Measure MM 4.11-8 shall apply.	See below	See below	See below	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
evacuation plan, and a less-than-significant impact would occur.					
<p><u>Threshold g:</u> The Project site and surrounding areas are not subject to wildland fire hazards because the property is located in an urban environment that has a low risk of wildfire. Additionally, the Project proposes buildings that would be equipped with fire suppression systems approved by the County of Los Angeles Fire Department and development on the Project site would comply with the California Fire Code and California Building Standards Code, which include standards for building construction, fire flows and pressures, hydrant placement and other requirements that would reduce the creation of fire hazards. Accordingly, no impact related to wildland fire hazards would occur.</p>	No Mitigation is Required.	N/A	N/A	N/A	No Impact
4.7 Hydrology and Water Quality					
Summary of Impacts					
<p><u>Threshold a:</u> With implementation of the required SWPPP during construction activities and implementation of BMPs from the Project-specific LID during operations, the Project would result in less-than-significant water quality impacts and would not violate any water quality standards.</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<p><u>Threshold b:</u> As demonstrated in the response to Threshold b, the Project's proposed water supply well would not pump groundwater in excess of available water supplies to the extent that there would be a</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p>net deficit in aquifer volume or a lowering of the local groundwater table level. Additionally, the Project would introduce impervious surfaces to the site, but would not interfere substantially with groundwater recharge due to the inclusion of pervious landscaping and water quality basins that would facilitate infiltration of storm water. Accordingly, impacts to groundwater supplies and groundwater recharge would be less than significant.</p>					
<p>Threshold c: The proposed Project would not substantially alter the site's existing drainage pattern. The Project's proposed water quality detention basins also would ensure that runoff from the site does not exceed the capacity of existing downstream facilities, including the Sawpit Wash Channel. As such, the Project would not affect the course of any stream or river and would not result in substantial erosion or siltation on- or off-site.</p> <p>The Project's drainage system is designed to ensure that all runoff is conveyed by facilities with adequate capacity, or to ensure that runoff in excess of downstream capacity is detained on-site. Accordingly, the Project would not contribute runoff that would exceed the capacity of existing or planned storm water drainage systems and would not result in flooding on- or off-site, and a less-than-significant impact would occur.</p> <p>Implementation of the Project's proposed BMPs (include on-site water quality detention basins) also would ensure the</p>	<p>No Mitigation is Required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Less Than Significant</p>



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p>Project does not contribute substantial additional sources of polluted runoff to existing or planned drainage systems. Accordingly, a less-than-significant impact would occur.</p> <p>The Project site is not located within a 100-year flood hazard area. Therefore, the Project has no potential to place structures within a flood hazard area. Furthermore, the Project site is not located within the inundation area for the Santa Fe Dam. Moreover, the proposed on-site storm drain infrastructure and water quality facilities are designed and properly sized to intercept flood flows and route them off-site toward existing flood control facilities that have adequate available capacity to accommodate the Project's storm water runoff. Accordingly, the Project would not impede or redirect flood flows, and no impact would occur.</p>					
<p><u>Threshold d:</u> The Project site has little to no potential to be exposed to hazards associated with flood hazards, seiches, or tsunamis, due to its location outside of mapped flood zones, proximity to water bodies, and the existing and proposed topography of the Project site.</p>	No Mitigation is Required.	N/A	N/A	N/A	No Impact
<p><u>Threshold e:</u> The Project has no potential to conflict with any water quality control plans or sustainable groundwater management plans. No impact would occur.</p>	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
4.8 Land Use & Planning					
<p><u>Threshold a:</u> The Project would not result in the physical division of an established community. Accordingly, no impact would occur.</p>	No Mitigation is Required.	N/A	N/A	N/A	No Impact
<p><u>Threshold b:</u> The Project would be consistent with the applicable policies of the City of Irwindale General Plan intended to address adverse environmental effects. Although the Project would not implement the current zoning designations applicable to the Project site (Q and M-2), the Project's proposed Change of Zone would apply "The Park @ Live Oak Specific Plan Zone" to the entire site to allow for the Project site to be developed in accordance with Chapter 3, <i>Development Standards</i>, of The Park @ Live Oak Specific Plan. The proposed zoning standards would not create any new or more severe environmental effects than would the property's existing Q and M-2 zoning standards. The Project also would be consistent with the applicable policies of the SCAG 2016-2040 RTP/SCS. The proposed Project has no potential to conflict with any applicable habitat conservation plan or natural community conservation plan, because no such applicable plans exist. Therefore, a less-than-significant impact would occur.</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
4.9 Noise					
<p><u>Threshold a:</u> Noise generated by Project construction activities would result in a less-</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p>than-significant increase in ambient noise levels. During long-term operation of the Project, the Project would not expose persons to or generate noise levels in excess of local standards and would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Additionally, under long-term operation, Project-related traffic would not expose persons to or generate noise levels in excess of local standards and would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Accordingly, the Project's long-term noise impacts would be less than significant.</p>					
<p><u>Threshold b:</u> The Project would not generate excessive groundborne vibration or ground-borne noise levels. Impacts would be less than significant.</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<p><u>Threshold c:</u> The Project would not expose people residing or working in the area to excessive noise levels associated with public airports or private airstrips. Therefore, the Project would have no impact.</p>	No Mitigation is Required.	N/A	N/A	N/A	No Impact
4.10 Public Services					
<p><u>Threshold a:</u> The Project site is served by LACFD Fire Station No. 169. According to the LACFD, Fire Station No. 169 has adequate physical capacity to service the proposed Project, and no new or expanded fire protection facilities are needed. Thus,</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
the Project would have less-than-significant impacts to fire protection service facilities.					
<u>Threshold b:</u> The Project site is served by the IPD from its police station, which has adequate physical capacity to service the proposed Project. Impacts to police service facilities would be less than significant.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<u>Threshold c:</u> The Project would not generate a student population requiring public education services. With mandatory payment of fees in accordance with California Senate Bill 50 (Greene) and California Government Code §§ 65995.5–65998, indirect effects to public schools would be less than significant.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<u>Threshold d:</u> The Project would not generate a resident population requiring public parks and recreation facilities. Therefore, the Project would not result in a substantial or measurable increase in demand for park facilities and therefore would not advance the physical deterioration of any park or recreation facility from overuse. Impacts would be less than significant.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<u>Threshold e:</u> The Project would not generate a resident population requiring public library services or other public services. Impacts to libraries and other public services would be less than significant.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
4.11 Transportation					
<p><u>Threshold a:</u> With the incorporation of all feasible mitigation measures, the addition of Project-related traffic to the existing and planned circulation network would directly impact two (2) intersections (Intersection #11 – Private Drive B at Arrow Highway [proposed by the Project] and Intersection #30 – Maine Avenue & Arrow Highway) and make cumulatively considerable contributions to 10 intersections that are not feasible to fully mitigate. The Project Applicant would make roadway improvements to address direct impacts and pay fair share fees to address cumulatively considerable impacts; however, because improvements to the affected facilities cannot be assured and may not be in place before the Project becomes operational, this EIR recognizes the impacts as significant and unavoidable, until the needed improvements are implemented.</p> <p>The Project would result in a significant direct and cumulatively considerable traffic impacts to I-605 Freeway facilities. All state highway system facilities in the Project study area are under the jurisdiction of Caltrans. As such, the City of Irwindale cannot assure the construction of improvements to state highway facilities that may be needed to improve traffic flow. Furthermore, Caltrans does not have any funding mechanism in place at this time to allow development projects to contribute a fair-share payment to</p>	<p>MM 4.11-1 Prior to issuance of the first certificate of occupancy, the Project Applicant shall submit to the City of Irwindale a payment equal to the full cost to install the following improvement at Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway. The City of Irwindale shall ensure installation of the improvement.</p> <ul style="list-style-type: none"> • Restripe a 3rd eastbound through lane and modify the existing traffic signal to accommodate the additional 3rd eastbound lane. <p>MM 4.11-2 Prior to issuance of the first certificate of occupancy, the Project Applicant shall submit to the City of Irwindale a payment equal to the full cost to install the following improvement at Intersection #27 – Stewart Avenue & Live Oak Avenue. The City of Irwindale shall ensure installation of the improvement.</p> <ul style="list-style-type: none"> • Restripe a 3rd westbound through lane and modify the existing traffic signal to accommodate the additional 3rd westbound lane. <p>MM 4.11-3 Prior to issuance of the first certificate of occupancy, the Project Applicant shall submit to the City of Irwindale a payment equal to the full cost to install the following improvement at Intersection #29 – Arrow Highway & Live Oak Avenue. The City of Irwindale shall ensure installation of the improvement.</p> <ul style="list-style-type: none"> • Restripe a 3rd eastbound through lane and modify the existing traffic signal to accommodate the additional 3rd eastbound lane. 	<p>Project Applicant</p> <p>Project Applicant</p> <p>Project Applicant</p>	<p>City of Irwindale Public Works/Engineering Department</p> <p>City of Irwindale Public Works/Engineering Department</p> <p>City of Irwindale Public Works/Engineering Department</p>	<p>Prior to issuance of the first certificate of occupancy</p> <p>Prior to issuance of the first certificate of occupancy</p> <p>Prior to issuance of the first certificate of occupancy</p>	<p>Significant and Unavoidable Direct and Cumulatively Considerable Impact</p>



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p>contribute to future improvements and off-set cumulatively considerable traffic impacts. The Project Applicant would be required to pay such fair-share payment to Caltrans, if a fee program is established by Caltrans prior to the issuance of Project building permits; however, there is no assurance that such a fee program will be established. Also, there is no assurance that planned improvements will be in place prior to the time that the Project begins to contribute traffic to the facilities.</p>	<p>MM 4.11-4 Prior to issuance of the first certificate of occupancy, the Project Applicant shall submit to the City of Irwindale a payment equal to the full cost to install the following improvement at the intersection of Maine Avenue & Arrow Highway (Intersection #30). The City of Irwindale shall ensure installation of the improvement.</p> <ul style="list-style-type: none"> Restripe a 3rd eastbound through lane and modify the existing traffic signal to accommodate the additional 3rd eastbound lane. 	Project Applicant	City of Irwindale Public Works/Engineering Department	Prior to issuance of the first certificate of occupancy	
	<p>MM 4.11-5 Prior to issuance of building permits for future implementing development projects that involve a driveway connection point with Arrow Highway or Live Oak Avenue, the Project Applicant shall submit a driveway access study to the City of Irwindale Public Works Department for City review and approval. The study shall be prepared by a licensed traffic engineer, identify the proposed access driveway(s) connecting to a public street, and include a detailed evaluation of the proposed driveway for intersection lane geometrics, turn lane storage capacity, and sight distance. The City shall require that the driveway intersection be constructed in accordance with the City-approved access study prior to the issuance of an occupancy permit for any building that would use the driveway for ingress/egress.</p> <p>Based on the studied driveway locations (as shown on Exhibit 1-1 of The Park @ Live Oak Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018) and mix of land uses studied in The Park @ Live Oak Specific Plan’s Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018 (as shown in EIR Table 4.11-15, <i>Project Trip Generation Summary (Actual Vehicles)</i>),</p>	Project Applicant	City of Irwindale Public Works/Engineering Department	Prior to issuance of building permits for future implementing development projects that involve a driveway connection point with Arrow Highway or Live Oak Avenue	



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>the following are anticipated to be required as the maximum extent of public roadway lane configuration and signalization improvements:</p> <p>a) As a condition of any building permit that would involve ingress/egress at the intersection of Arrow Highway and Private Drive A, the Project Applicant shall install the following improvements at the existing intersection of Avenida Barbosa/Private Drive A & Arrow Highway (Intersection #15). The improvements shall be constructed and operable prior to the issuance of a certificate of occupancy.</p> <ul style="list-style-type: none"> • Restripe a southbound through lane. (E+P requirement) • Add a 3rd eastbound through lane. (E+P requirement) • Add a westbound left turn lane. (E+P requirement) • Add a 2nd westbound left turn lane (E+P requirement with maximum commercial development in Planning Areas 1A and 2A) • Add a northbound left turn lane. (2020 Opening Year requirement) • Add a northbound through lane. (2020 Opening Year requirement) • Add a northbound right turn lane. (2020 Opening Year requirement) • Modify traffic signal to accommodate the above-listed changes to lane configurations <p>b) As a condition of any building permit that would involve ingress/egress at the intersection of Arrow Highway and Private Drive B, the Project Applicant shall install the following improvement at Private Drive B & Arrow Highway (Intersection #11). The</p>				



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>improvement shall be constructed and operable prior to the issuance of a certificate of occupancy.</p> <ul style="list-style-type: none"> • Install a traffic signal (E+P requirement with maximum commercial development in Planning Areas 2A and 3A) <p>c) As a condition of any building permit that would involve ingress/egress access at the intersection of Live Oak Avenue and Private Drive A, the Project Applicant shall install the following improvement at Private Drive A and Live Oak Avenue (Intersection #16). The improvement shall be constructed and operable prior to the issuance of a certificate of occupancy.</p> <ul style="list-style-type: none"> • Install a traffic signal (E+P requirement) <p>d) As a condition of any building permit that would involve ingress/egress access at the existing intersection of Speedway Driveway & Live Oak Avenue, the Project Applicant shall install the following roadway improvement at Speedway Driveway & Live Oak Avenue (Intersection #7). The improvement shall be constructed and operable prior to the issuance of a certificate of occupancy.</p> <ul style="list-style-type: none"> • Install a traffic signal (E+P requirement) • Add a 3rd westbound through lane. (E+P requirement) <p>e) As a condition of any building permit that would involve ingress/egress at the existing intersection of Live Oak Avenue and the entrance driveway to the Irwindale Events Center Intersection #13 (Project Driveway 7), the Project Applicant shall install the following improvement at Project Driveway 7/Driveway & Live Oak Avenue (Intersection #13).</p>				



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>The improvement shall be constructed and operable prior to the issuance of a certificate of occupancy.</p> <ul style="list-style-type: none"> • Add a 3rd eastbound through lane and modify the traffic signal to accommodate the additional 3rd eastbound lane. (E+P requirement) <p>MM 4.11-6 Prior to the issuance of each building permit for future implementing development projects proposed within The Park @ Live Oak Specific Plan, the Project Applicant shall submit a preliminary trip generation calculation and trip distribution exhibit to the City of Irwindale Public Works Department for the development project under consideration for City review and approval. The preliminary calculation and exhibit shall be prepared by a licensed traffic engineer and be accompanied by sufficient analytical data to enable the City to (1) Determine which of the mitigation measures identified below to address cumulatively considerable impacts in the E+P, Opening Year 2020, and Horizon Year 2040 scenarios are applicable to the implementing project and calculate the fair share percentage associated with each applicable respective mitigation measure, and (2) Enable the City to determine sufficient intersection and driveway geometrics and lane storage and turn lane capacity needs. The City Engineer shall have the authority to determine the extent of the traffic study and analyses required to determine the appropriate mitigation measures and fair share calculations. Traffic analyses shall utilize traffic counts collected within 12 months of the analysis.</p> <p>Proposed development projects and speculative buildings without an occupant or tenant shall be analyzed in accordance with the proposed uses, trip generations rates and planning areas listed in EIR</p>	Project Applicant	City of Irwindale Public Works/Engineering Department	Prior to the issuance of a building permit	



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>Table 4.11-15. For the purposes of the traffic analysis, uses assigned to speculative developments within The Park @ Live Oak Specific Plan site shall be consistent with the distribution and proportion of uses and trip generation rates studied in The Park @ Live Oak Specific Plan's Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018 and listed in EIR Table 4.11-15.</p> <p>If the total trips generated by all developments within The Park @ Live Oak Specific Plan area exceeds the trips analyzed in The Park @ Live Oak Specific Plan's Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018 (1,280 PCE AM peak hour trips and 1,644 PCE PM peak hour trips), an additional full Traffic Impact Analysis shall be required.</p> <p>Based on the studied driveway locations (depicted on Exhibit 1-1 of The Park @ Live Oak Specific Plan's Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018), mix of land uses, and projected traffic volumes studied in the Park @ Live Oak Specific Plan's Traffic Impact Analysis and listed in EIR Table 4.11-15, the following are anticipated to be to applicable to some or all implementing development projects:</p> <p>a) Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #1 – Myrtle Avenue & Longden Avenue:</p> <ul style="list-style-type: none"> • Restripe a 2nd eastbound through lane and widen the bridge over Sawpit Wash. 				



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>b) Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue:</p> <ul style="list-style-type: none"> • Add a 2nd southbound left turn lane and modify the existing traffic signal to accommodate the 1nd southbound left turn lane. <p>c) Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #4 – Live Oak Avenue & Arrow Highway (West):</p> <ul style="list-style-type: none"> • Add a 3rd westbound through lane. • Restripe a 3rd eastbound through lane. • Modify the existing traffic signal to accommodate the above-listed lane configuration improvements. <p>d) Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway:</p> <ul style="list-style-type: none"> • Add a 3rd westbound through lane. • Add a 2nd eastbound left turn lane. • Modify the traffic signal to implement overlap phasing on the westbound right turn lane and accommodate the changes to lane configuration. <p>e) Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following</p>				



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>improvements to Intersection #7 – Speedway Driveway & Live Oak Avenue:</p> <ul style="list-style-type: none"> • Install a traffic signal. <p>f) Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #13 – Driveway 7/Driveway & Live Oak Avenue:</p> <ul style="list-style-type: none"> • Add an eastbound right turn lane and modify the existing traffic signal to accommodate the new eastbound right turn lane. <p>g) Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue:</p> <ul style="list-style-type: none"> • Install a traffic signal. <p>h) Prior to the issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #26 – Rivergrade Road & Live Oak Avenue:</p> <ul style="list-style-type: none"> • Modify the traffic signal to implement overlap phasing on the northbound right turn lane. <p>i) Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #27 – Stewart Avenue & Live Oak Avenue:</p>				



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<ul style="list-style-type: none"> • Restripe a 3rd eastbound through lane and modify the existing traffic signal to accommodate the 3rd eastbound through lane. <p>MM 4.11-7 Mitigation and fair share calculations for impacts to State Highway System facilities shall be subject to the review and approval of the California Department of Transportation (Caltrans). Fair share contributions for improvements to State Highway System facilities shall be determined by and paid to Caltrans in accordance with nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4).</p> <p>MM 4.11-8 Prior to the issuance of grading or building permits, the Project Applicant shall prepare and the City of Irwindale shall approve a temporary traffic control plan. The temporary traffic control plan shall comply with the applicable requirements of the California Manual on Uniform Traffic Control Devices and shall address temporary closures of roadways and sidewalks. A requirement to comply with the temporary traffic control plan shall be noted on all grading and building plans and also shall be specified in bid documents issued to prospective construction contractors.</p>	<p>Project Applicant</p> <p>Project Applicant</p>	<p>City of Irwindale Public Works/Engineering Department</p> <p>City of Irwindale Public Works/Engineering Department</p>	<p>Prior to the issuance of a building permit</p> <p>Prior to the issuance of a building permit</p>	
<p>Threshold b: For the reasons provided in the response to Threshold b, a LOS metric and not a VMT metric is appropriately used in this EIR to evaluate the Project's transportation-related impacts. Therefore, there is no potential for the Project to conflict with CEQA Guidelines section 15064.3, subdivision (b), which establishes criteria for</p>	<p>No Mitigation is Required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>No Impact</p>



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
evaluating a project's transportation impacts using a VMT metric. No impact would occur.					
<u>Threshold c:</u> The proposed Project would not increase hazards via a geometric design feature or incompatible land uses, because the frontage improvements and site access improvements will adhere to City design standards to ensure that adequate sight distance is provided to maintain sufficient vehicular visibility at driveways and intersections.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<u>Threshold d:</u> The proposed Project's street access and internal circulation are subject to review by the Los Angeles County Fire Department to determine that there is adequate emergency access provided for all parts of the Project site. Compliance with approved building plans will be verified in the field, prior to issuance of any certificates of occupancy. This standard process will ensure that there are less-than-significant impacts involving emergency access.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
4.12 Tribal Cultural Resources					
<u>Threshold a:</u> The Project site has been completely disturbed by historical sand and gravel quarry operations and is currently undergoing reclamation via ongoing IDEFO activities; therefore, the potential for discovery of tribal cultural resources during the fine grading and site preparation phases of the proposed Project is considered to be nil. Furthermore, the City did not receive	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
<p>responses from any of the Native American tribes with possible traditional or cultural affiliation to the area that the City sent notification of the proposed Project to on April 3, 2018 in accordance with AB 52 and SB 18 requirements. Therefore, the Project would have no impact with respect to tribal cultural resources.</p>					
<p>4.13 Utilities & Service Systems</p>					
<p><u>Threshold a:</u> The CAW has sufficient capacity to serve the Project in light of its existing and projected commitments, and no new water supply entitlements would be required beyond those water system improvements proposed by the Project (depicted in EIR Figure 3-3, <i>Conceptual Water Plan</i>). Additionally, the existing sewer system and water treatment facilities (San Jose Creek WRP and the Joint Water Pollution Control Plant in the City of Carson) that would serve the Project have adequate remaining capacities to accommodate the Project's wastewater treatment demands. Therefore, no additional wastewater treatment facilities or expansion of existing wastewater treatment facilities would be required to accommodate wastewater treatment flows generated by the Project. The Project area is already served by electric, gas, and telecommunications utilities, and it is anticipated that proposed improvements to provide service to the Project site would occur within existing improved rights-of-way off-site, or on-site within areas already planned for impact and development by the</p>	<p>No Mitigation is Required.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Less Than Significant</p>



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p>Project. The construction of storm drain infrastructure as necessary to serve the proposed Project would not result in any potentially significant physical effects on the environment that are not already identified and disclosed as part of this EIR; additional mitigation measures would not be required. The Project's proposed connections to these utilities, as well as installation of on-site and off-site storm water management, water, and wastewater infrastructure, are inherent to the Project's construction phase, which has been evaluated throughout this EIR. Mitigation measures are identified for construction-related effects that would reduce construction-phase impacts to the maximum feasible extent. There would be no significant impacts specifically related to the installation of the Project's proposed utility infrastructure beyond the overall construction-related effects of the Project as a whole. Impacts would be less than significant.</p>					
<p><u>Threshold b:</u> Based on the information provided from the proposed Project's WSA, the CAW would have sufficient water supplies available to serve the Project in normal, dry, and multiple dry years. Thus, the proposed Project would have a less-than-significant impact in this regard and no mitigation is warranted.</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<p><u>Threshold c:</u> The proposed Project's wastewater generation would not exceed the capacity of the LACSD's regional treatment facilities and payment of mandatory</p>	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant



THRESHOLD	MITIGATION MEASURES (MM)	RESPONSIBLE PARTY	MONITORING PARTY	IMPLEMENTATION STAGE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
connection fees and surcharges established by the LACSD's Wastewater Ordinance would reduce the Project's incremental effect to below a level of significance.					
<u>Threshold d:</u> The proposed Project's solid waste disposal needs can be accommodated by existing and planned landfills serving the City of Irwindale. The Project would comply with all applicable State and local standards, goals, and policies related to solid waste reduction and management. Therefore, the Project would have less-than-significant impacts related to solid waste generation.	No Mitigation is Required.	N/A	N/A	N/A	Less Than Significant
<u>Threshold e:</u> The proposed Project would comply with all applicable federal, state, and local statutes and regulations pertaining to management and reduction solid waste. No impact associated with regulatory compliance would occur.	No Mitigation is Required.	N/A	N/A	N/A	No Impact



1.0 INTRODUCTION

1.1 PURPOSES OF CEQA AND THIS EIR

As stated by California Environmental Quality Act (CEQA) Guidelines §15002, the basic purposes of CEQA are to:

- Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities involving discretionary government actions (including the approval of development projects);
- 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 significant environmental effects are involved.

An Environmental Impact Report (EIR) is an informational document prepared in compliance with CEQA that informs government decision-makers and the public in general about potentially significant environmental impacts that could result from a project. This EIR represents the independent judgment of the City of Irwindale (as the CEQA Lead Agency) and presents an objective evaluation of the physical environmental effects that could result from constructing and operating the proposed The Park @ Live Oak project (the “Project”).

Hereafter when the term “Project” is used in this EIR with the initial letter capitalized, the term shall mean all aspects of The Park @ Live Oak’s planning, construction, and operation, and all associated legislative, discretionary, and administrative approvals and permits required by law of public agencies. When the term “Project Applicant” is used with the initial letters capitalized, the term shall mean Irwindale Partners, LP, a California Limited Partnership, which is the entity that submitted applications to the City of Irwindale to entitle the Project site as proposed and as evaluated in this EIR.

Governmental approvals requested from the City of Irwindale by the Project Applicant to implement the Project include a General Plan Amendment (GPA) No. 01-2017, a Specific Plan (The Park @ Live Oak Specific Plan), Zone Change (ZC) No. 01-2017, Development Agreement (DA) No. 01-2017, and a Tentative Parcel Map (TPM) No. 82551. All other related discretionary and administrative actions that are required of the City of Irwindale and other public agencies and entities to construct and operate the Project described in this EIR also are considered part of the Project evaluated herein. Approvals and permits required of other agencies that are currently known to be needed in order to implement the Project are listed in Section 3.0, *Project Description*.

As a first step in the CEQA compliance process, an Initial Study was prepared by the City of Irwindale pursuant to CEQA Guidelines §15063 to determine if the Project could have a significant effect on the environment. The Initial Study determined that implementation of the Project has the potential to result



in significant environmental effects, and a Project EIR, as defined by CEQA Guidelines §15161, is required. As stated in CEQA Guidelines §15161, a Project EIR should “...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.”

Accordingly, and in conformance with CEQA Guidelines §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 Park @ Live Oak is the proposed end-use of an approximately 78.3-acre property that was previously mined. The property is located south of Arrow Highway, northwest of Live Oak Avenue, and west of Interstate-605 (I-605), in the City of Irwindale, Los Angeles County, California with the street addresses of 1200, 1220, and 1270 Arrow Highway. The I-605 freeway forms the immediate eastern boundary of the Project site while the northerly and southerly Project site boundaries are formed by Arrow Highway and Live Oak Avenue, respectively. The proposed The Park @ Live Oak Specific Plan would allow for the development of an industrial/commercial business park on the previously mined property. The Park @ Live Oak Specific Plan would entitle the construction of a maximum of 1,550,000 square feet (s.f.) of building space on the Project site, as well as surface parking areas and drive aisles, utility infrastructure, landscaping, water quality/detention basins, signage, lighting, and other site improvements. The Project also involves the installation of roadway frontage improvements, on-site private road improvements, and on-site and off-site utility infrastructure including but not limited to domestic water, sewer, storm drain, and dry utilities. An on-site water well and off-site water infrastructure are proposed to jointly serve the proposed Project and the City of Hope expansion project previously approved by the City of Duarte.

The Project site was previously operated as a sand and gravel quarry and implementation of the proposed Project represents the end use that would result from reclamation of the site. Mining operations on the Project site commenced in the 1960s and ceased in 2002, with the depleted quarry extending to a depth of approximately 160 to 170 feet below ground surface (bgs) (HD Geosolutions, Inc., 2018, p. 3). Under existing conditions, the property is under an active reclamation process involving an Inert Debris Engineered Fill Operation (IDEFO). An IDEFO is a fill operation where inert (non-chemically reactive) materials such as clean dirt, concrete, and brick are being placed into the quarry to raise it to natural grade, on which an end use can be developed. The IDEFO is permitted by City of Irwindale Grading Permit No. 05061504220003, issued on November 16, 2016, allows for reclamation of the site through the placement of approximately 2.5 million cubic yards of fill material (City of Irwindale, 2016). Reclamation of the site authorized by Grading Permit No. 05061504220003 is an existing, permitted activity and is therefore not subject to evaluation in this EIR. The Project



Applicant anticipates that the former quarry will be filled before construction activities for the proposed Project commence in approximately July 2019.

The Project involves the following, primary discretionary actions, which are under consideration by the City of Irwindale and are more fully described in Section 3.0, *Project Description*:

- General Plan Amendment (GPA) No. 01-2017
- The Park @ Live Oak Specific Plan
- Zone Change (ZC) No. 01-2017
- Development Agreement (DA) No. 01-2017
- Tentative Parcel Map (TPM) No. 82551

Refer to Section 3.0, *Project Description*, for a detailed description of the proposed Project, including a list of the permits and actions that would be required of the City of Irwindale and other agencies and authorities to construct and operate the Project.

1.3 PRIOR CEQA REVIEW

The Project site is located within the geographical limits of the City of Irwindale's General Plan. The General Plan was approved by the City of Irwindale in 2008 (Housing Element updated in 2013) and provides the fundamental basis for the City's land use and development policies. The City's General Plan designates the Project site for development with Regional Commercial land uses (City of Irwindale, 2008, Exhibit 2-3). Implementation of the City's General Plan was the subject of previous environmental review under CEQA as part of the General Plan EIR (State Clearinghouse (SCH) Number 2005071047) certified by the City of Irwindale. Additionally, reclamation of the Project site's former sand and gravel quarry was evaluated in a previous EIR (SCH No. 1990102895) certified by the City of Irwindale.

1.4 LEGAL AUTHORITY

This EIR has been prepared in accordance with all criteria, standards, and procedures of CEQA (California Public Resource Code Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq.).

Pursuant to CEQA §21067 and CEQA Guidelines Article 4 and §15367, the City of Irwindale is the Lead Agency under whose authority this EIR has been prepared. "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Serving as the Lead Agency and before taking action on any approvals for the Project, the City of Irwindale has the obligation to: (1) ensure that this EIR has been completed in accordance with CEQA; (2) review and consider the information contained in this EIR as part of its decision making process; (3) make a statement that this EIR reflects the City of Irwindale's independent judgment; (4) ensure that all significant effects on the environment are eliminated or substantially lessened where feasible; and, if necessary (5) make written findings for each unavoidable significant environmental effect stating the



reasons why mitigation measures or project alternatives identified in this EIR are infeasible and citing the specific benefits of the proposed Project that outweigh its unavoidable adverse effects (CEQA Guidelines §§15090 through 15093).

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

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

This EIR fulfills the CEQA environmental review requirements for the proposed General Plan Amendment (GP 1-2017), Zone Change (ZC 01-2017), Specific Plan (The Park @ Live Oak Specific Plan), Tentative Parcel Map (TPM No. 82551), and all other governmental legislative, discretionary, and administrative actions related to the Project, including permits and actions undertaken by responsible and trustee agencies.

This EIR is an informational document intended for use by the City of Irwindale decision makers, Trustee and Responsible agencies, and members of the general public in evaluating the physical environmental effects of the proposed Project. As mandated by CEQA Guidelines §15183(a), this EIR focuses on the specific environmental effects that are peculiar to the proposed Project and its property. This EIR is not required to evaluate the ongoing reclamation activities occurring on the property, which are permitted and lawfully occurring pursuant to City of Irwindale Grading Permit No. 05061504220003. No additional government permits or approvals are required to continue reclaiming the Project site and filling the former quarry to a condition suitable for the development of end-uses. The Park @ Live Oak is the proposed end-use of the reclaimed site, which requires legislative, discretionary, and administrative approvals, and thus is subject to CEQA and evaluated accordingly in this EIR.

1.5 RESPONSIBLE AND TRUSTEE AGENCIES

For the proposed Project, the City of Irwindale is the CEQA Lead Agency responsible for preparing and certifying this EIR. Section 21104 of the California Public Resource Code requires that all EIRs also 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, known Responsible Agencies will include:

- Los Angeles Regional Water Quality Control Board (RWQCB), for the issuance of a General Construction Permit and approval of the Project’s Low Impact Development (LID) plan.
- California American Water for installation of an on-site water well and the approval of connections to existing water lines.
- Los Angeles County Sanitation Districts (LACSD) for the approval of connections to the municipal sewer system.
- Los Angeles County Public Health Department for a water well drilling permit.
- Main San Gabriel Watermaster for water well permit.

For the proposed Project, known Trustee Agencies will include:

- California Department of Transportation, for possible Outdoor Advertising Permit(s) related to new or altered billboards on the site adjacent to I-605.
- State Water Resources Control Board (SWRCB), Division of Drinking Water, for permits and approvals associated with the proposed on-site water well.

There are no other agencies known to the City of Irwindale that are identified as potential Responsible or Trustee Agencies for the proposed Project. Regardless, this EIR can be used by any Trustee Agency or Responsible Agency, whether listed above or not, as part of their decision-making processes in relation to the proposed Project.

1.6 EIR SCOPE, FORMAT AND CONTENT

1.6.1 EIR SCOPE

As a first step in complying with the procedural requirements of CEQA, an Initial Study (IS) was prepared by the City of Irwindale to preliminarily identify the environmental issue areas that may be adversely impacted by the Project. Following completion of the Initial Study, the City filed a Notice of Preparation (NOP) with 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 interested parties on April 2, 2018, for a 30-day public review period. Public review of the NOP closed on May 2, 2018.

The City of Irwindale also advertised the NOP on their City website and provided a hard copy of the NOP and Initial Study for public review at the Irwindale Public Library, office of the Irwindale City Clerk, and office of the Irwindale Planning Department. The objective of distributing the NOP for public review was to solicit responses to assist the City in identifying 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, a publicly noticed EIR Scoping Meeting was held at the Irwindale Community Center on April 26, 2018, which provided members of the general public an additional opportunity to comment on the scope and range of potential environmental concerns to be addressed in this EIR.

As a result of the Initial Study and in consideration of all comments received by the City on the NOP, this EIR evaluates the Project's potential to cause adverse effects to the following environmental issue areas:

- Aesthetics
- Air Quality
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems

The topics listed above are evaluated in EIR Section 4.0, *Environmental Analysis*.

The Initial Study, NOP, public review distribution list, and written comments received by the City of Irwindale during the NOP public review period are provided in *Technical Appendix A* to this EIR. Substantive issues raised in response to the NOP are summarized below in Table 1-1, *Summary of NOP Comments*. The purpose of this table is to present the primary environmental issues of concern raised during the NOP review period. The table is not intended to list every comment received by the City of Irwindale during the NOP review period. Regardless of whether or not a comment is listed in the table, all applicable comments received in responses to the NOP and at the EIR Scoping Meeting are addressed in this EIR.

After the NOP was released for public review, but before this EIR was released for public review, the California Natural Resources Agency finalized updates to the CEQA Guidelines. The changes were approved by the Office of Administrative Law on December 28, 2018. The revisions to the CEQA Guidelines implemented legislative changes, clarified rules that govern the CEQA procedural process, and limited duplicative analysis. The revisions also resulted in re-organization and consolidation of the environmental checklist offered by CEQA Guidelines Appendix G, which forms the basis of the environmental analyses presented in this EIR. Prior to release of this EIR for public review, the City of Irwindale took into consideration the substantive content of the revised CEQA Guidelines to ensure that this EIR complies with the revised CEQA Guidelines.



Table 1-1 Summary of NOP Comments

COMMENTER	DATE	COMMENTS	LOCATION IN EIR WHERE COMMENT IS ADDRESSED
City of Duarte 6	April 19, 2018	- Request to analyze the Project's truck traffic patterns as they relate to usage of roadways in the City of Duarte.	- Subsection 4.11, <i>Transportation</i>
		- Request to study several City of Duarte intersections in the Project's traffic analysis.	- Subsection 4.11, <i>Transportation</i>
		- Request to evaluate traffic-related impacts to sensitive land uses located along Buena Vista Street.	- Subsection 4.2, <i>Air Quality</i> , Subsection 4.8, <i>Land Use and Planning</i> , Subsection 4.9, <i>Noise</i> , and Subsection 4.11, <i>Transportation</i>
		- Request for the traffic impact analysis to consider the City of Duarte's traffic performance standards.	- Subsection 4.11, <i>Transportation</i>
		- Request to evaluate the Project's water demand, in light of the City of Hope's Water Supply Assessment (WSA) or through the preparation of a revised WSA.	- Subsection 4.7, <i>Hydrology and Water Quality</i> , and Subsection 4.13, <i>Utilities and Service Systems</i>
		- Request to include the City of Hope on correspondence related to the EIR.	- City of Hope is included on the mailing list for notices related to this EIR. Informational comment. No analysis necessary.
California Department of Resources Recycling and Recovery (CalRecycle)	April 26, 2018	- Prior to construction of the Project, the current (active) IDEFO must be completed. CalRecycle provided details on required procedures for closure of the IDEFO.	- Section 2.0, <i>Environmental Setting</i> , Section 3.0, <i>Project Description</i> , and Subsection 4.4, <i>Geology and Soils</i>
		- CalRecycle has regulatory oversight of solid waste handling activities at the site.	- Informational comment. No analysis necessary.
California Department of Transportation (Caltrans) District 7	May 1, 2018	- Request to incorporate multi-modal and complete streets transportation elements into the Project.	- Section 3.0, <i>Project Description</i>
		- Request to evaluate the Project for issues pertaining to site access, vehicle miles travelled (VMT) and service needs.	- Subsection 4.11, <i>Transportation</i>



COMMENTER	DATE	COMMENTS	LOCATION IN EIR WHERE COMMENT IS ADDRESSED
		<ul style="list-style-type: none"> - Request to evaluate the impacts associated with adding Project trips to the following I-605 ramp locations: <ul style="list-style-type: none"> o Southbound I-605 off-ramp to Arrow Highway o Northbound I-605 off-ramp to Live Oak Avenue o Northbound I-605 on-ramp from Arrow Highway o Southbound I-605 on-ramp from Live Oak Avenue 	- Subsection 4.11, <i>Transportation</i>
		<ul style="list-style-type: none"> - Request to analyze adequacy of freeway segment operations in the vicinity of the Project. 	- Subsection 4.11, <i>Transportation</i>
		<ul style="list-style-type: none"> - Request for the traffic analysis to include existing traffic, Project-related traffic to State facilities, cumulative traffic from planned developments in the area of the Project, and ambient traffic growth. 	- Subsection 4.11, <i>Transportation</i>
		<ul style="list-style-type: none"> - Request for the EIR to identify development impact fees/ transportation impact fees and fair share contributions toward multimodal and regional transit improvements to mitigate cumulative impacts to regional transportation facilities. 	- Subsection 4.11, <i>Transportation</i>
		<ul style="list-style-type: none"> - Request to work with Caltrans to mitigate any traffic impacts. 	- Subsection 4.11, <i>Transportation</i>
California State Clearinghouse	April 2, 2018	<ul style="list-style-type: none"> - Acknowledgement of receipt of NOP and distribution to state agencies for review and comment. 	- Informational comment. No analysis necessary.
Los Angeles County Department of Parks and Recreation	April 17, 2018	<ul style="list-style-type: none"> - The Department of Parks and Recreation finds that the Project would not impact any parks and recreation facilities and has no comments regarding the scope of the EIR. 	- No analysis necessary.
Los Angeles County Sanitation Districts (LACSD)	May 1, 2018	<ul style="list-style-type: none"> - The Project is assumed to discharge wastewater to a sewer line that is not maintained by the LACSD and conveyed to LACSD Joint Outfall B Unit 8G Trunk Sewer located in Live Oak Avenue at Myrtle Avenue. LACSD provides current capacity 	- Section 3.0, <i>Project Description</i> , and Subsection 4.13, <i>Utilities and Service Systems</i>



COMMENTER	DATE	COMMENTS	LOCATION IN EIR WHERE COMMENT IS ADDRESSED
		<p>information for the above-mentioned trunk sewer.</p> <ul style="list-style-type: none"> <li>- Wastewater generated by the Project will be treated at the San Jose Creek Water Reclamation Plant (WRP). LACSD provides current and maximum capacity information for the San Jose Creek WRP. <li>- LACSD estimates average wastewater flow from the Project would be 471,705 gallons per day. LACSD provided link to access online average wastewater generation factors. <li>- The Project will be required to pay sewer connection fee prior to LACSD issuing a permit for sewer connection. <li>- The capacities of the LACSD's wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Expansions of LACSD's facilities must be sized and service phased in a manner that is consistent with the SCAG regional growth forecasts. The available capacity of the LACSD treatment facilities is therefore limited to levels associated with the approved growth identified by SCAG. 	<ul style="list-style-type: none"> <li>- Subsection 4.13, <i>Utilities and Service Systems</i> <li>- Subsection 4.13, <i>Utilities and Service Systems</i> <li>- Subsection 4.13, <i>Utilities and Service Systems</i> <li>- Subsection 4.13, <i>Utilities and Service Systems</i>
Lozeau Drury LLP	April 17, 2018	<ul style="list-style-type: none"> <li>- Request to receive notices of CEQA actions and notices of any public hearings related to the Project. 	<ul style="list-style-type: none"> <li>- Lozeau Drury LLP is included on the mailing list for notices related to this EIR. No analysis necessary.
Native American Heritage Commission (NAHC)	April 5, 2018	<ul style="list-style-type: none"> <li>- Draft EIR should address AB 52 and SB 18. Recommended conducting a cultural resources assessment that includes consultation with the regional California Historical Research Information System (CHRIS) Center, an archaeological inventory survey (if necessary), consultation with the NAHC regarding a Sacred Lands File search, and mitigation measures that address unknown archaeological resources that may be encountered during grading activities. 	<ul style="list-style-type: none"> <li>- Subsection 4.12, <i>Tribal Cultural Resources</i>



COMMENTER	DATE	COMMENTS	LOCATION IN EIR WHERE COMMENT IS ADDRESSED
Southern California Association of Governments (SCAG)	May 2, 2018	- SCAG requests to receive the Project's EIR once it is available.	- SCAG is included on the mailing list for notices related to this EIR. No analysis necessary.
		- SCAG provides the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) goals which may be applicable to the Project and encourages inclusion of a side-by-side consistency analysis in the EIR.	- Subsection 4.8, <i>Land Use and Planning</i>
		- SCAG provides population, households, and employment growth forecasts for the SCAG region and City of Irwindale.	- Subsection 4.8, <i>Land Use and Planning</i> , and Section 5.0, <i>Other CEQA Considerations</i>
		- Recommendation to review the Final Program EIR for the 2016 RTP/SCS for guidance when preparing and adopting performance standards-based mitigation measures.	- Section 7.0, <i>References</i> . No analysis necessary.
South Coast Air Quality Management District (SCAQMD)	May 1, 2018	- Requests to receive the Project's EIR (including technical appendices) when available.	- SCAQMD is included on the mailing list for notices related to this EIR. No analysis necessary.
		- Recommendation to use the SCAQMD's CEQA Air Quality Handbook (1993) when preparing the air quality analysis.	- Subsection 4.2, <i>Air Quality</i> , and Subsection 4.5, <i>Greenhouse Gas Emissions</i>
		- Recommendation to use the CalEEMod land use emissions software when preparing the air quality analysis.	- Subsection 4.2, <i>Air Quality</i> , and Subsection 4.5, <i>Greenhouse Gas Emissions</i>
		- Request to identify any potential adverse air quality impacts that could occur from all phases of the Project (including construction and operation) and all air pollutant sources related to the Project.	- Subsection 4.2, <i>Air Quality</i> , and Subsection 4.5, <i>Greenhouse Gas Emissions</i>
		- Request to quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds. Additional request to calculate localized air	- Subsection 4.2, <i>Air Quality</i>



COMMENTS	DATE	COMMENTS	LOCATION IN EIR WHERE COMMENT IS ADDRESSED
		quality impacts and compare the results to localized significance thresholds (LSTs).	
		- Recommendation to perform a mobile source health risk assessment.	- Subsection 4.2, <i>Air Quality</i>
		- For estimating truck-related emissions from high-cube warehouse projects, recommendation to use truck trip rates from the Institute of Transportation Engineers (ITE) or to use a non-default trip rate if there is substantial evidence supporting another rate is more appropriate for the air quality analysis.	- Subsection 4.2, <i>Air Quality</i> , and Subsection 4.11, <i>Transportation</i>
		- In the event that significant adverse air quality impacts are identified, SCAQMD recommends consulting several information sources for mitigation measures.	- Subsection 4.2, <i>Air Quality</i> , and Subsection 4.6, <i>Hazards and Hazardous Materials</i>
		- SCAQMD lists several mitigation measures for the Lead Agency to consider to reduce air quality impacts from operational mobile and area source emissions.	- Subsection 4.2, <i>Air Quality</i> , and Subsection 4.5, <i>Greenhouse Gas Emissions</i>

No comments were received at the EIR Scoping Meeting held at the Irwindale Community Center on April 26, 2018.

1.6.2 EIR FORMAT AND CONTENT

This 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). CEQA requires that an EIR contain, at a minimum, certain specified content. Table 1-2, *Location of CEQA-Required Topics*, provides a quick reference in locating the CEQA-required sections within this document.

Table 1-2 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



CEQA REQUIRED TOPIC	CEQA GUIDELINES REFERENCE	LOCATION IN THIS EIR
Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented	§15126.2(b)	Section 4.0
Significant Irreversible Environmental Changes Which Would be Caused by the Proposed Project Should it be Implemented	§15126.2(c)	Subsection 5.1
Growth-Inducing Impact of the Proposed Project	§15126.2(d)	Subsection 5.2
Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects	§15126.4	Sections 4.1 thru 4.12 & 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 & Technical Appendices
Discussion of Cumulative Impacts	§15130	Section 4.0
Energy	§21100(b)(3) of PRC and Appendix F, CEQA Guidelines	Subsection 4.3

In summary, the content and format of this EIR is as follows:

- **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 and identifies the potential alternatives to the proposed Project as required by CEQA. Finally, the Executive Summary provides a summary of the Project’s impacts, mitigation measures, and conclusions, including a table to be used as the basis of the Project’s Mitigation, Monitoring, and Reporting Program (MMRP).
- **Section 1.0, Introduction**, provides introductory information about the CEQA process and the responsibilities of the City of Irwindale, serving as the Lead Agency for this EIR.
- **Section 2.0, Environmental Setting**, describes the environmental setting, including descriptions of the Project site’s physical conditions and surrounding context used as the baseline for analysis in this EIR.
- **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.



- **Section 4.0, Environmental Analysis**, provides an analysis of potential direct, indirect, and cumulative impacts that may occur with implementation of the proposed Project. A conclusion concerning significance is reached for each discussion; 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 identify 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 implementation of the proposed Project. The analyses 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 cited in Section 7.0, *References*. Where the analysis demonstrates that an adverse physical environmental effect may or would occur without undue speculation, feasible mitigation measures are recommended to reduce or avoid the significant effect. In most cases, implementation of the mitigation measures would reduce the adverse environmental impact 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 would need to be adopted by the City of Irwindale 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; and potential growth-inducing aspects of the proposed Project. Section 5.0 also includes a discussion of the potential environmental effects that were found not be significant during this EIR’s Initial Study and NOP process and that, therefore, do not require a detailed evaluation in this EIR.
- **Section 6.0, Project Alternatives**, describes and evaluates alternatives to the proposed Project that could reduce or avoid the Project’s significant 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, including the CEQA-required No Project Alternative, are evaluated in detail 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 in preparing this EIR. Section 7.0 also lists the persons who authored or participated in preparing this EIR.



- **Technical Appendices.** 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.” 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 Irwindale, Planning Division, 16102 Arrow Highway, Irwindale, CA 91706, during the City’s regular business hours or can be requested in electronic form by contacting the City Planning Department. The individual technical studies, reports, and supporting documentation that comprise the Technical Appendices are as follows:

- A: Initial Study, Notice of Preparation, and Written Comments on the NOP
- B1: Air Quality Impact Analysis
- B2: Mobile Source Health Risk Assessment
- B3: Supplemental Air Quality Assessment
- C: Energy Analysis
- D: Geotechnical Report
- E: Greenhouse Gas Emissions Analysis
- F: Phase I Environmental Site Assessment (ESA)
- G1: Preliminary Hydrology Report
- G2: Low Impact Development (LID)
- H: Noise Impact Analysis
- I1: Traffic Impact Analysis
- I2: Traffic Access Evaluation Memorandum
- J1: Water Supply Assessment
- J2: Water Supply Well Technical Memorandum
- J3: Sewer Area Study
- K: Biological Resources Letter Report
- L: Cultural Resources Record Search
- M: Fiscal & Economic Impacts Summary Memorandum
- N: Written Correspondence

- **Documents Incorporated by Reference.** 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.” Documents, analyses, and reports that are incorporated into this EIR by reference are listed in Section 7.0, *References*, of this EIR. The purpose of incorporation by reference is to assist the Lead Agency in limiting the length of an 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.



2.0 ENVIRONMENTAL SETTING

2.1 REGIONAL SETTING AND LOCATION

The approximately 78.3-acre Project site is located at the street addresses of 1200, 1220, and 1270 Arrow Highway in the City of Irwindale, California. The City of Irwindale is located approximately 14.5 miles northeast of downtown Los Angeles in eastern Los Angeles County, in an area known as the San Gabriel Valley. Los Angeles County abuts Orange County to the south, San Bernardino County to the east, Kern County to the north, and Ventura County to the northwest. The Project site's location in a regional context is shown on Figure 2-1, *Regional Map*.

The greater Los Angeles area is the second largest metropolitan region in the United States. Los Angeles County encompasses approximately 4,752 square miles with an estimated population of approximately 10.14 million residents in 2016 (USCB, 2016). Based on calculations by the Southern California Association of Governments (SCAG), Los Angeles County is projected to grow to approximately 11.51 million residents by the year 2040, an approximate 1.38 million person increase from 2016 (SCAG, 2016, p. 51). The ports of LA/Long Beach are located approximately 27.7 miles southwest of the Project site and are the largest water ports in the country, handling approximately 40% of port container traffic throughout the United States.

2.2 LOCAL SETTING AND LOCATION

Figure 2-2, *Vicinity Map*, shows the specific location of the Project site. The Project site is located north of Live Oak Avenue; east of the intersection of Live Oak Avenue and Arrow Highway; south of Arrow Highway; and west of the Interstate 605 (I-605) Freeway. Interstate 210 (I-210) is located approximately 1.5 miles to the north of the Project site and Interstate 10 (I-10) is located approximately 2.9 miles to the south of the Project site. The Project site encompasses Assessor's Parcel Numbers (APNs) 8532-001-002, 8532-001-006, and 8532-001-900.

2.3 SURROUNDING LAND USES AND DEVELOPMENT

Figure 2-3, *Surrounding Land Uses and Development*, depicts the existing land uses and land use designations in the vicinity of the Project site. The surrounding land uses are described below.

North: To the north of the Project site is Arrow Highway (east-west orientation) and Avenida Barbosa (north-south orientation). Aggregate materials mining and processing operations (operated by United Rock Products, Blue Diamond Materials, and Sully-Miller Contracting) are located north of Arrow Highway. Beyond the aggregate mining operations are automobile wrecking and parts storage operations, commercial/industrial buildings, an additional mining site, and residential land uses within the jurisdictions of the County of Los Angeles, City of Duarte, and City of Monrovia. A large open space area containing flood control features and electric power transmission lines is located approximately 950 feet to the northeast of the Project site. (Google Earth Pro, 2018)

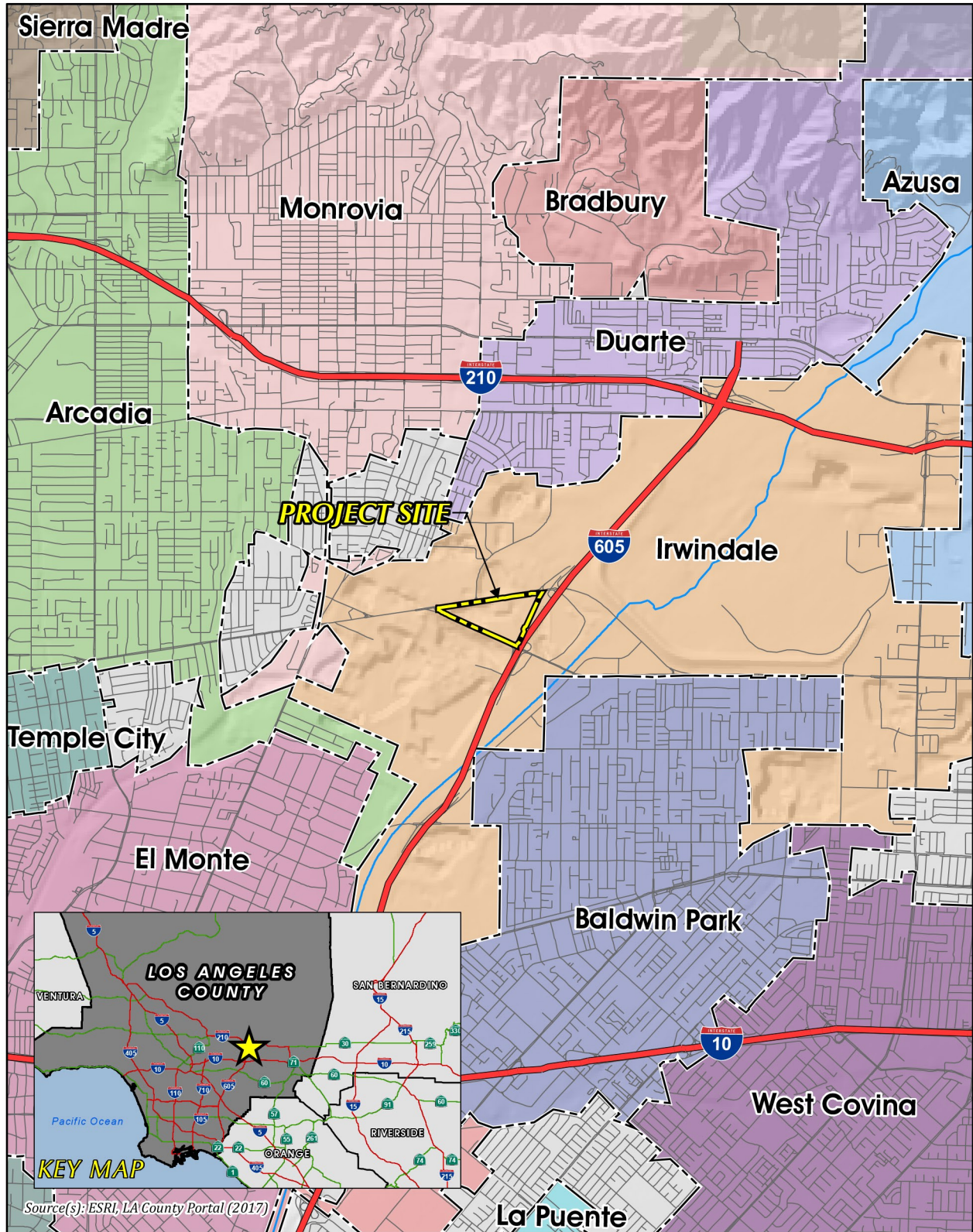
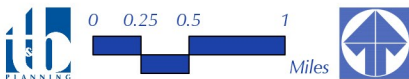


Figure 2-1



REGIONAL MAP

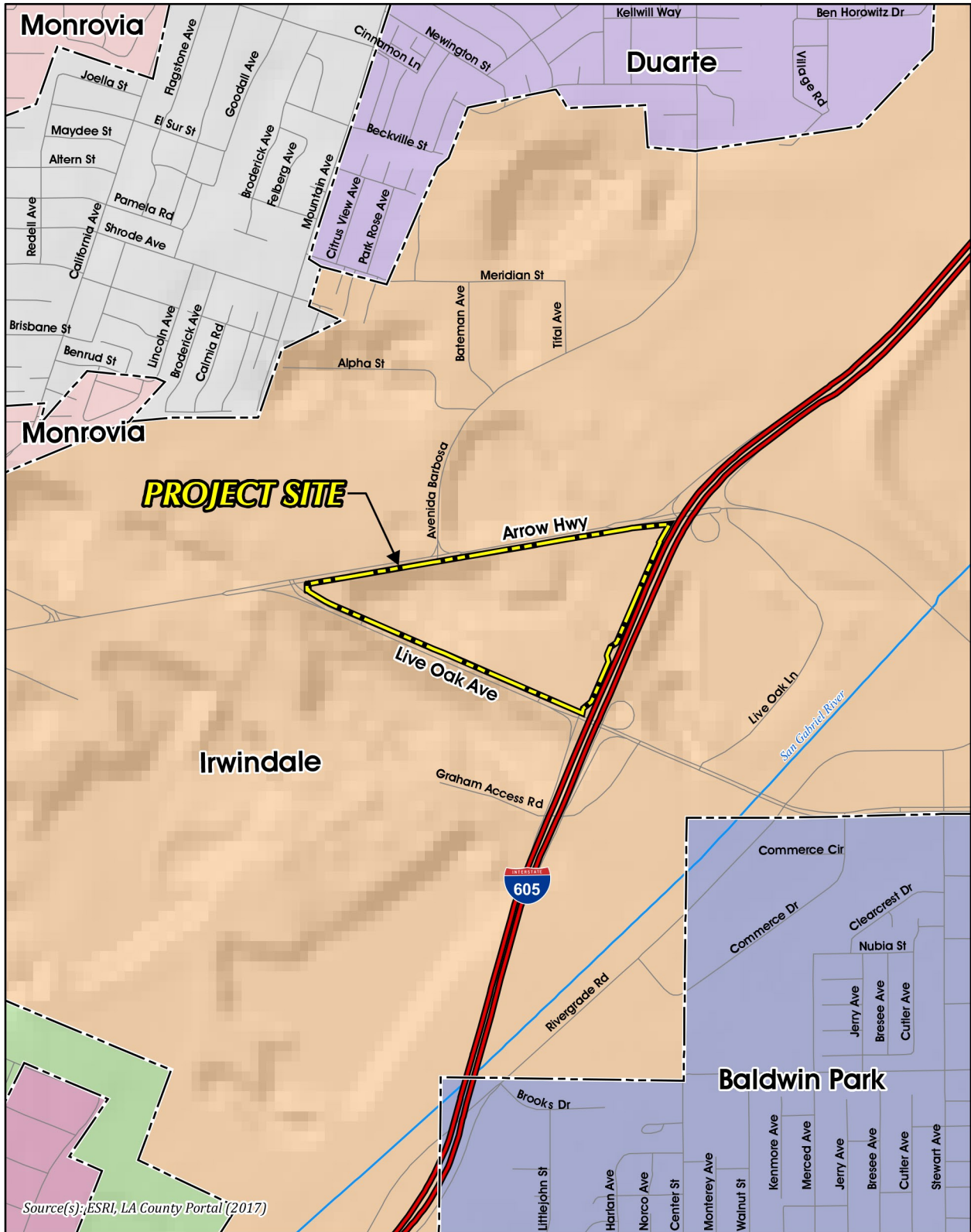
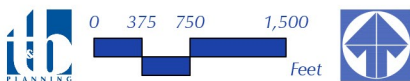


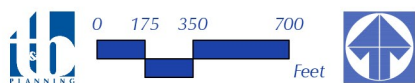
Figure 2-2



VICINITY MAP



Figure 2-3



SURROUNDING LAND USES AND DEVELOPMENT



- East: I-605, which is part of the state highway system, abuts the Project site to the east. East of I-605 are trailer truck storage yards, the NuWay landfill, a concrete ready-mix operation, an asphalt plant, and various other commercial and industrial uses. The San Gabriel River and San Gabriel River Trail are located approximately 1,700 feet to the southeast of the Project site, beyond which are additional commercial/industrial land uses. Approximately 2,700 feet to the east of the Project site are the Santa Fe Dam and Santa Fe Dam Recreation Area, which serve flood control and active and passive recreational purposes. (Google Earth Pro, 2018)
- South: Live Oak Avenue abuts the southern Project site boundary. Immediately south of Live Oak Avenue is the Irwindale Events Center, which is home to the Irwindale Speedway. Immediately south of Irwindale Events Center are the Hansen aggregate material quarry and an additional mining site. Located to the southwest of the Project site are freight logistics operations including a fueling station and the Peck Road gravel pit. Various commercial and industrial operations and residential land uses within the City of El Monte are located farther to the southwest beyond the Peck Road gravel pit. (Google Earth Pro, 2018)
- West: Immediately to the west of the Project site is the intersection of Live Oak Avenue and Arrow Highway. Farther to the west along Live Oak Avenue are freight logistics operations, a ready-mix concrete plant, trailer truck storage, and construction material/equipment storage yards. An aggregate materials mining and processing site (operated by United Rock Products, Blue Diamond Materials, and Sully-Miller Contracting) is located northwest of the Project site, beyond which are a telecommunications facility and a concrete plant operated by Holliday Rock Company, Inc. (Google Earth Pro, 2018)

2.4 PLANNING CONTEXT

Provided in this Subsection is a description of the Project site's land use designations, as applied by planning documents adopted by the City of Irwindale. On a broader, regional level, the applicable regional planning document is the SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is discussed below.

2.4.1 SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS REGIONAL TRANSPORTATION PLAN

SCAG is a Joint Powers Authority (JPA) under California state law, established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. Under federal law, SCAG is designated as a Metropolitan Planning Organization (MPO) and under state law as a Regional Transportation Planning Agency and a Council of Governments. The SCAG region encompasses six (6) counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura) and 191 cities in an area covering more than 38,000 square miles. SCAG develops long-range regional transportation plans including a Sustainable Communities Strategy and growth forecasts, regional transportation improvement programs, regional housing needs allocations and other plans for the region (SCAG, 2017).



As an MPO and public agency, SCAG develops transportation and housing plans that transcend jurisdictional boundaries and affect the quality of life for Southern Californian as a whole. SCAG's 2016-2040 RTP/SCS includes a subsection and appendix titled "Goods Movement." The goods movement elements of the SCAG 2016-2040 RTP/SCS are applicable to the Project because the Project Applicant proposes an industrial/commercial business park in the SCAG region that would allow for the development of buildings that could accommodate industrial, distribution warehousing, and e-commerce fulfillment center tenants. The SCAG 2016-2040 RTP/SCS states that the SCAG region hosts one of the largest clusters of logistics activity in North America (SCAG, 2016, p. 35). Logistics activities, and the jobs that go with them, depend on a network of warehousing and distribution facilities, highway and rail connections, and intermodal rail yards.

According to SCAG's Comprehensive Regional Goods Movement Plan and Implementation Strategy, the SCAG region will run out of suitably zoned vacant land designated for warehouse facilities in about the year 2028 (SCAG, 2013, p. 4-39). At that time, forecasts show that the demand for warehousing space will be over one billion square feet. Unless other land not currently zoned for warehousing becomes available, SCAG forecasts that by year 2035 a shortfall of 227 million square feet of industrial warehouse space will occur (SCAG, 2013, p. 4-39). As the availability of vacant locations for industrial/warehousing facilities near the ports reach capacity, the demand will shift inland to the regions that have the vacant land and infrastructure to accommodate such land uses. SCAG reports that Los Angeles County contains the third largest share of undeveloped space suitable for potential industrial warehouse development within the SCAG region. (SCAG, 2013, p. 3-34)

2.4.2 CITY OF IRWINDALE GENERAL PLAN

The City of Irwindale's prevailing planning document is its 2020 General Plan, dated June 2008 (Housing Element updated in July 2013). As depicted on Figure 2-4, *Existing General Plan Land Use Designations*, the City's General Plan designates the Project site for "Regional Commercial" land uses. The "Regional Commercial" designation provides for a balanced mix of commercial, office professional, and light manufacturing uses along a number of high-visibility traffic corridors (City of Irwindale, 2008). According to Table 2-7 of the Irwindale General Plan, a new zoning district is required to support the uses specified allowed under the "Regional Commercial" General Plan land use designation (City of Irwindale, 2008, Table 2-7).

2.4.3 CITY OF IRWINDALE ZONING

As shown on Figure 2-5, *Existing Zoning Classifications*, and pursuant to the City of Irwindale Zoning Map, the eastern portion of the Project site is zoned "Heavy Manufacturing (M-2)" and the western portion of the Project site is zoned "Quarry Overlay Zone (Q)" (City of Irwindale, n.d.). Developments within the M-2 zone are subject to the standards set forth in the City of Irwindale Municipal Code, Title 17, Chapter 17.56, *M-2 Heavy Manufacturing Zone*, while developments within the Q zone are subject to the standards set forth in the City of Irwindale Municipal Code, Title 17, Chapter 17.60, *Q Quarry Overlay Zone*. M-2 zoning allows for a variety of permitted and conditionally permitted uses including but not limited to manufacturing, while Q zoning allows for a variety of conditionally permitted uses including but not limited to quarry and manufacturing uses. Quarries are a permitted

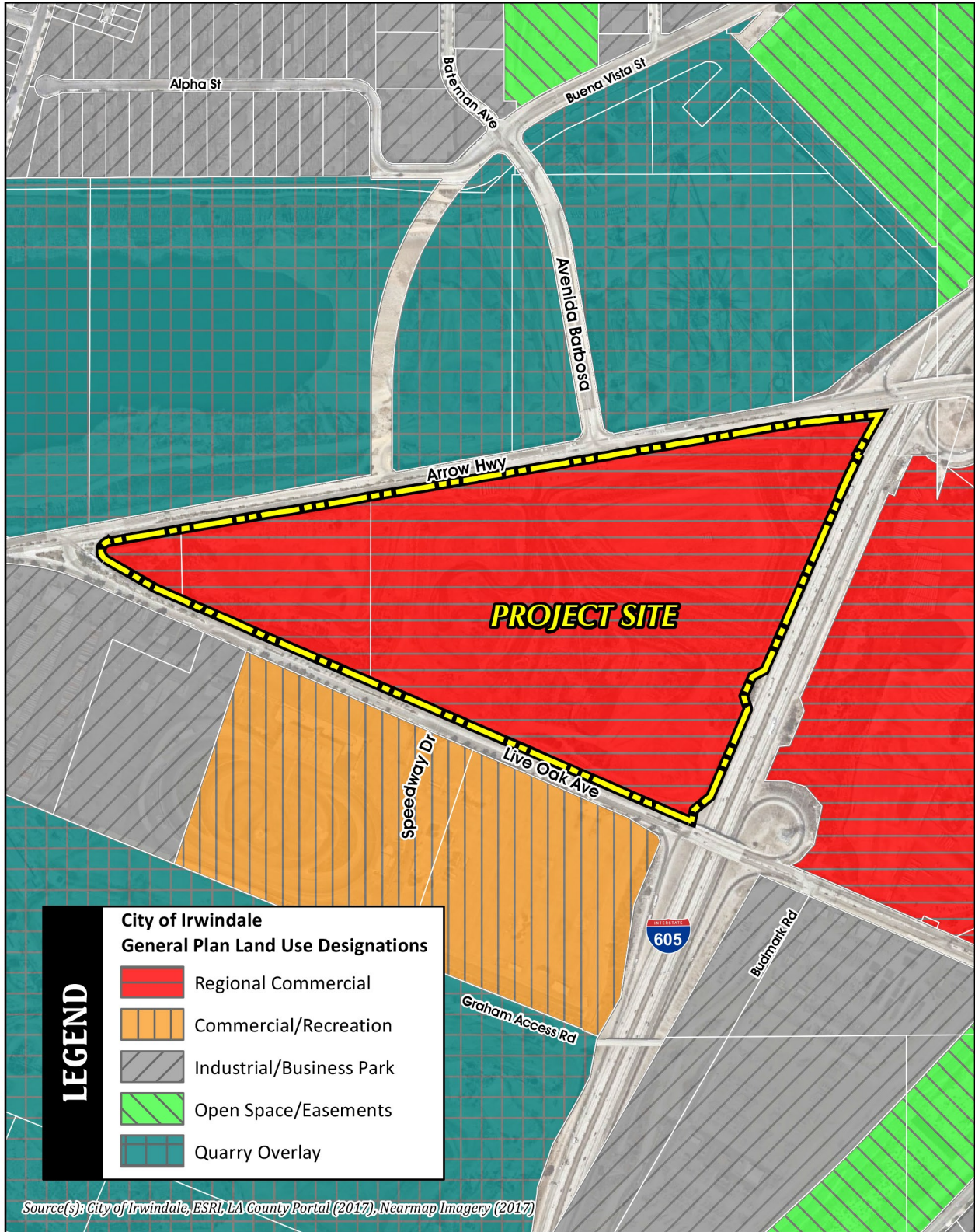
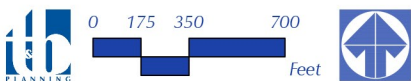


Figure 2-4



EXISTING GENERAL PLAN LAND USE DESIGNATIONS

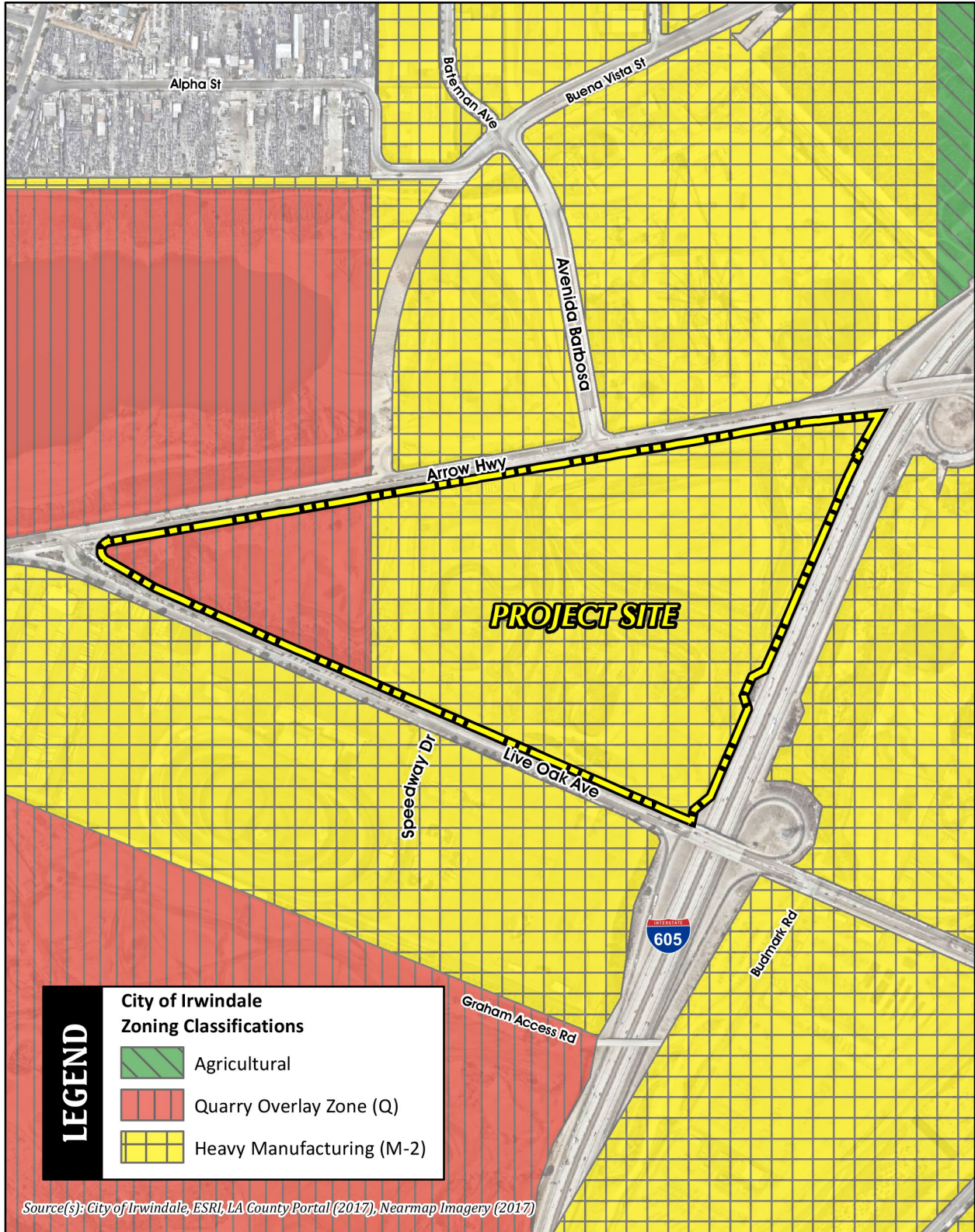
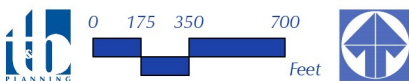


Figure 2-5



EXISTING ZONING CLASSIFICATIONS



use within the M-2 and Q zones with an approved conditional use permit (CUP) pursuant to subpart 33 of Section 17.56.020 of the Irwindale Municipal Code. Refer to the Irwindale Municipal Code Title 17, Chapter 17.56, Section 17.56.020 “Permitted Uses” and Title 17, Chapter 17.60, Section 17.60.010 “Uses requiring a conditional use permit.” (City of Irwindale, 2018)

2.5 EXISTING PHYSICAL SITE CONDITIONS

2.5.1 DEFINITION OF EXISTING CONDITIONS

The Project site is a former sand and gravel quarry that operated from approximately 1960 to 2002. When mining operations ceased in 2002, the depleted quarry pits extended down to maximum depths of approximately 170 feet below ground surface (bgs) (HD Geosolutions, Inc., 2018, p. 3). Over the course of the active quarry life, approximately 10 million cubic yards (c.y.) of material were extracted. As of April 2018, approximately 7.7 million c.y. of inert materials had been placed back into the former quarry pit as part of the property’s reclamation process to accommodate an end use (HD Geosolutions, Inc., 2018, p. 5).

Currently, approximately 77.1 acres of the 78.3-acre Project site is under an active reclamation process involving an IDEFO. An IDEFO is a fill operation where inert debris consisting of clean dirt, concrete, and brick is placed into the quarry to raise it to natural grade, upon which an end use can be developed. A small triangular-shaped area at the northwestern tip of the Project site, approximately 1.2 acres near the intersection of Live Oak Avenue and Arrow Highway, was not mined and is not part of the IDEFO. The IDEFO is permitted by City of Irwindale Grading Permit No. 05061504220003, issued on November 16, 2016, (City of Irwindale, 2016) and is covered by a Stormwater Pollution Prevention Plan (SWPPP) dated March 2017 (DEA, 2017) and an Operations Plan dated March 21, 2017 (Arcadia Reclamation Inc., 2017) which allow for reclamation of the site through the placement of approximately 2.5 million cubic yards of fill material. Reclamation of the site as authorized by Grading Permit No. 05061504220003 and the associated SWPPP and Operations Plan is an existing, permitted activity and is not subject to evaluation in this EIR. Project-related construction activities cannot feasibly commence on any of the former sand/gravel quarry portions of site that are subject to reclamation until such a time that reclamation and grading activities (as authorized by Grading Permit No. 05061504220003) on those portions of the site to be developed have resulted in the completion of a level building pad(s) suitable for development with only limited (i.e., “precise”) grading required to accommodate development.

CEQA normally requires Lead Agencies to define the environmental baseline conditions (“existing conditions”) as the conditions existing at the time a Notice of Preparation (NOP) is prepared for an EIR (i.e., April 2, 2018 for the proposed Project), unless substantial evidence is presented to justify the use of a different baseline (CEQA Guidelines §15125(a)). In the case of the proposed Project, the Project site is undergoing continual physical change as part of its mine reclamation process pursuant to City of Irwindale Grading Permit No. 05061504220003, issued on November 16, 2016, and the associated SWPPP and Operations Plan.



The environmental baseline for purposes of this EIR is set at the NOP issuance date of April 2, 2018, but this EIR recognizes that the property is, and will continue for some time, to be in a constant state of physical change associated with mine reclamation activities. The continued filling of the quarry is not a part of the proposed Project evaluated in this EIR. The Project evaluated in this EIR consists of the construction and operation of the proposed end use as an industrial and commercial business park. The construction of an end use on the Project site cannot feasibly occur as proposed on any portion of the site until such a time that level development pads are established; the approved City of Irwindale Grading Permit No. 05061504220003 provides the means for achieving level development pads on the property. Additionally, the former mine operator was required to provide financial assurance to the City of Irwindale that reclamation activities will be completed on the site as permitted by the Grading Permit. Therefore, this EIR is not required to evaluate the continued filling of the quarry because doing so would be misleading in terms of evaluating the proposed Project, and without informative value to decision-makers and the public (CEQA Guidelines §15125(a)(1) and (2)). This EIR evaluates only the Project that is proposed, which is the establishment of an end use of the site after reclamation activities are complete.

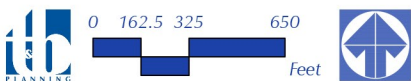
2.5.2 LAND USE

A sand and gravel quarry operated on the Project site from approximately 1960 to 2002 and the majority of the Project site (central and westerly portions) now operates as an IDEFO as part of the site's reclamation process while the remaining smaller northeast portion of the Project site is used by Cal-Blend for processing mulch, sediment, and other organics. The surrounding area, as described previously under Subsection 2.3, is characterized by a mix of residential, quarry, and industrial/commercial land uses. The I-605 Freeway abuts the Project site to the east.

Figure 2-6, *Aerial Photograph*, is an aerial image of the Project site and the surrounding area that was taken in 2017. As depicted in Figure 2-6, with the exception of the fringes of the property, the entire Project site is disturbed by the IDEFO. Vehicles enter and exit the site at a gated driveway that connects with Arrow Highway located at the approximate mid-point of the northern Project site boundary. Additionally, the site-specific Phase I Environmental Site Assessment (ESA) (EIR *Technical Appendix F*) included a site reconnaissance conducted in January 2018 during which the following observations were made: stockpiled fill on the central and easterly portions of the Project site, a Cal-Blend mulch processing operation on the easternmost portion of the Project site, two (2) groundwater monitoring wells on the southerly Project site boundary, a water supply well for dust control and maintaining proper moisture levels in the fill, and temporary equipment (i.e., heavy equipment, water storage towers, and trailers) related to the ongoing IDEFO at the Project site. Berms and chain link fencing occur along the Project site boundaries. Four (4) billboards are located on the eastern portion of the site and are visible from the I-605 Freeway. Except for the four (4) billboards that will remain on-site following completion of the IDEFO activities, the Project site will be an undeveloped vacant parcel prepared to accommodate an end-use.



Figure 2-6



AERIAL PHOTOGRAPH



2.5.3 AESTHETICS AND TOPOGRAPHIC FEATURES

Under existing conditions, the Project site's topography is under constant modification due to the on-going IDEFO activities. At the completion of mining activities in 2002, the elevation at the quarry pit located on the easterly portion of the Project site (formerly the "Nu-Way Arrow Pit") was approximately 230 feet amsl, while the elevation at the westerly quarry pit (formerly the "West Pit") was approximately 220 amsl (HD Geosolutions, Inc., 2018, p. 3). Current elevations (2018) at the non-quarry portions of the Project site, consisting of areas nearest to the property boundary on all sides and the westernmost portion of the Project site, range from approximately 380 feet amsl on the western portion of the Project site to approximately 420 feet amsl on the northeast portion of the Project site. Primarily due to the presence of the stockpile on the easterly portion of the Project site, the existing grade of the Project site is at a higher elevation compared to the I-605 Freeway that abuts the Project site to the east. According to the Grading Permit 05061504220003, upon completion of the IDEFO activities, the Project site's final grade will be approximately 400 feet amsl (Arcadia Reclamation Inc., 2017, p. 4; City of Irwindale, 2016).

The Project site is visible from the surrounding roadways, including Live Oak Avenue which abuts the southern Project boundary, Arrow Highway which abuts the northern Project boundary, and the I-105 Freeway which abuts the eastern Project boundary.

There are no unique topographic or aesthetic features present on the Project site such as rock outcroppings, hills, or cultural landmarks. Two (2) on-site quarry pits are in the process of being backfilled and manmade berms are located on the north, northeast, and eastern portions of the Project site as shown on Figure 2-7, *Oblique Angle Aerial Photograph*. Furthermore, four (4) evenly-spaced dual-faced static billboards are located along the easterly Project boundary and are visible from the I-605 Freeway. Pole-mounted overhead power lines also run along the easterly Project site boundary and are visible from the I-605 Freeway. An evenly-spaced row of ornamental trees occurs along the Project site's frontage with Arrow Highway. The majority of the Project site is visible from the I-605 Freeway that abuts the Project site to the east, with the exception of a large man-made berm located along the easterly Project site boundary which partially obscures views of the interior central portions of the Project site from the I-605 Freeway. Figure 2-8, *USGS Topographic Map*, depicts the Project site's topographic conditions as of 2013 (the most recent USGS topographic map available). Refer to EIR Subsections 4.1, *Aesthetics*, and 4.4, *Geology and Soils*, for a more thorough discussion of the Project site's existing topographic and aesthetic setting.

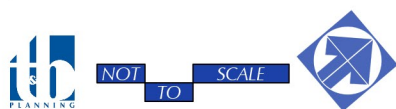
2.5.4 AIR QUALITY AND CLIMATE

The Project site is located in the 6,745-square-mile South Coast Air Basin (SCAB), which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD), the agency charged with bringing air quality in the SCAB into conformity with federal and state air quality standards. As documented in the Project's Air Quality Impact Analysis (EIR *Technical Appendix B1*), although the climate of the SCAB can be characterized



Source(s): Google Earth (2018)

Figure 2-7



Lead Agency: City of Irwindale

OBLIQUE ANGLE AERIAL PHOTOGRAPH

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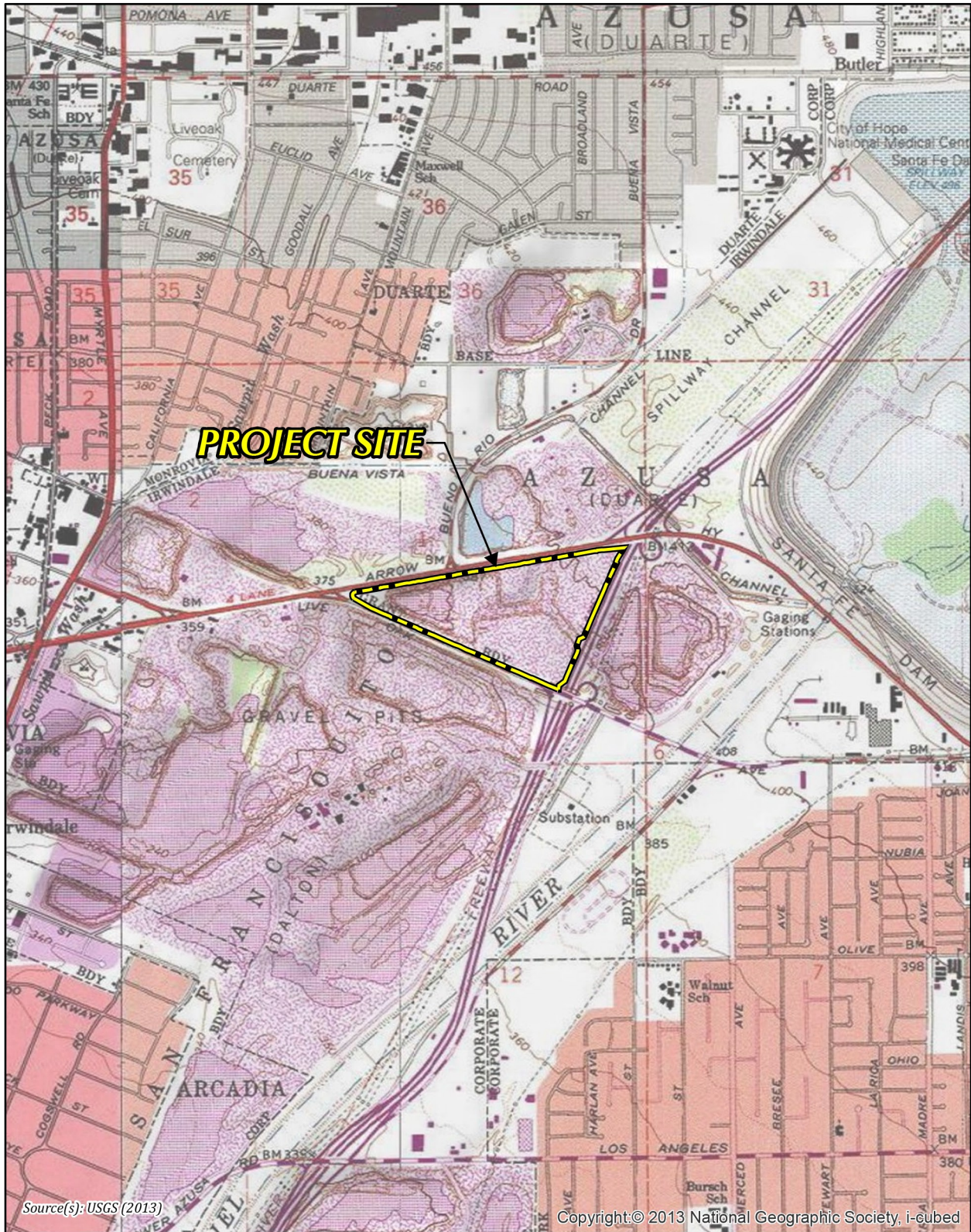
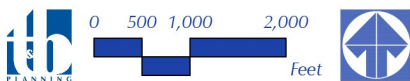


Figure 2-8



USGS TOPOGRAPHIC MAP



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 to sulfates 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 percent along the coast and 59 percent inland. The ocean effect is dominant; therefore, 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 percent of the SCAB's rainfall occurs from November through April. The annual average rainfall is 14 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. (Urban Crossroads, Inc., 2018a, p. 18)

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. (Urban Crossroads, Inc., 2018a, p. 18)

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. (Urban Crossroads, Inc., 2018a, p. 18)

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. (Urban Crossroads, Inc., 2018a, p. 18)

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 on-shore 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. (Urban Crossroads, Inc., 2018a, p. 19)

The SCAQMD monitors levels of various criteria pollutants at 38 permanent monitoring stations and 5 single-pollutant source lead (Pb) air monitoring sites throughout the air district. In 2015, the federal and state ambient air quality standards (NAAQS and CAAQS) were exceeded on one or more days for ozone, particulate matter ≤ 10 microns (PM₁₀), and particulate matter ≤ 2.5 microns (PM_{2.5}) at most monitoring locations. No areas of the SCAB exceeded federal or state standards for nitrogen dioxide (NO₂), sulfur dioxide (SO₂), CO, sulfates or lead. Relative to the Project site, the nearest long-term air quality monitoring site for CO, ozone (O₃), NO₂, PM₁₀, and PM_{2.5} was obtained from the East San Gabriel Valley 1 monitoring station (SRA 9), located approximately 3.45 miles northeast of the Project site in Azusa. (Urban Crossroads, Inc., 2018a, p. 22)

Refer to EIR Subsections 4.2, *Air Quality*, and 4.5, *Greenhouse Gas Emissions*, for a more thorough discussion of the Project site's existing air quality and climate setting.

2.5.5 BIOLOGICAL RESOURCES

The Project site has been extensively altered as a result of the prior operation of the gravel/sand quarry and subsequent IDEFO activities, and the majority of the Project site contains bare ground/developed land actively undergoing a mine reclamation process. Thus, the Project site contains very few biological resources. Helix Environmental Planning, Inc. (Helix) performed a literature review and a general biological survey/focused special-status plant survey of the Project site on March 6, 2018 and September 4, 2018, the results of which are discussed in detail in the Biological Resources Letter Report (EIR *Technical Appendix K*). As shown in Table 2-1, *Existing Vegetation Communities and Land Uses*, below, Helix identified a total of five (5) vegetation communities or land uses on the Project site, including disturbed, disturbed/buckwheat scrub, non-native vegetation, ornamental, and developed. As shown in Table 2-1 and discussed in EIR *Technical Appendix K*, the Project site predominantly contains disturbed vegetation communities/land uses, which is characterized as mostly unvegetated except for several plant species with a high tolerance for disturbance, such as Russian thistle (*Salsola tragus*), scale-broom (*Lepidospartum squamatum*), hairy yerba santa (*Eriodictyon trichocalyx var. trichocalyx*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), and shortpod mustard (*Hirschfeldia incana*). The San Gabriel River is located approximately 1,700 feet to the southeast of the Project site on the opposite side of the I-605 Freeway and would not be affected by the proposed Project. Helix did not identify any drainage features, wetlands, or other special aquatic sites on the Project site during the general biological survey performed at the Project site on March 6, 2018. Furthermore, Helix did not identify any special-status animal species (those listed or candidate listed as federally threatened or endangered by United States Fish and Wildlife Service [USFWS]; and/or state listed or candidate listed as threatened or endangered or considered species of special concern [SSC] by the California Department of Fish and Wildlife [CDFW]) at the Project site, nor are any



expected to occur at the Project site. The Project site is not located within any USFWS-designated critical habitat. Complete lists of the plant and animal species observed during the general biological survey performed at the Project site are provided in Attachments A and B of EIR *Technical Appendix K*, respectively. (Helix, 2018, pp. 1-6)

Table 2-1 Existing Vegetation Communities and Land Uses

Communities	Acres
Disturbed	56.98
Disturbed/California Buckwheat Scrub	1.07
Non-native Vegetation	14.21
Ornamental	0.90
Developed	5.30
TOTAL	78.46

Source: (Helix, 2018, Table 1)

2.5.6 GEOLOGY

The Project site is located in the central San Gabriel Valley, just west of the San Gabriel River. The valley is bordered by the San Gabriel Mountains on the north, the San Jose Hills to the east, the Puente Hills on the south, and on the west by the San Rafael and Repetto Hills. The valley sediment consists primarily of fans shed southward from the San Gabriel Mountains, and to a lesser degree from the other nearby ranges. Coarser materials are contained in broad fans below larger mountain drainages and in channels defined along the major drainages including the San Gabriel and Rio Hondo. (HD Geosolutions, Inc., 2018, p. 11)

With the exception of a linear areas along the Project boundary that were not subject to mining activities, a majority of the site consists of engineered fill (i.e., IDEFO material) at a depth of 0 to approximately 170 feet below ground surface (bgs) that is surrounded and underlain by alluvium to an unknown depth. Inert debris placed at the site has included clean soil, rock, gravel, broken concrete, glass, ceramic, brick, and broken asphalt (to be placed 10 feet above the highest anticipated groundwater level). Rubble was processed and stripped of steel prior to placement as engineered fill. Asphalt-containing materials were placed above 318 feet amsl, which is the highest anticipated groundwater level. A licensed geologist conducts monitoring of the IDEFO operation to observe and document the contents and characteristics of the fill. Various geotechnical consultants have monitored backfill operations at the Project site since 2002 (including HD Geosolutions from 2016 onward) and their monitoring reports are on file with the City of Irwindale; the reports certify that the fill operation has occurred and is occurring in accordance with the property’s approved Operations Plan (Arcadia Reclamation Inc., 2017).

Southern California is a seismically active region and there are multiple faults located in the vicinity of the Project site. Based on the active and potentially active faults in the region, the Project site could be subjected to substantial ground shaking in the event of an earthquake. This hazard is common to southern California and is not unique to the Project site (HD Geosolutions, Inc., 2018, p. 18). Based



on geotechnical investigations conducted at the Project site, there are no traces of surface fault rupture, and no geologic constraints associated with seismic hazards such as liquefaction, mudslides, or landslides. The inert materials that have been placed in the former quarry pit area have been engineered and layered to provide stable conditions, in anticipation of future development. (HD Geosolutions, Inc., 2018, pp. 14-20)

Refer to EIR Subsection 4.4, *Geology and Soils*, for a more thorough discussion of the Project site's existing geologic setting. The Project's Geotechnical Report is included with this EIR as *Technical Appendix D*.

2.5.7 HAZARDS AND HAZARDOUS MATERIALS

As a result of the mining activity on the Project site, the surface was excavated to a maximum depth of approximately 160 to 170 feet deep, and has since been filled with inert (chemically inactive) debris (HD Geosolutions, Inc., 2018, p. 3). The fill material consists of clean soil, rock, gravel, broken concrete, broken asphalt, glass, brick, and ceramics, which are not classified as hazardous materials. Under existing conditions, there are no activities on the property that involve the transport, use, storage, generation or disposal of hazardous materials, except for minor quantities of flammable fuels that are within the fuel tanks of the trucks and debris handling machinery on the Project site. There are no underground fuel storage tanks at the site.

Refer to EIR Subsection 4.6, *Hazards and Hazardous Materials*, for a more thorough discussion of the Project site's existing conditions related to hazardous materials. The site-specific Phase I Environmental Site Assessment (ESA) is included with this EIR as *Technical Appendix F*.

2.5.8 HYDROLOGY AND WATER QUALITY

The Project site is currently being backfilled and operating as an inert landfill under the City-approved Operation Plan (Arcadia Reclamation Inc., 2017), and a majority of the site is generally lower in elevation than the adjacent areas. Areas previously subject to mining activities do not have positive drainage to any adjacent facilities. Under existing conditions, there are no impervious surfaces that have the potential to generate increased amounts of runoff during a rainstorm. The existing public storm drain system (MTD # 1595) to which the Project site is tributary is located beneath Live Oak Avenue and Arrow Highway and conveys storm water runoff westward where it ultimately discharges to the Los Angeles Flood Control District-owned Sawpit Wash channel, located approximately 0.7 mile to the west of the Project site (D&D Engineering, Inc., 2019, p. 3). The San Gabriel River is located approximately 0.3 mile to the southeast of the Project site (Google Earth Pro, 2018).

Groundwater storage in the San Gabriel Valley groundwater basin occurs primarily in two water-bearing units. These include the alluvial valley sediments and the underlying Fernando Formation. The groundwater basin is bounded on the north by the Raymond fault and the basement complex of the San Gabriel Mountains, on the west and south by the Repetto and Puente Hills, and on the east by the Chino and San Jose faults. The bulk of the groundwater in the basin is contained in the unconsolidated to semi-consolidated alluvial aquifer under unconfined conditions. It is anticipated that future high



groundwater depths at the Project site range from approximately 60 to 70 feet below the future grade at the completion of reclamation activities. (HD Geosolutions, Inc., 2018, pp. 13-18)

Refer to EIR Subsection 4.7, *Hydrology and Water Quality*, for a more thorough discussion of the Project site's existing hydrological setting. The Project-specific Preliminary Hydrology Report is included with this EIR as *Technical Appendix G1*.

2.5.9 NOISE

The primary source of noise in the Project site's vicinity is vehicle noise from the arterial roadway and highway network (primarily the I-605 Freeway, Arrow Highway, and Live Oak Avenue), as well as stationary-source noise associated with surrounding existing quarry and industrial uses. To determine the acoustical noise setting on the site and in the immediately surrounding area, 24-hour noise measurements were taken in the study area by Urban Crossroads Inc., at eight (8) locations on a typical weekend (Thursday August 24, 2017). IDEFO reclamation activities were occurring on the Project site at the time of the noise measurements. Measured hourly noise levels ranged from 43.0 to 80.1 decibels (dBA Leq), resulting in Community Noise Equivalent Noise Levels (CNELs) ranging from 52.6 dBA CNEL to 83.8 dBA CNEL. (Urban Crossroads, Inc., 2018e, pp. 25-28)

Refer to EIR Subsection 4.9, *Noise*, for a more thorough discussion of the Project site's existing noise setting. The Project-specific Noise Impact Analysis is included as EIR *Technical Appendix H*.

2.5.10 TRANSPORTATION

Major regional travel routes in the vicinity of the Project site include the I-605 Freeway, I-10 Freeway, and I-210 Freeway. The I-605 Freeway abuts the eastern Project site boundary, the I-210 Freeway is located approximately 1.5 miles to the north of the Project site, and the I-10 Freeway is located approximately 2.9 miles to the south of the Project site. All three of these interstates are part of the regional trade corridors for goods movement in the Southern California region. Under existing conditions, direct vehicular access to the Project site is from Arrow Highway and Live Oak Avenue, which connect to the I-605 Freeway to the northeast and southeast, respectively. Arrow Highway and Live Oak Avenue are designated as a truck routes by the City of Irwindale (Urban Crossroads, Inc., 2018f, Exhibit 3-8). Los Angeles Street is a designated truck route in the City of Baldwin Park, located approximately 1.2 mile south of the Project site (Urban Crossroads, Inc., 2018f, Exhibit 3-9). Peck Road is a designated truck route in the City of Monrovia, located approximately 0.8 mile west of the Project site (Urban Crossroads, Inc., 2018f, Exhibit 3-10). The ongoing IDEFO activities occurring on the Project site under existing conditions generate passenger vehicle and truck trips. A more detailed discussion of the existing traffic conditions is included in EIR Subsection 4.11, *Transportation*.

Regarding other forms of transportation, field observations indicated that there is nominal pedestrian and bicycle activity in the area (Urban Crossroads, Inc., 2018f, p. 52). Pedestrian sidewalks exist along the Project site's frontage with Arrow Highway, with sections of sidewalks also located along the eastbound and westbound segments of Live Oak Avenue to the south of the Project site (Urban



Crossroads, Inc., 2018f, Exhibit 3-13). The nearest bike path/lane to the Project site is located approximately 0.2 mile to the east-northeast in Arrow Highway which connects to the San Gabriel River Trail. Foothill Transit operates bus services in the vicinity of the Project site via Foothill Transit Route 492 along Live Oak Avenue/Arrow Highway, 272 along Buena Vista Street, Avenida Barbosa, Arrow Highway, and Baldwin Park Boulevard, and Foothill Transit Route 270 along Myrtle Avenue/Peck Road (Urban Crossroads, Inc., 2018f, p. 52). Refer to EIR Subsection 4.12, *Transportation/Traffic*, for a more thorough discussion of the Project site's existing transportation setting. The Project-specific Traffic Impact Analysis is included as EIR *Technical Appendix II*.

2.5.11 UTILITIES AND SERVICE SYSTEMS

The IDEFO reclamation activities that occur within the Project site connect to the domestic water system provided by California American Water (CAW). Wastewater generated by land uses in the Project site's vicinity are conveyed into the City of Irwindale's local sanitary sewer systems, for transmission to larger collection system facilities and ultimately to wastewater treatment facilities operated by the Los Angeles County Sanitation Districts (LACSD). However, the Project site does not generate domestic wastewater under existing conditions and does not transmit any wastewater to City of Irwindale or LACSD facilities. On-site trailers housing the IDEFO's management functions use a portable septic system.

Under existing conditions, numerous existing storm drain culverts are located along the segment of Arrow Highway that fronts the northern Project site boundary that are connected to an existing 36-inch public storm drain owned and operated by the City of Irwindale. Additionally, the City of Irwindale owns and operates several storm drain culverts along the segment of Live Oak Avenue that fronts the southwesterly Project site boundary which are connected to an existing public storm drain located in Live Oak Avenue that ranges in diameter from 24 inches to 60 inches. There is also an existing 60-inch storm drain located in Live Oak Avenue to the west of the intersection of Live Oak Avenue and Arrow Highway to the west of the Project site. However, drainage flows from the site are not conveyed via any of the existing facilities, except for nominal amounts of runoff from the fringes of the Project site. Runoff sheet flows off the flat portions of the Project site.

The IDEFO activities accommodate waste disposal and do not generate measurable amounts of solid waste. Materials that are trucked in for placement as inert fill material are screened to ensure that the materials are appropriate for use as inert fill. Any incoming loads that do not meet the IDEFO requirements are turned away. The Puente Hills Materials Recovery Facility in the City of Industry is the facility that processes waste collected in the City of Irwindale prior to disposal in the landfills, and is permitted to accept 4,400 tons of waste per day and 24,000 tons per week (LACSD, 2012). The Calabasas Landfill in the City of Agoura Hills and the Scholl Canyon Landfill in the City of Glendale are the current LACSD disposal locations for solid waste collected in the area (LACSD, n.d.). In addition, LACSD has long-term landfill capacity at the Mesquite Regional Landfill in Imperial County, which is permitted to handle up to 20,000 tons of solid waste per day for approximately 100 years. LACSD is in the process of completing a waste-to-rails system to transport waste to the Mesquite Regional Landfill that involves transfer stations and intermodal rail yards (MRLF, 2007). The LACSD



landfill facilities have sufficient permitted capacity to accommodate solid waste disposal needs collected in its service area.

Refer to EIR Subsection 4.13, *Utilities & Service Systems*, for a more thorough discussion of the Project site's existing setting for utilities and service systems.

2.5.12 PUBLIC SERVICES

Fire and police protection services to the Project site are provided by the Los Angeles County Fire Department (LACFD) and Irwindale Police Department (IPD), respectively. Station 102 is the nearest Los Angeles County Fire Department station to the Project site, located approximately 1.2 miles northwest of the Project site at 2055 South Myrtle Avenue in the City of Monrovia (Google Earth Pro, 2018). The Irwindale Police Department provides police services throughout the City from its headquarters located at 5050 North Irwindale Avenue, in the City of Irwindale.

Public school students within the City of Irwindale are served by two school districts—the Baldwin Park Unified School District (BPUSD) and Covina-Valley Unified School District (CVUSD). The nearest schools are Olive Middle School, located approximately 0.7-mile southeast of the Project site, Walnut Elementary School, located approximately 0.8-mile south-southeast of the Project site; and Beardslee Elementary School, located approximately 0.9-mile north of the Project site. Public library services are provided by the Live Oak Library (located approximately 1.3 mile to the west of the Project site), which is owned and operated by the County of Los Angeles Public Library. Public parks and recreational facilities are located throughout the City of Irwindale. The nearest recreation facility is the San Gabriel River Trail, located approximately 1,700 feet southeast of the Project site on the opposite side of the I-605 Freeway. (Google Earth Pro, 2018)

2.5.13 RARE AND UNIQUE RESOURCES

As required by CEQA Guidelines §15125(c), the environmental setting should identify any inconsistencies between a proposed project and applicable general, specific, or regional plans, and place special emphasis on resources that are rare or unique to that region and would be affected by the Project. The Project Applicant proposes to develop a master-planned industrial/commercial business park on a property that was previously mined, in accordance with applicable local and regional plans. Refer to Subsection 2.4, *Planning Context*, for additional information about applicable plans. There are no rare or unique resources on the property. The San Gabriel River is located approximately 0.3 mile to the southeast of the Project site, on the opposite side of the I-605 Freeway, and would not be affected by the Project (Google Earth Pro, 2018).



3.0 PROJECT DESCRIPTION

This section provides all of the information required of 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 uses of this EIR, including a list of the government agencies that are expected to use this EIR in their decision-making processes; a list of the permits and approvals that are required to implement the Project; and a list of related environmental review and consultation requirements.

Under existing conditions, a majority of the approximately 78.3-acre Project site is undergoing an active reclamation process for a former sand and gravel quarry that operated on the Project site. The Project evaluated by this EIR is a proposed end-use for the property following reclamation consisting of an industrial/commercial business park that would provide a maximum of 1,550,000 square feet (s.f.) of building space. Associated improvements to the property would include, but are not limited to, paved parking areas, drive aisles, truck courts, utility infrastructure, landscaping, water quality basins, monument signage, lighting, and property walls, gates, and fencing. Two (2) roadway connections are proposed to connect to Arrow Highway to the north: Private Drive A (easterly driveway) and Private Drive B (westerly driveway). Private Drive A would traverse the Project site and connect with Live Oak Avenue to the south. Private Drive A would be signalized at its points of connection to Live Oak Avenue and Arrow Highway. Private Drive B would terminate interior to the Project site and would not connect through the property to Live Oak Avenue. The Project also would entail the installation of wet and dry utilities on the site and off-site. As part of the Project evaluated in this EIR, a new water well is proposed to be installed on the Project site to supply additional domestic water for California-American Water in order to meet the water demands of the Project and the approved City of Hope Specific Plan development which is located approximately 1.0 mile north of the Project site in the City of Duarte. The Project would also entail the installation of a storm water drainage system designed to capture and convey the Project's storm water flows into on-site storm water detention basins that would gradually release storm water into the downstream public storm drain system.

This EIR analyzes the physical environmental effects associated with all components of the Project, including planning, construction, and on-going operation. Governmental approvals requested from the City of Irwindale to implement the Project include a General Plan Amendment (GPA) No. 01-2017, Specific Plan (The Park @ Live Oak Specific Plan), Zone Change (ZC) No. 01-2017, Tentative Parcel Map (TPM) No. 82551, and a Development Agreement (DA) No. 01-2017. These applications, as submitted to the City of Irwindale by the Project Applicant, are herein incorporated by reference pursuant to CEQA Guidelines §15150 and are available for review at the City of Irwindale Planning Division, located at 5050 North Irwindale Avenue, Irwindale, CA 91706. All future development on the Project site would be required to substantially conform to the proposed Specific Plan. No other discretionary actions are required on the part of the City of Irwindale to approve the Project; nonetheless, this EIR covers any and all other discretionary and administrative approvals that may be



required of the City of Irwindale and other governmental agencies to fully implement the proposed Project. Refer to Table 3-4, *Matrix of Project Approvals/Permits*, at the end of this Section.

3.1 PROJECT LOCATION

The Project site consists of approximately 78.3 acres in the western portion of the City of Irwindale, Los Angeles County, California (see Figure 2-1, *Regional Map*). From a regional perspective, the City of Irwindale is located approximately 14.5 miles northeast of downtown Los Angeles. The Interstate 605 (I-605) freeway abuts the Project site to the east, Interstate 10 (I-10) is located approximately 2.9 miles to the south of the site, and Interstate 210 (I-210) is located approximately 1.5 miles to the north of the site. At the local scale, Arrow Highway forms the northern Project site boundary, and Live Oak Avenue forms the southern Project site boundary. The San Gabriel River is located approximately 0.3 mile to the southeast of the Project site. (Google Earth Pro, 2018)

Refer to EIR Section 2.0, *Environmental Setting*, for more information related to the regional and local setting of the Project site.

3.2 STATEMENT OF OBJECTIVES

The fundamental purpose of the proposed Project is to develop an industrial/commercial business park on the Project site to make productive use of a reclaimed property that previously operated as a sand and gravel quarry. The Project would achieve this primary objective through the following basic objectives.

- A. Maximize the development potential of a former sand and gravel quarry as soon as feasibly possible so that the property will be economically productive when reclamation activities cease.
- B. Create a comprehensive master plan for the development of the former sand and gravel quarry as an industrial/commercial business park that will attract quality tenants.
- C. Develop an industrial/commercial business park that is feasible to construct and operate and that is economically competitive with other similar centers in the southern California region, which will assist the City of Irwindale in competing economically on a domestic and international scale through the efficient and cost-effective movement of goods.
- D. Provide economic and job growth opportunities in and near the City of Irwindale by diversifying the available range of industrial, business park, and retail uses through the development of a large property with employment-generating land uses with long-term economic viability that complements the diversity of uses already present and planned in the City.
- E. Provide for uses that will generate tax revenue for the City of Irwindale through increased property and sales taxes from point-of sale tenants and retail purchases in order to support the City's ongoing municipal operations.



- F. Provide an attractive, state-of-the-art industrial/commercial business center that meets current industry standards for operational design criteria and minimizes conflicts to the extent possible with surrounding existing and planned uses.
- G. Provide opportunities for warehouse/distribution building users to locate in the City of Irwindale by offering buildings with loading bays in close proximity to existing I-605 on- and off-ramps.
- H. Provide an industrial/commercial business park that takes advantage of the proximity to I-605 and its connection to other freeways and transportation corridors to reduce traffic congestion on surface streets and to reduce concomitant vehicular-related air pollutant emissions associated with inefficient travel patterns.
- I. Fill an existing need for truck-based goods distribution facilities in the land-constrained metropolitan region of Los Angeles County.
- J. Accommodate new development in a phased, orderly manner that is coordinated with the provision of necessary infrastructure and public improvements.

3.3 PROJECT COMPONENTS

The Project entails the development of a 78.3-acre property as an industrial/commercial business park. The principal discretionary actions required from the City of Irwindale to implement the proposed Project include the approvals of a General Plan Amendment (GPA) No. 01-2017, Specific Plan (The Park @ Live Oak Specific Plan), Zone Change (ZC) No. 01-2017, Tentative Parcel Map (TPM) No. 82551 and Development Agreement (DA) No. 01-2017. Additional discretionary and administrative actions that would be necessary to implement the proposed Project are listed in Table 3-4, *Matrix of Project Approvals/Permits*, at the end of this EIR Section. All future development on the property would be required to substantially conform to the proposed Specific Plan.

A detailed description of the proposed Project is presented in the following subsections.

3.3.1 THE PARK @ LIVE OAK SPECIFIC PLAN

According to California Government Code § 65450, local agencies are given the authority to prepare specific plans for “the systematic implementation of the general plan for all or part of the area covered by the general plan.” A Specific Plan is a document designed to implement the City of Irwindale’s General Plan within a certain area and, most importantly, to establish a set of development standards for the specific area. The Park @ Live Oak Specific Plan is proposed to be adopted by the City of Irwindale by ordinance, such that it would function as the zoning regulations applicable to the Project site. As such, the Project would be subject to the development standards identified in The Park @ Live Oak Specific Plan.



A. General Description

The Park @ Live Oak Specific Plan proposes a land use plan, utility plans, design guidelines, and development standards to guide development of the 78.3-acre Project site. The proposed Land Use Plan is illustrated in Figure 3-1, *The Park @ Live Oak Land Use Plan*. Seven (7) planning areas are proposed, which are described in further detail below in the following subsections. Subsequent land use actions related to the Project site must be in conformance with the approved Specific Plan and adopted Specific Plan development standards.

B. Proposed Land Uses

The Park @ Live Oak Specific Plan land use plan is depicted on Figure 3-1, *The Park @ Live Oak Land Use Plan*. Table 3-1, *Specific Plan Land Use Summary*, provides a detailed summary of the proposed land uses. As shown on Figure 3-1 and Table 3-1, implementation of The Park @ Live Oak Specific Plan would result in development of the 78.3-acre site with a maximum of 1,550,000 s.f. of building space, of which 15,000 s.f. of commercial uses is required and 98,600 s.f. of commercial uses is permitted in and across Planning Areas 1A, 2A, 3A, and/or 4.

The Park @ Live Oak Specific Plan designates Planning Areas 1, 2, and 3, comprising a total of 39.3 acres, as “Industrial/Business Park” land uses. Only Industrial/Business Park uses would be permitted in these locations. No commercial uses would be allowed other than retail sales ancillary to a primary industrial/business park permitted use. Buildings constructed in these areas would house users such as general light industrial, wholesale trade, manufacturing, warehouse/distribution/logistics, shipping/parcel delivery, and e-commerce fulfillment center operations. The proposed Specific Plan includes a complete list of permitted and conditionally permitted uses. The Park @ Live Oak Specific Plan allows for buildings constructed within Planning Areas 1, 2, and 3 to be constructed across planning area boundaries and cross over into adjacent planning areas, subject to all of the standards and guidelines contained in Chapter 3, *Development Standards*, and Chapter 4, *Design Guidelines*, of the Specific Plan. (T&B Planning, Inc., 2019, p. 12)

The Park @ Live Oak Specific Plan also would allow for up to 39.0 acres within Planning Areas 1A, 2A, 3A, and 4 to be developed with Commercial/Industrial land uses. Planning Areas 1A, 2A, 3A, and 4 are intended to accommodate the development of all of the uses allowed in the Industrial/Business Park Planning Areas (Planning Areas 1, 2, and 3), in addition to a variety of commercial uses. A minimum of 15,000 s.f. of commercial building space would be required and a maximum of 98,600 s.f. of commercial building space would be permitted in and across Planning Areas 1A, 2A, 3A, and 4. Commercial uses could entail point-of-sale convenience services, such as food service and restaurants, general and specialty retail, fueling station, personal and professional services, and similar use types. The proposed Specific Plan includes a complete list of permitted and conditionally permitted uses. The Park @ Live Oak Specific Plan would allow for all of the commercial uses to be developed in one (1) of the Commercial/Industrial planning areas or alternatively to occur in a noncontiguous nature and to spread across multiple planning areas. (T&B Planning, Inc., 2019, p. 12)



Table 3-1 Specific Plan Land Use Summary

PLANNING AREA	LAND USE DESIGNATION	ACREAGE (AC)		MAXIMUM USABLE BUILDING SQUARE FOOTAGE (S.F.)
		INDUSTRIAL/ BUSINESS PARK	COMMERCIAL/ INDUSTRIAL	
1	Industrial/Business Park	28.3	--	A maximum of 1,550,000 SF of building floor space is permitted, of which a minimum of 15,000 SF of commercial floor space is required and a maximum of 98,600 SF of commercial floor space is permitted in and across areas designated Commercial/Industrial.
1A	Commercial/Industrial	--	12.5	
2	Industrial/Business Park	6.4	--	
2A	Commercial/Industrial	--	10.2	
3	Industrial/Business Park	4.6	--	
3A	Commercial/Industrial	--	12.1	
4	Commercial/Industrial	--	4.2	
			--	
Totals		39.3	39.0	1,550,000
		78.3		

Notes:

1. Acreages are approximate and subject to survey verification.
2. Acreages of private drives interior to the Specific Plan (Private Drive A and Private Drive B) are included in the adjacent planning area acreages, as measured to the private drive center line.

Source: (T&B Planning, Inc., 2019, Table 2-1)

The Project site also would be improved with internal roadways, driveways, parking areas, lighting, landscaping, signage, drainage system improvements, and utility infrastructure. Billboards would continue to be conditionally permitted within all of the planning areas (T&B Planning, Inc., 2019, Table 3-1). These improvements are discussed in further detail in the following subsections.

C. Circulation, Access, and Parking Plan

Access to the Project site would be provided via Live Oak Avenue from the south (which parallels the southern boundary of the Project site) and Arrow Highway from the north (which parallels the northern boundary of the Project site). The Project would include the construction of private drives internal to the Project site to provide access at Arrow Highway and Live Oak Avenue. The Specific Plan shows that Private Drive A would have connection points at both Arrow Highway and Live Oak Avenue with traffic signals installed at the connection points. Private Drive B would also have a signalized connection point at Arrow Highway and terminate within the interior of the Project site. Other direct vehicular driveway connections to Live Oak Avenue and Arrow Highway would be permitted with proper spacing. Truck traffic entering and exiting the Project site would be allowed to utilize Project driveway entrances and exits located along Arrow Highway and Live Oak Avenue because both roadways are designated truck routes within the City of Irwindale (Urban Crossroads, Inc., 2018f, Exhibit 3-8). Passenger cars could use any of the Project site driveways. Internal private drive aisles would be provided to connect individual buildings within the Project site to Private Drives A and B



and would also provide vehicular access for automobiles and trucks to internal parking lots, truck courts, and loading dock areas. The I-605 freeway abuts the eastern Project site boundary and is accessible via Live Oak Avenue and Arrow Highway. The conceptual vehicular circulation plan is illustrated in Figure 3-2, *Conceptual Vehicular Circulation and Access Plan*. Additionally, the Project would include the construction of a 10-foot meandering sidewalk/landscaped parkway along the entirety of the Project's frontage along Live Oak Avenue and Arrow Highway to enhance the pedestrian experience. (T&B Planning, Inc., 2019, pp. 13-16)

The industrial/business park buildings permitted in the Specific Plan area would very likely be accommodated with loading bays. At a typical logistics warehouse building, loading bays (also called "docks") are used for the receiving of goods and the shipment of goods. Although all of the loading bays of a building are rarely used simultaneously, most warehouse users prefer to have as many bays as possible to facilitate operations inside the structure, where goods are sorted and stored. The Park @ Live Oak Specific Plan specifies that loading bay doors, service docks, and equipment areas should be oriented or screened (i.e., via walls, fences, landscaping or berms) so that they are not easily visible from the surrounding public roads, the I-605 freeway, and publicly accessible locations within the Specific Plan area. Additionally, The Park @ Live Oak Specific Plan specifies that docks and truck courts should be separated from visitor and customer parking areas and pedestrian circulation areas (e.g., walkways) through the use of walls, fences and/or landscaping. Furthermore, The Park @ Live Oak Specific Plan mandates that no direct loading or unloading activity is permitted to take place from Live Oak Avenue, Arrow Highway, or Private Drives A and B. Internal walls (i.e., concrete screen wall) and fences (i.e., tubular steel fencing) may be provided along the perimeter of parking and loading areas and between Planning Areas for security and screening. (T&B Planning, Inc., 2019, pp. 13-16)

The Park @ Live Oak Specific Plan provides parking requirements for each permitted use of the property which are summarized in Table 3-10, *Parking Requirements*, of The Park @ Live Oak Specific Plan. The total number of parking spaces would be determined based on the type of user(s) that eventually occupy the buildings.

D. Water Plan

The proposed water plan is depicted on Figure 3-3, *Conceptual Water Plan*. As shown on Figure 3-3, an existing off-site California American Water (CAW) pipeline is located within Buena Vista Street approximately 0.4 mile north of the Project site. In order to connect to the existing CAW pipeline in Buena Vista Street, the Project proposes to construct a 16-inch water main in Avenida Barbosa extending north from the northerly Project site boundary to Buena Vista Street, and continuing northeasterly in Buena Vista Street to the proposed point of connection with the existing CAW pipeline in Buena Vista Street. The Project would also upsize approximately 1,450 linear feet of an existing 8-inch CAW pipeline located in Buena Vista Street (approximately 0.6 mile north of the Project site) to a 12-inch pipeline. The Project would also install a 16-inch water main within Private Drive A that would convey domestic water to the Project site via a proposed network of private water lines installed within the Project's Planning Areas. The location of water line stub-outs to the future buildings within each Planning Area would be determined based on the design of future implementing projects.



Additionally, a 12-inch water main would be installed in Arrow Highway and Live Oak Avenue along the Project site's frontages with these rights-of-way that would connect to a proposed on-site 12-inch water main located along the easterly Project site boundary. As noted on Figure 3-3, the proposed on-site private 12-inch water main and 12-inch public water main in Arrow Highway and Live Oak Avenue may not be required if domestic water could instead be obtained from a private loop system utilizing the private 16-inch water main proposed in Private Drive A. In addition, as shown on Figure 3-3, the proposed Project would require the construction of a water supply well on-site at one of three potential locations along the northwesterly portion of the Project site. Additionally, in order to accommodate the fire flow demands of the Project, the Project would include on-site fire flow storage (with a capacity of up to 0.96 million gallons) and a booster station.

E. Sewer Plan

The proposed sewer plan is depicted on Figure 3-4, *Conceptual Sanitary Sewer Plan*. As shown on Figure 3-4, the Project proposes to construct private sewer infrastructure on the Project site that would connect to the existing off-site 15-inch sewer main in Arrow Highway and Live Oak Avenue to the north and south of the Project site, respectively. As shown on Figure 3-4, there are three (3) existing 8-inch sewer laterals that connect the Project site to the existing 15-inch sewer main in Arrow Highway. The Project's proposed sanitary sewer system would consist of a gravity network that would include private sewer infrastructure within the proposed Private Drives and within each of the Planning Areas. The proposed internal sewer lines would range in diameter from 6 inches to 8 inches. The proposed private sewer infrastructure would collect wastewater flows from each Planning Area and convey these flows north, south, and west to the off-site existing public sewer mains within Live Oak Avenue and Arrow Highway. All private sewer infrastructure would be constructed on-site beneath the Private Drives, beneath Private Drive aisles, and/or parking lots/truck courts in each Planning Area to facilitate access for routine maintenance and/or repair.

F. Drainage Plan

As shown on Figure 3-5, *Conceptual Storm Water Management Plan*, the Project proposes to construct a storm water drainage system that would emulate the property's historical drainage pattern (southwesterly flow direction). The Project proposes to construct a backbone storm drain network consisting of private storm drain lines ranging from 12 inches to 52 inches in diameter which would convey storm water flows across the Project site in a southerly direction to three (3) proposed detention basins located along the southerly Project site boundary within Planning Areas 1 and 3. By design, the proposed detention basins would be compliant with the Low Impact Development (LID) requirements established by the Los Angeles Regional Water Quality Control Board (LARWQCB), and would gradually release storm water into the existing downstream public storm drain system in Live Oak Avenue.

G. Billboards

Four (4) static billboards are located on the Project site under existing conditions facing the I-605 Freeway and are anticipated to remain. However, as a reasonably foreseeable consequence of



developing the Project site, these billboards have the potential to be replaced with more modern LED billboards. Thus, potential billboard replacement is analyzed in this EIR accordingly. As stated in the proposed The Park @ Live Oak Specific Plan, lighting levels on LED digital billboards in the Specific Plan area must not exceed 0.3-foot candles over ambient levels, as measured using a foot candle meter at a distance of 250 feet. The Specific Plan also requires that billboards be equipped with light sensors to measure ambient light levels and to adjust light intensity to respond to a change in ambient light conditions. Billboard replacements also would require the issuance of an Outdoor Advertising (ODA) Display Permit by Caltrans. The ODA Display Permit would assure that certain location and design features be met, including, but not limited to, the following:

- The digital billboard must be 1,000 feet from any other digital billboard;
- The digital billboard must be 500 feet from any other static billboard; and
- The maximum display area is set at 25 feet in height by 60 feet in length. (Caltrans, 2018)

H. Design Guidelines

Design guidelines are included in The Park @ Live Oak Specific Plan to establish standards for the quality and character of the site and building improvements to ensure compatible integration with surrounding land uses. Primarily, the design guidelines are intended to provide an aesthetically cohesive built environment for the Project and address the following topics: 1) overall architecture design guidelines; 2) Industrial/Business Park design guidelines; 3) Commercial design guidelines; and 4) landscape design guidelines. All future building development within The Park @ Live Oak Specific Plan would be required to substantially conform to the Specific Plan's design guidelines (included as Chapter 4 of The Park @ Live Oak Specific Plan).

1. Architectural Design Guidelines

The Park @ Live Oak Specific Plan includes guidelines for architecture, which address building form, materials, colors, textures, windows, doors, and functional elements (loading doors, mechanical equipment, trash enclosures, etc.). The Specific Plan requires that on-site buildings exhibit variations in massing, material, and color to reduce the apparent size of larger, boxy building masses, and provide articulated building planes visible from Live Oak Avenue, Arrow Highway, I-605, or Private Drives A and B (T&B Planning, Inc., 2019, p. 41). Chapter 4, *Design Guidelines*, of The Park @ Live Oak Specific Plan defines the acceptable building materials, colors, and textures throughout the Specific Plan area. According to the Specific Plan, primary exterior building materials shall include concrete, stucco, and similar materials, including concrete tilt-up panels; primary materials on building facades that are visible from Live Oak Avenue, Arrow Highway and I-605 shall be accented by secondary materials such as glass or glazing units, glass block, natural or fabricated stone, metal, and tile or tile panel systems. Additionally, The Park @ Live Oak Specific Plan requires primary exterior building colors consist of light and warm tones, with darker and/or more vibrant accent colors provided in focal point areas, such as around building entrances and near outdoor gathering spaces (T&B Planning, Inc., 2019, p. 44). Chapter 4, *Design Guidelines*, of The Park @ Live Oak Specific Plan also establishes design guidelines for functional elements throughout the Specific Plan, including loading doors and service docs, ground- and wall-mounted equipment, rooftop equipment, and trash enclosures. An



architectural rendering is provided as Figure 3-6, *Conceptual Architectural Rendering*. The proposed building design elements applicable to each of the industrial/business park and commercial land uses are described in the following subsections.

2. *Industrial/Business Park Design Guidelines*

As described in Chapter 4, *Design Guidelines*, of The Park @ Live Oak Specific Plan, in addition to the General Architectural Design Guidelines described in the preceding subsection, Industrial/Business Park buildings would be subject to additional site planning guidelines and building form requirements. Pursuant to The Park @ Live Oak Specific Plan Chapter 4, *Design Guidelines*, Industrial/Business Park buildings would be required to be oriented to emphasize pedestrian access and screen trash enclosures, loading bay doors, and service docks, as well as serve the needs of pick-up, delivery, and service vehicles (T&B Planning, Inc., 2019, pp. 48-49). As stated in Chapter 4, *Design Guidelines*, of The Park @ Live Oak Specific Plan, all buildings shall feature major building entries that are emphasized with special massing and/or architectural treatment, and long uniform building facades should be avoided through the creation of visual interest by using courtyards, varied building setbacks, arcades, windows and towers. Additionally, The Park @ Live Oak Specific Plan encourages the use of architectural roof projections and roof accents that complement the overall architectural design of the building. (T&B Planning, Inc., 2019, pp. 48-49)

3. *Commercial Design Guidelines*

As described in Chapter 4, *Design Guidelines*, of The Park @ Live Oak Specific Plan, commercial buildings would be subject to additional site planning guidelines and building form requirements. Commercial buildings within Planning Areas 1A, 2A, 3A, and 4 would be required to follow site planning design guidelines that emphasize pedestrian access to buildings and screening trash enclosure areas, loading bay doors, and service docks to minimize their visibility from Live Oak Avenue and Arrow Highway. Additionally, the commercial building site planning design guidelines primarily focus on enhancing the pedestrian environment surrounding the buildings and minimizing conflicts between loading/service activities and customer access. The Park @ Live Oak Specific Plan Chapter 4, *Design Guidelines*, includes building form guidelines to ensure commercial building designs are visual appealing and compatible, and primarily pertain to building massing, building height, and building orientation with respect to public rights-of-way. Guidelines for commercial building roof forms are also provided, which are intended to ensure commercial building roofs complement the overall architectural design of commercial and industrial/business Park buildings. The Park @ Live Oak Specific Plan Chapter 4, *Design Guidelines*, also contains design guidelines for commercial building loading doors and service docks within Planning Areas 1A, 2A, 3A, and 4. (T&B Planning, Inc., 2019, pp. 47,51)

4. *Landscaping Design Guidelines*

The Park @ Live Oak Specific Plan includes guidelines for landscaping, which provide a plant palette and also address entries and monuments, streetscapes, and walls and fencing. Additionally, The Park @ Live Oak Specific Plan requires a minimum 10% of the Project site to be landscaped. The Park @



Live Oak Specific Plan conceptual landscape plan provides for thematic entry treatments featuring monument signs and landscaping at the intersections of the proposed Private Drives A and B with Live Oak Avenue and Arrow Highway. These proposed entry treatments would consist of flowering accent and palm trees with colorful groundcover and shrub masses. Streetscape landscaping along proposed Private Drives A and B would feature a combination of evergreen and deciduous trees as well as flowering accent trees with groundcover. A landscape buffer consisting of street trees, backdrop trees, assorted accent planting, and foundation shrubs would be provided between the on-site buildings and the Project site's frontage with Arrow Highway and Live Oak Avenue. The easterly Project site boundary (comprised of Planning Areas 1 and 1A) would be buffered from I-605 freeway by assorted deciduous and evergreen screen trees as well as large meandering screen shrubs. The conceptual landscape plan is included as Figure 2-8, *Conceptual Landscaping and Greenspace Plan*, of The Park @ Live Oak Specific Plan.

The proposed plant palette is included as Table 4-1, *Plant Palette*, of The Park @ Live Oak Specific Plan and includes colorful shrubs and groundcovers, ornamental grasses and succulents, and evergreen deciduous trees – including flowering varieties – that are commonly used throughout southern California and complements the design theme and setting of The Park @ Live Oak Specific Plan. The plant species included in the proposed plant palette are drought-tolerant and water-efficient. (T&B Planning, Inc., 2019, pp. 55-56)

The Park @ Live Oak Specific Plan proposes entry treatments and monuments for each of the Planning Areas that would be consistent with the design theme and character of Specific Plan. Primary entry monuments would be located at the Live Oak Avenue and Arrow Highway intersections with Private Drives A and B. Building entry treatments would be provided at the entrances to Industrial/Business Park and commercial buildings within all Planning Areas and would serve to identify the various buildings and tenants. The conceptual design for these monuments is included in The Park @ Live Oak Specific Plan. (T&B Planning, Inc., 2019, pp. 62-63)

Landscaped streetscapes are proposed along Private Drives A and B and along the Project's frontages with Live Oak Avenue and Arrow Highway to visually enhance the pedestrian and vehicular environment. The proposed Private Drive streetscape may feature formal rows of evergreen and deciduous canopy entry trees along with evergreen screen shrubs along parking and/or truck yard areas. The drought tolerant groundcovers would be consistent along Private Drive frontages. The perimeters of the parking lots adjacent to the Private Drives and buildings could include vertical trees, shade trees, and drought tolerant groundcovers. Conceptual illustrations of the streetscapes proposed for Private Drives A and B are provided in The Park @ Live Oak Specific Plan. The Project's frontages with Live Oak Avenue and Arrow Highway would feature street trees with backdrop trees along parking lot perimeters and screen shrubs along with assorted drought tolerant groundcovers. The proposed landscaping on the perimeter of parking lots and buildings within the Project site would also provide a physical and visual buffer from Live Oak Avenue and Arrow Highway. Conceptual illustrations of the streetscapes proposed for the Project's frontages along Live Oak Avenue and Arrow Highway are depicted in The Park @ Live Oak Specific Plan. (T&B Planning, Inc., 2019, pp. 58-61)



5. *Outdoor Lighting*

Within Chapter 4, *Design Guidelines*, of The Park @ Live Oak Specific Plan, Outdoor Lighting Guidelines are established for “Public Lighting” (lighting located along the perimeter of the Project site and along internal public drive aisles) and “Parcel Lighting” (lighting used to illuminate internal areas for purposes of security, safety and nighttime aesthetics). All outdoor lighting is required to feature cutoff devices and to be focused, directed downward, and arranged so as to minimize glare and “spill over” to public streets or adjacent properties. Further, all lighting proposed within the public right-of-way shall adhere to applicable City of Irwindale requirements. Additionally, The Park @ Live Oak Specific Plan requires all outdoor lighting at the Project site to be low intensity and energy-conserving. (T&B Planning, Inc., 2019, pp. 49-50)

1. Development Standards

The development standards applicable to the Project are presented in Chapter 3, *Development Standards*, of The Park @ Live Oak Specific Plan. Chapter 3 of The Park @ Live Oak Specific Plan establishes the land use permissions, general development standards, and specific development standards for each of the proposed Planning Areas. Refer to Chapter 3 of The Park @ Live Oak Specific Plan for further details regarding the development standards applicable to the Project.

3.3.2 GENERAL PLAN AMENDMENT (GPA) No. 01-2017

As shown on Figure 3-8, *Existing and Proposed General Plan Land Use Designations*, under existing conditions, the City of Irwindale General Plan designates the entirety of the Project site “Regional Commercial.” According to the City of Irwindale General Plan, the Regional Commercial land use designation is intended to encourage a balanced mix of commercial, office professional, and light manufacturing uses along high-visibility traffic corridors. The maximum allowable Floor Area Ratio (FAR; the ratio of the building floor area to the site area) for the Regional Commercial land use designation is 2.0. (City of Irwindale, 2008, p. 40)

The proposed GPA No. 01-2017 would amend the City of Irwindale’s General Plan Land Use Map by changing the land use designation for the 78.3-acre Project site from Regional Commercial to Commercial/Industrial, as shown on Figure 3-8, *Existing and Proposed General Plan Land Use Designations*. The “Commercial/Industrial” designation would allow for the Project site to be developed in accordance with the previously discussed land uses and development standards set forth in The Park @ Live Oak Specific Plan.

3.3.3 ZONE CHANGE (ZC) No. 01-2017

The City of Irwindale Zoning Ordinance, which is Title 17 of the City’s Municipal Code, assigns a zoning designation to all properties inside the City’s boundaries. Development is required by law to comply with the provisions of the Zoning Ordinance. A zone change is proposed as part of the Project, as shown on Figure 3-9, *Existing and Proposed Zoning Designations*. The proposed Zone Change No. 01-2017 would amend the City of Irwindale’s Zoning Map to change the existing zoning designations of the Project site from “Heavy Manufacturing” (M-2) and “Quarry Overlay Zone (Q)” to “The Park



@ Live Oak Specific Plan,” as shown on Figure 3-9. The Park @ Live Oak Specific Plan zoning designation would allow for a variety of uses including general light industrial, manufacturing, warehouse/distribution, and e-commerce fulfillment center operations, commercial uses, retail services, professional offices, and other uses permitted by The Park @ Live Oak Specific Plan. A complete list of the Project’s proposed permitted uses is provided within Table 3-1, *Permitted Uses*, of The Park @ Live Oak Specific Plan.

3.3.4 TENTATIVE PARCEL MAP (TPM) NO. 82551

Proposed Tentative Parcel Map (TPM) No. 82551 proposes to subdivide the approximately 78.3-acre Project site into legal lots to facilitate future development within The Park @ Live Oak. The TPM would establish a subdivision of 13 numbered lots to accommodate development and five lettered lots to accommodate common areas such as landscaping, surface water quality basins, and roads. TPM No. 82551 is depicted on Figure 3-10, *Tentative Parcel Map No. 82551*.

3.3.5 DEVELOPMENT AGREEMENT (DA) NO. 01-2017

A Development Agreement (DA) No. 01-2017 would be executed between the Project Applicant and the City of Irwindale strictly in relation to the proposed Project. California Government Code §§ 65864-65869.5 authorize the use of development agreements between any city, county, or city and county, with any person having a legal or equitable interest in real property for the development of the property. The DA would provide the Project Applicant with assurance that development of the Project may proceed subject to the rules and regulations in effect at the time of Project approval.

3.3.6 PROJECT CONSTRUCTION AND OPERATIONAL CHARACTERISTICS

A. Construction Details

Upon completion of the existing reclamation activities (which are not a part of the proposed Project evaluated in this EIR), the Project site will be “at grade” and suitable for construction, with no need for additional over-excavation or mass grading work. Grading for the Project would be limited to precise grading required to create building pads, roads, parking and truck court areas, detention basins, and other landscaped areas.

1. Conceptual Phasing Plan

The Park @ Live Oak Specific Plan anticipates that development of the Project would occur in two (2) phases. The Project’s conceptual phasing plan is described in The Park @ Live Oak Specific Plan. Phase 1 generally covers the easterly portions of the Project site and would include: Industrial/Business Park Planning Area 1 and Commercial/Industrial Planning Area 1A. Private Drive A would also be constructed as part of Phase 1. Phase 2 generally covers the westerly portions of the Project site and would include: Industrial/Business Park Planning Areas 2 and 3; Commercial/Industrial Planning Areas 2A, 3A, and 4. Private Drive B would also be constructed as part of Phase 2 of the Project.



2. Construction Equipment Assumptions

Estimates of construction equipment requirements are listed below in Table 3-2, *Construction Equipment Assumptions*, and durations of the construction phases are listed in Table 3-3, *Construction Phase Durations*.

Table 3-2 Construction Equipment Assumptions

Phase Name	Equipment Type	Number of Equipment	Hours per day
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	2	8
	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Scrapers	2	8
Building Construction	Cranes	1	8
	Crawler Tractors	3	8
	Forklifts	3	8
	Generator Sets	1	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

Source: (Urban Crossroads, Inc., 2018a, Table 3-3)

Table 3-3 Construction Phase Durations

Phase Name	Start Date	End Date	Days
Site Preparation	07/01/2019	08/23/2019	40
Grading	08/24/2019	01/24/2020	110
Building Construction	01/25/2020	12/11/2020	230
Paving	09/05/2020	12/18/2020	75
Architectural Coating	04/11/2020	12/18/2020	180

Source: (Urban Crossroads, Inc., 2018a, Table 3-2)

1. Proposed Physical Disturbances

Physical disturbances necessary to implement the proposed Project are depicted on Figure 3-11, *Proposed Physical Disturbances*. As shown, proposed grading activities would result in impacts to a total of approximately 81.5 acres (78.3 acres of on-site grading and 3.6 acres of off-site disturbance for road and infrastructure improvements).



Off-site improvements that would occur in association with Project include the following:

- Construction of a 10-foot wide meandering sidewalk/landscaped parkway along the Project's frontages with Live Oak Avenue and Arrow Highway;
- Construction of a 12-inch underground water main in the segments of Live Oak Avenue and Arrow Highway that front the Project site;
- Construction of a 16-inch underground water main in the segment of the Avenida Barbosa right-of-way located between Buena Vista Street and Arrow Highway;
- Construction of a 16-inch underground water main in the segment of Buena Vista Street located east of the intersection of Avenida Barbosa and Buena Vista Street which would connect to an existing pipeline in Buena Vista Street;
- Upsizing of an existing 8-inch underground water main in Buena Vista Street to a 12-inch underground water main;
- Construction of lateral connections to proposed and existing water, sewer and storm water utilities located in Arrow Highway and Live Oak Avenue; and
- Construction of driveway aprons along Arrow Highway and Live Oak Avenue.
- Traffic signal improvements at the intersections of Arrow Highway, Live Oak Avenue, and Private Drives A and B.

Underground utilities would be installed to a depth of 3 to 6 feet below grade. No other on- or off-site physical impacts are proposed as part of the Project. Additionally, circulation-related mitigation measures would require off-site improvements (i.e., restriping roadway lanes and implementation of intersection geometrics) as part of Project implementation. Refer to the Mitigation subsection of EIR Subsection 4.11, *Transportation*, for further details on the required traffic mitigation measures.

B. Operational Details

At the time this EIR was prepared, the future users of The Park @ Live Oak buildings were unknown. The Project Applicant estimates that the Industrial/Business Park buildings would be primarily occupied by general light industrial, manufacturing, warehouse/distribution/logistics, and e-commerce fulfillment center operators. For the purposes of analysis in this document, the future building occupant types are assumed to be any of those uses permitted and conditionally permitted by The Park @ Live Oak Specific Plan as shown in Table 3-1, *Permitted Uses*. According to Table 3-1, *Permitted Uses*, of The Park @ Live Oak Specific Plan, only up to 387,500 s.f. of building space at the Project site could be constructed as cold storage. Furthermore, as is common for logistics-related operations, one (1) or more of the proposed buildings could be used 24 hours per day, seven (7) days per week with exterior areas lit at night. Lighting and outdoor activity requirements specified in the Specific Plan (discussed above in Subsection 3.3.1H.6) must be adhered to, which would greatly limit nuisance effects on adjacent properties. As discussed above in Subsection 3.3.1H.6, outdoor lighting would be shielded and directed so as to minimize spillover onto adjacent public rights-of-way. As discussed in Subsection 3.3.1H.2, loading docks would be required to be screened and oriented away from off-site public rights-of-ways. The proposed Industrial/Business Park Planning Areas are designed such that business



operations would be conducted primarily within the enclosed buildings, with the exception of traffic movement, parking, and the loading/unloading of tractor trailers at the loading bays.

As discussed in EIR Subsection 4.11, *Transportation*, the proposed Project is calculated to generate an estimated maximum of 13,799 passenger car trips and 808 truck trips on a daily basis, assuming a traffic-intensive mix of building occupants (refer to Table 4-2 of the Project's Traffic Impact Analysis [EIR *Technical Appendix II*] for a breakdown of the square footages of each land use utilized to calculate the Project's trip generation).

Because users of the Project's buildings are not yet known, the number of jobs that the Project would generate cannot be precisely determined. As stated in Subsection 4.8, *Land Use and Planning*, this EIR, research conducted by the National Association of Industrial and Office Properties (NAIOP) on building and employment trends in the logistics industry found that employment intensity ranges, depending on the type of tenant and size of building, with employment intensity higher in smaller buildings and lower in larger buildings. An average across all building sizes, in 2003, was approximately 2,000 s.f. per employee (NAIOP, 2010, p. 11). Using the average of approximately 2,000 s.f. per employee, the Industrial/Business Park component of the proposed Project, with 1,451,400 s.f. of Industrial/Business Park building space, could create an estimated 726 jobs ($1,451,400 \text{ s.f.} \times [1 \text{ employee} / 2,000 \text{ s.f.}] = 725.7 \text{ employees}$). Table 4B of the Employment Density Study Summary Report prepared for the Southern California Association of Governments (SCAG) states that in Los Angeles County there is an average of 511 s.f. of building space per employee for the "Other Retail/Services" land use category (NCI, 2001, Table 4B). Based on Table 4B, future employment generated by the proposed commercial land uses at the Project site is anticipated to be up to approximately 193 employees ($98,600 \text{ s.f.} \times [1 \text{ employee} / 511 \text{ s.f.}] = 192.9 \text{ employees}$).

According to a Water Supply Assessment prepared for the Project by WSC, Inc. for the California American Water Company (EIR *Technical Appendix J1*), land uses proposed by the Project are estimated to result in a demand for approximately 114 acre-feet of water per year, or about 101,781 gallons per day (WSC, Inc., 2018a, p. 9). According to the Project's Sewer Area Study (EIR *Technical Appendix J3*), the Project would generate an average of 322,325 gallons of wastewater per day (D&D Engineering, 2018b, p. 3). Based on calculations utilized in the Project's Energy Analysis report (EIR *Technical Appendix C*), in the absence of mitigation, the proposed Project would demand approximately 14,079,827 kilowatts hours of electricity per year (kWh/yr) and 11,223,098 kilo-British Thermal Units of natural gas per year (kBtu/yr) (Urban Crossroads, Inc., 2018c, p. 28)

3.4 STANDARD REQUIREMENTS AND CONDITIONS OF APPROVAL

The Park @ Live Oak Specific Plan, General Plan Amendment (GPA) No. 01-2017, Zone Change (ZC) No. 01-2017, Tentative Parcel Map (TPM) No. 82551, and Development Agreement (DA) No. 10-2017 and their technical aspects were reviewed in detail by various City of Irwindale departments and divisions. These departments and divisions are responsible for reviewing land use applications for compliance with City codes and regulations. They also were responsible for reviewing this EIR for technical accuracy and compliance with CEQA. The City of Irwindale departments and divisions responsible for technical review include:



- Community Development Department, Planning Division
- Community Development Department, Economic Development
- Engineering/Public Works Department

Review of the Project applications by the City departments and divisions listed above will result in the production of a comprehensive set of draft conditions of approval that will be available for public review prior to consideration of the proposed Project by the City of Irwindale Planning Commission and City Council. These conditions will be considered by the City Council in conjunction with their consideration of The Park @ Live Oak Specific Plan, GPA No. 01-2017, ZC No. 01-2017, TPM No. 82551, and DA No. 01-2017. If approved, compliance with all imposed conditions of approval would be required during Project construction and operation. Other applicable regulations, codes, and requirements that the Project is required to comply with and that result in the reduction or avoidance of an environmental impact are specified throughout the subsections of EIR Section 4.0, *Environmental Analysis*.

3.5 SUMMARY OF REQUESTED ACTIONS

The City of Irwindale 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 Subsection 1.4 of this EIR. The Irwindale Planning Commission will consider the Project's requested discretionary permit applications and approvals and will provide a recommendation to the Irwindale City Council whether to approve, approve with changes, or deny the requested actions that are within the City's jurisdictional authority. The City Council will consider the Project's requested discretionary permit applications and approvals and will approve, approve with changes, or deny the requested actions that are within the City's authority. The City will consider the information contained in this EIR and this EIR's Administrative Record in its decision-making processes. Upon certification of this EIR and approval of the Project, the City would conduct administrative reviews and grant ministerial permits and approvals to implement Project requirements and conditions of approval. Any future discretionary actions would be subject to CEQA. A list of the actions under City of Irwindale jurisdiction is provided in Table 3-4, *Matrix of Project Approvals/Permits*.

3.6 RELATED ENVIRONMENTAL REVIEW AND CONSULTATION REQUIREMENTS

Subsequent to approval of The Park @ Live Oak Specific Plan, General Plan Amendment (GPA) No. 01-2017, Zone Change (ZC) No. 01-2017, Tentative Parcel Map (TPM) No. 82551, and Development Agreement (DA) No. 01-2017 by the City of Irwindale, additional actions would be necessary to implement the proposed Project. Table 3-4, *Matrix of Project Approvals/Permits*, lists the agencies that are expected to rely on this EIR and provides a summary of the subsequent actions associated with the Project. This EIR covers all federal, state, local government and quasi-government approvals which may be needed to construct or implement the Project, whether or not they are explicitly listed in Table 3-4 or elsewhere in this EIR (CEQA Guidelines §15124(d)).



Table 3-4 Matrix of Project Approvals/Permits

PUBLIC AGENCY	APPROVALS AND DECISIONS
City of Irwindale	
Proposed Project – City of Irwindale Discretionary Approvals	
City Council	<ul style="list-style-type: none"> • Approve, conditionally approve, or deny The Park @ Live Oak Specific Plan, General Plan Amendment (GPA) No. 01-2017, Zone Change (ZC) No. 01-2017, Tentative Parcel Map (TPM) No. 82551, and Development Agreement (DA) No. 01-2017. • Reject or certify this EIR along with appropriate CEQA Findings.
Subsequent City of Irwindale Discretionary and Ministerial Approvals	
City of Irwindale Subsequent Implementing Approvals	<ul style="list-style-type: none"> • Approve Final Map, parcel mergers, lot line adjustments, or parcel consolidations, as may be appropriate. • Approve precise site plan(s) and landscaping/irrigation plan (s), as may be appropriate. • Approve Conditional or Temporary Use Permits, if required. • Issue Grading Permits. • Issue Building Permits. • Approve Road Improvement Plans. • Approve Sewer Infrastructure Plans. • Issue Encroachment Permits. • Accept public right-of-way dedications. • Approve Low Impact Development (LID).
Other Agencies – Subsequent Approvals and Permits	
Los Angeles County Flood Control District	<ul style="list-style-type: none"> • Approvals for construction of storm water infrastructure and connection to municipal storm water system.
California American Water Company	<ul style="list-style-type: none"> • Approvals for construction of water infrastructure, inclusive of a new water well, and connection to water distribution system. • Approvals for annexation of portions of the Project site into CAW’s service area.
Los Angeles Regional Water Quality Control Board	<ul style="list-style-type: none"> • Issuance of a Construction Activity General Construction Permit. • Approval of LID.
Los Angeles County Sanitation Districts (LACSD)	<ul style="list-style-type: none"> • Approval of connections to the municipal sewer system.
Los Angeles County Public Health Department	<ul style="list-style-type: none"> • Water well drinking permit.
Main San Gabriel Watermaster	<ul style="list-style-type: none"> • Water well permit.
California Department of Transportation	<ul style="list-style-type: none"> • Outdoor Advertising Permit(s) related to new or altered billboards on the site adjacent to I-605.
State Water Resources Control Board (SWRCB), Division of Drinking Water	<ul style="list-style-type: none"> • Permits and approvals associated with the proposed on-site water well.

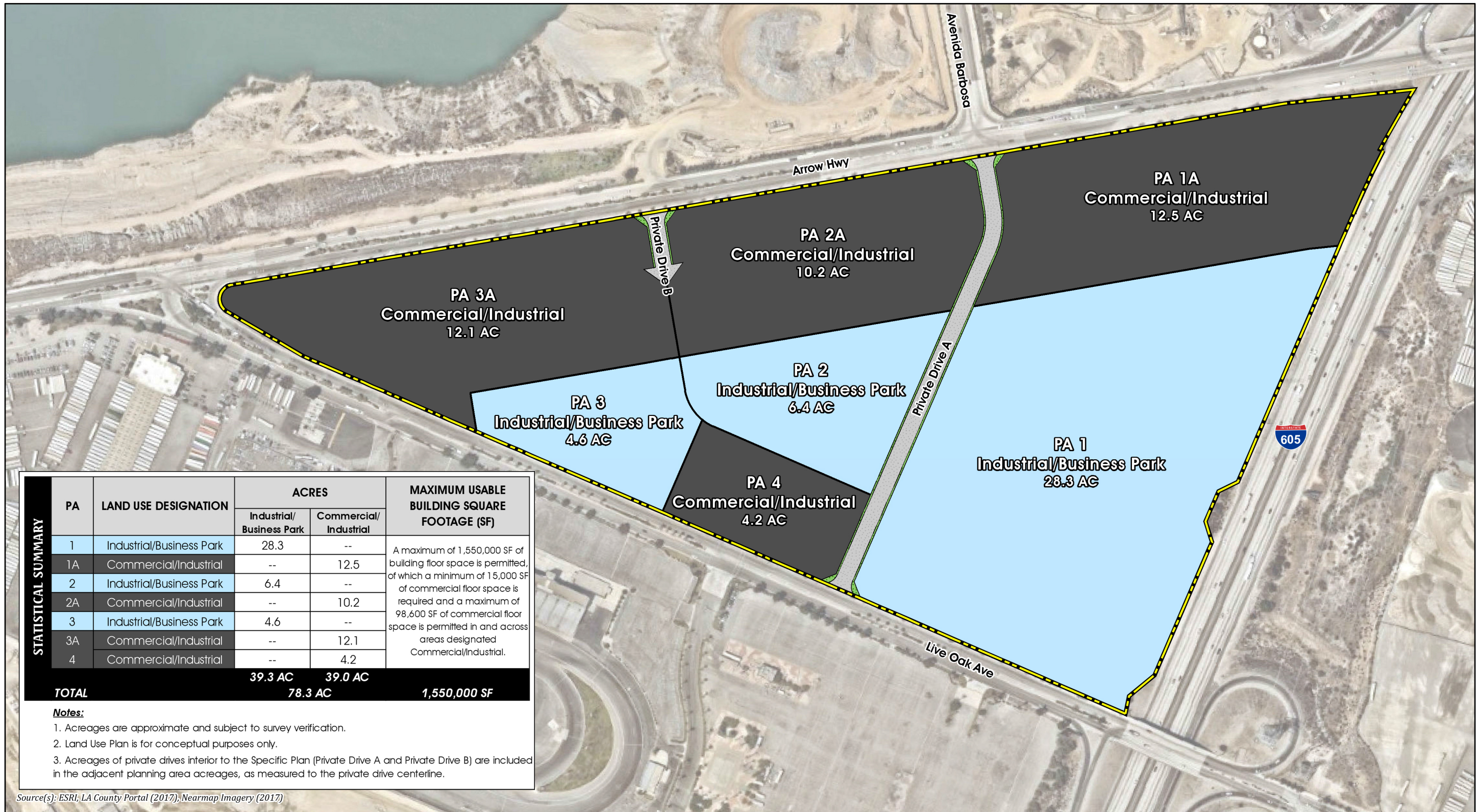
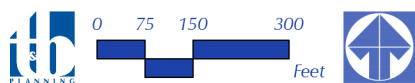


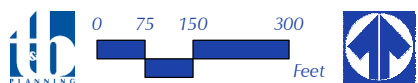
Figure 3-1



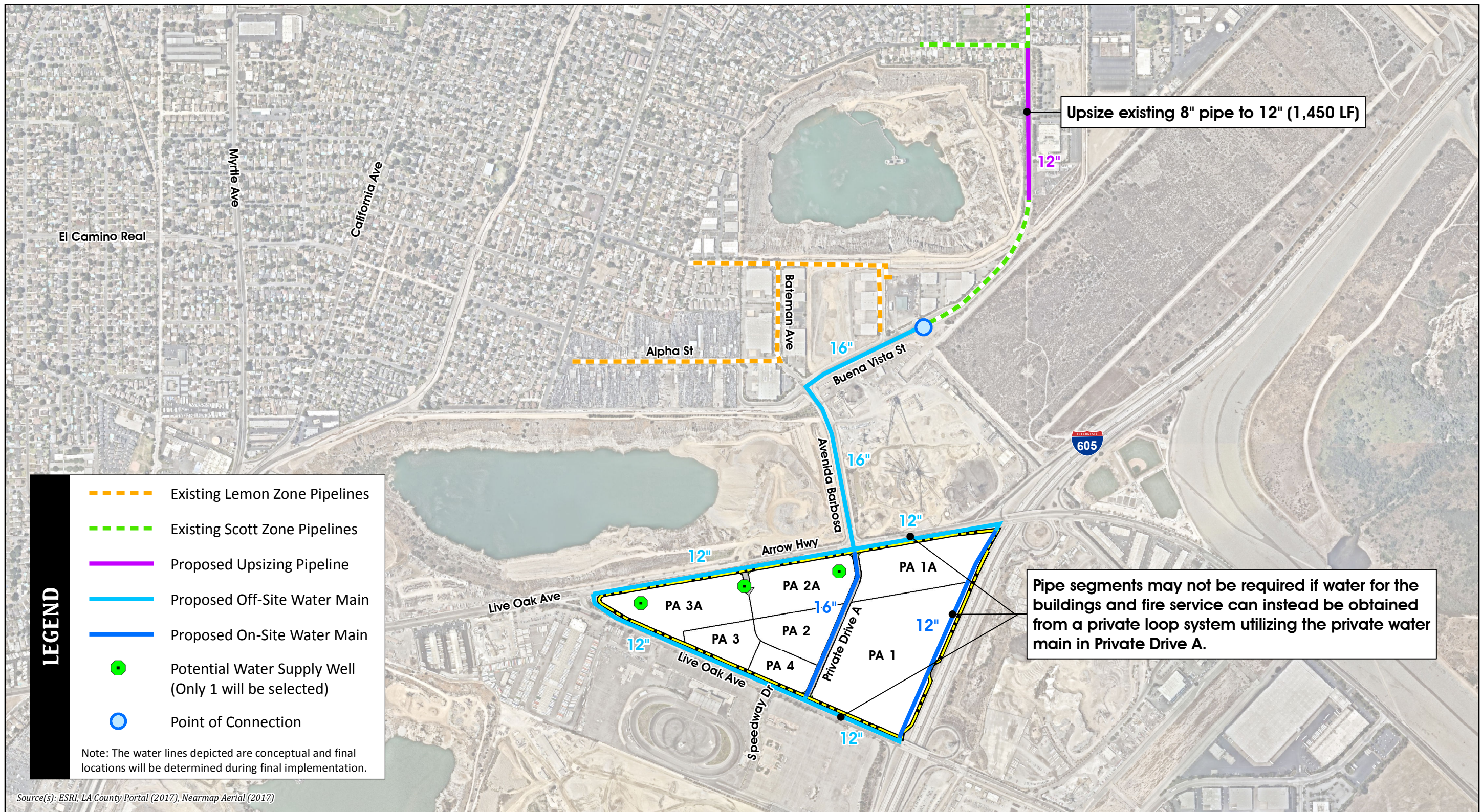
THE PARK @ LIVE OAK LAND USE PLAN



Figure 3-2



CONCEPTUAL VEHICULAR CIRCULATION AND ACCESS PLAN



Upsize existing 8" pipe to 12" (1,450 LF)

Pipe segments may not be required if water for the buildings and fire service can instead be obtained from a private loop system utilizing the private water main in Private Drive A.

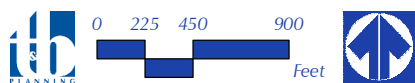
LEGEND

- - - Existing Lemon Zone Pipelines
- - - Existing Scott Zone Pipelines
- Proposed Upsizing Pipeline
- Proposed Off-Site Water Main
- Proposed On-Site Water Main
- Potential Water Supply Well (Only 1 will be selected)
- Point of Connection

Note: The water lines depicted are conceptual and final locations will be determined during final implementation.

Source(s): ESRI, LA County Portal (2017), Nearmap Aerial (2017)

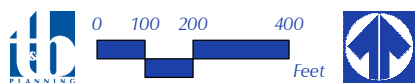
Figure 3-3



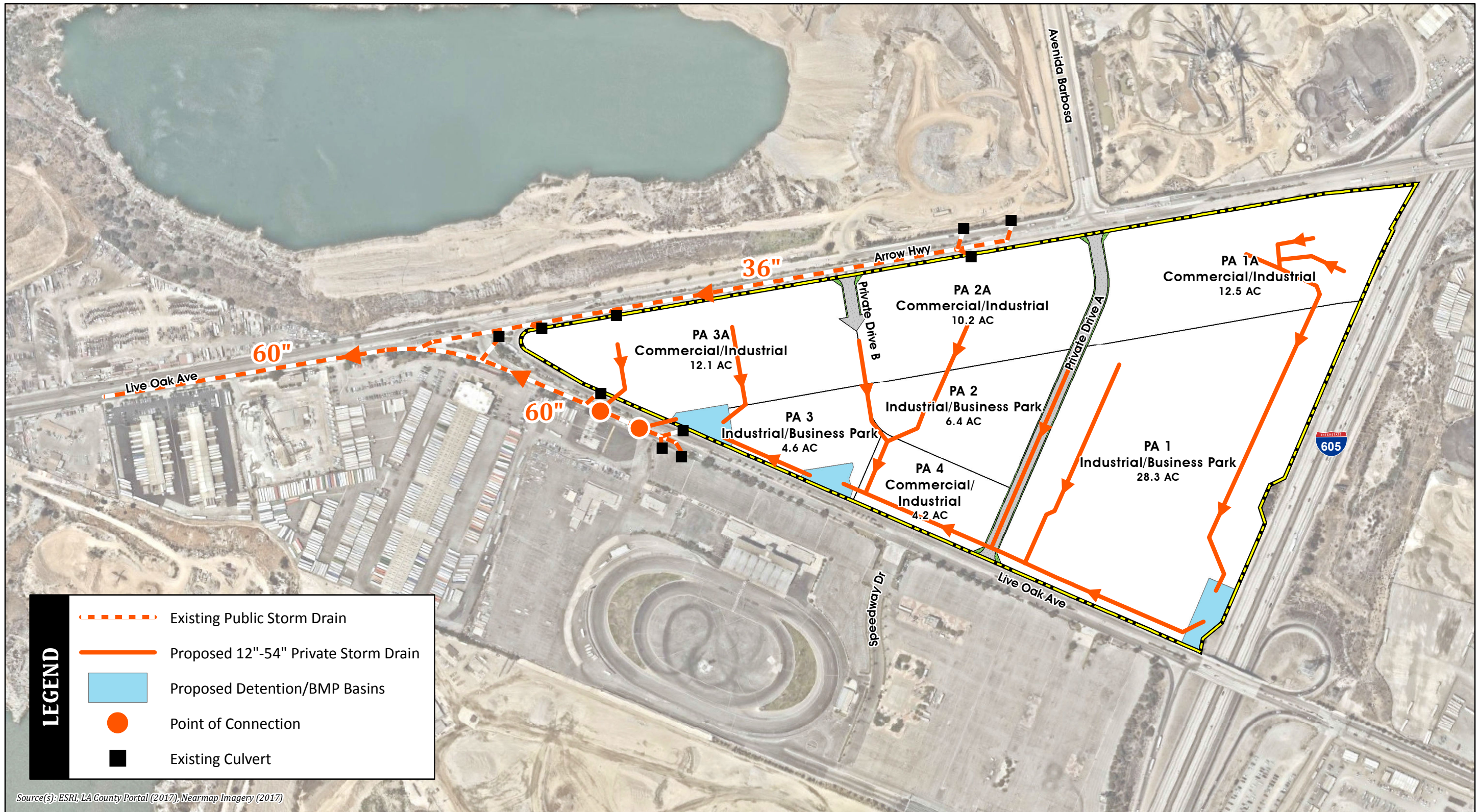
CONCEPTUAL WATER PLAN



Figure 3-4

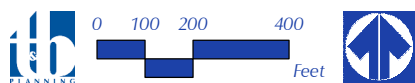


CONCEPTUAL SANITARY SEWER PLAN



Source(s): ESRI, LA County Portal (2017), Nearmap Imagery (2017)

Figure 3-5

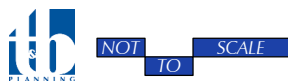


CONCEPTUAL STORM WATER MANAGEMENT PLAN



Source(s): Ware Malcomb (10-16-2018)

Figure 3-6



CONCEPTUAL ARCHITECTURAL RENDERING

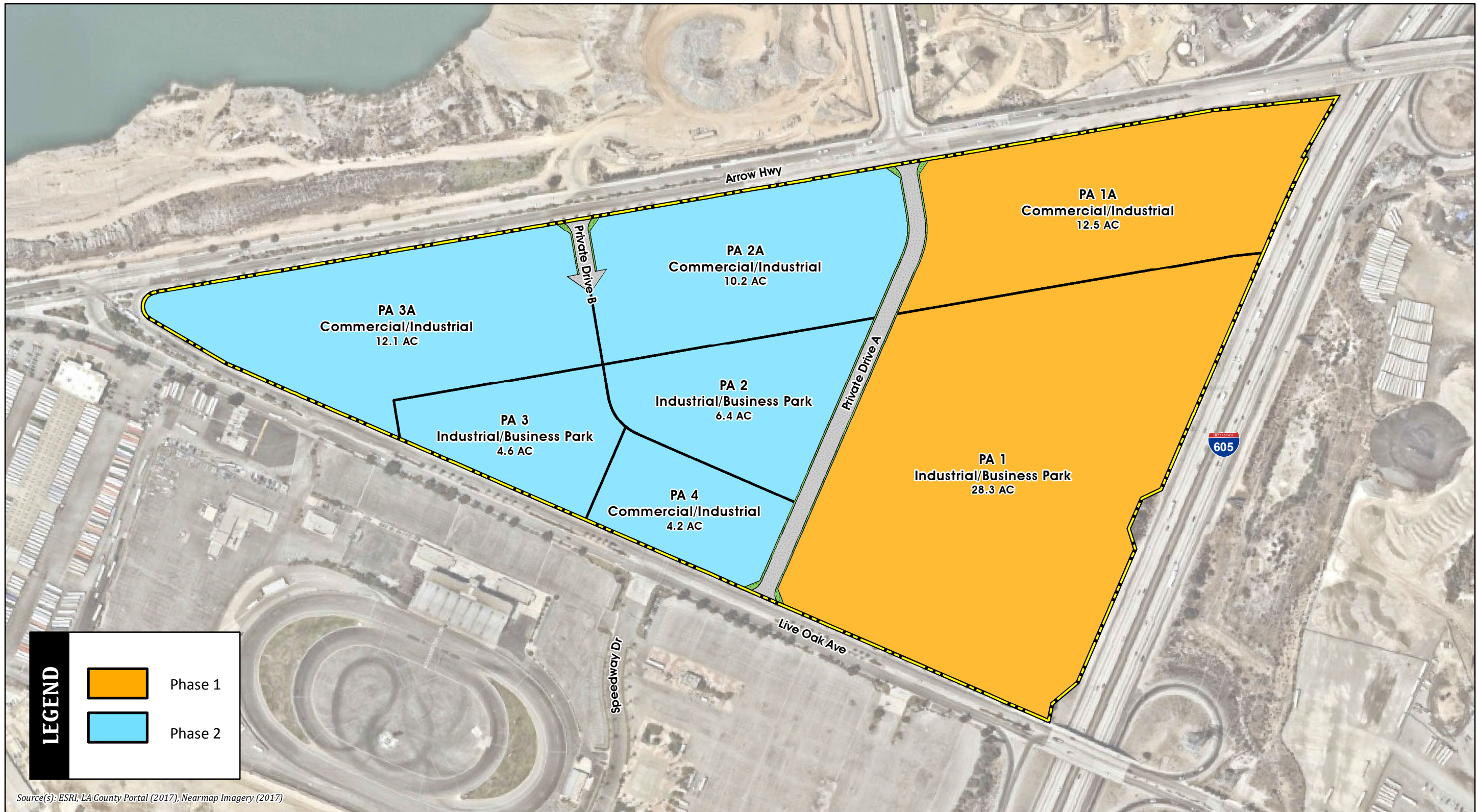
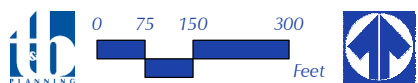


Figure 3-7



CONCEPTUAL PHASING PLAN

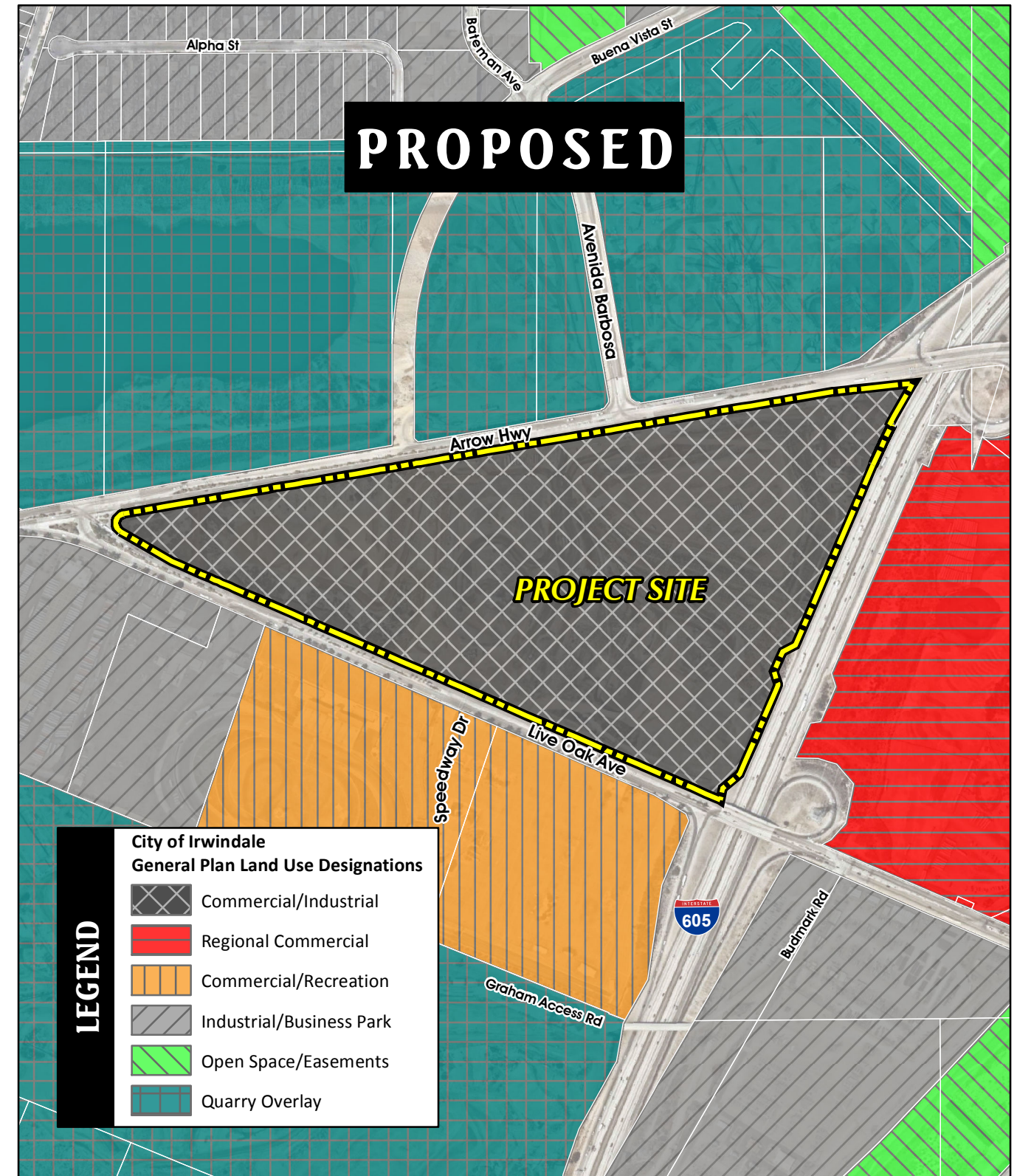
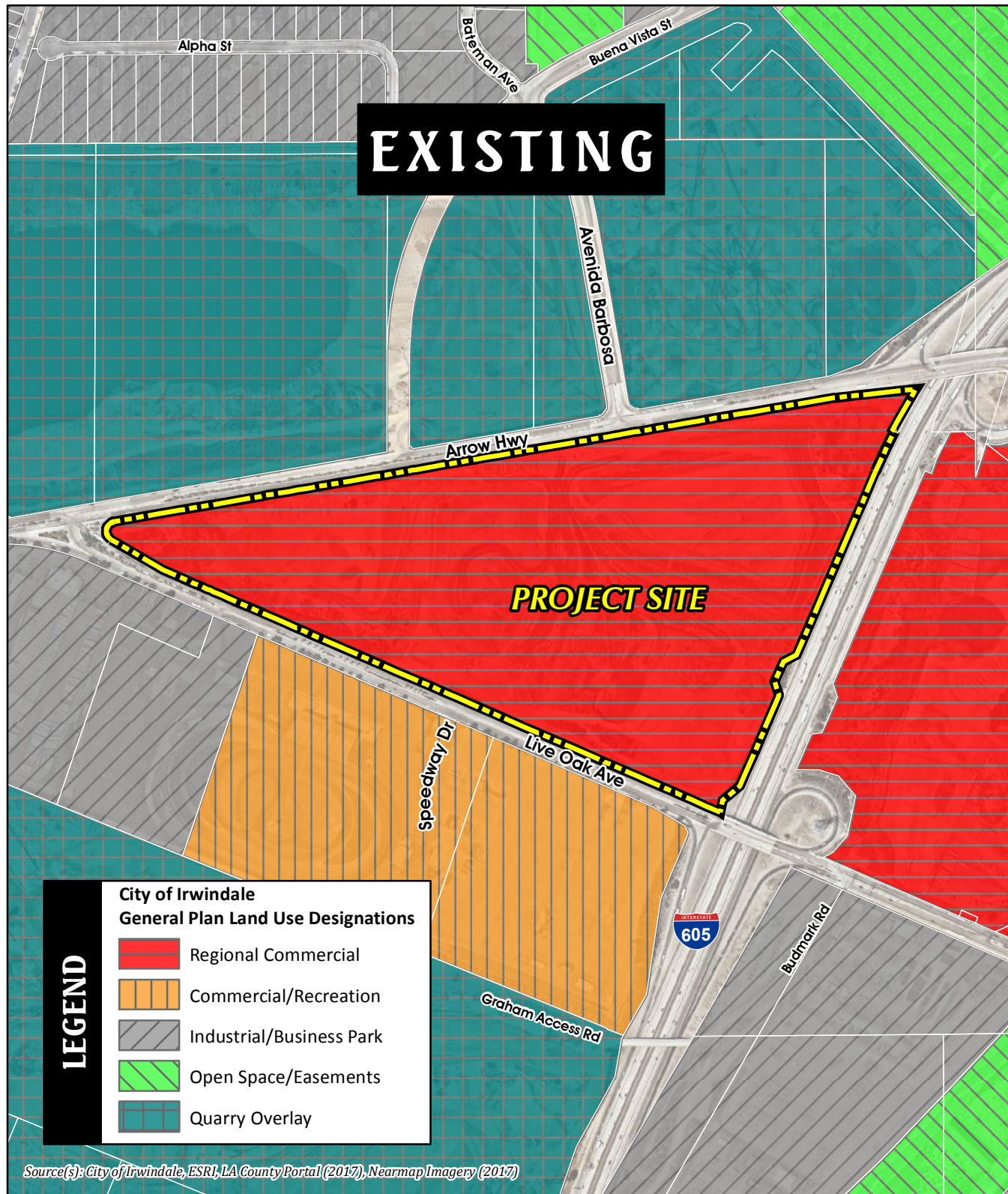
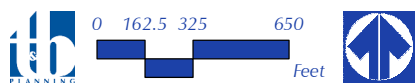


Figure 3-8



EXISTING AND PROPOSED GENERAL PLAN LAND USE DESIGNATIONS

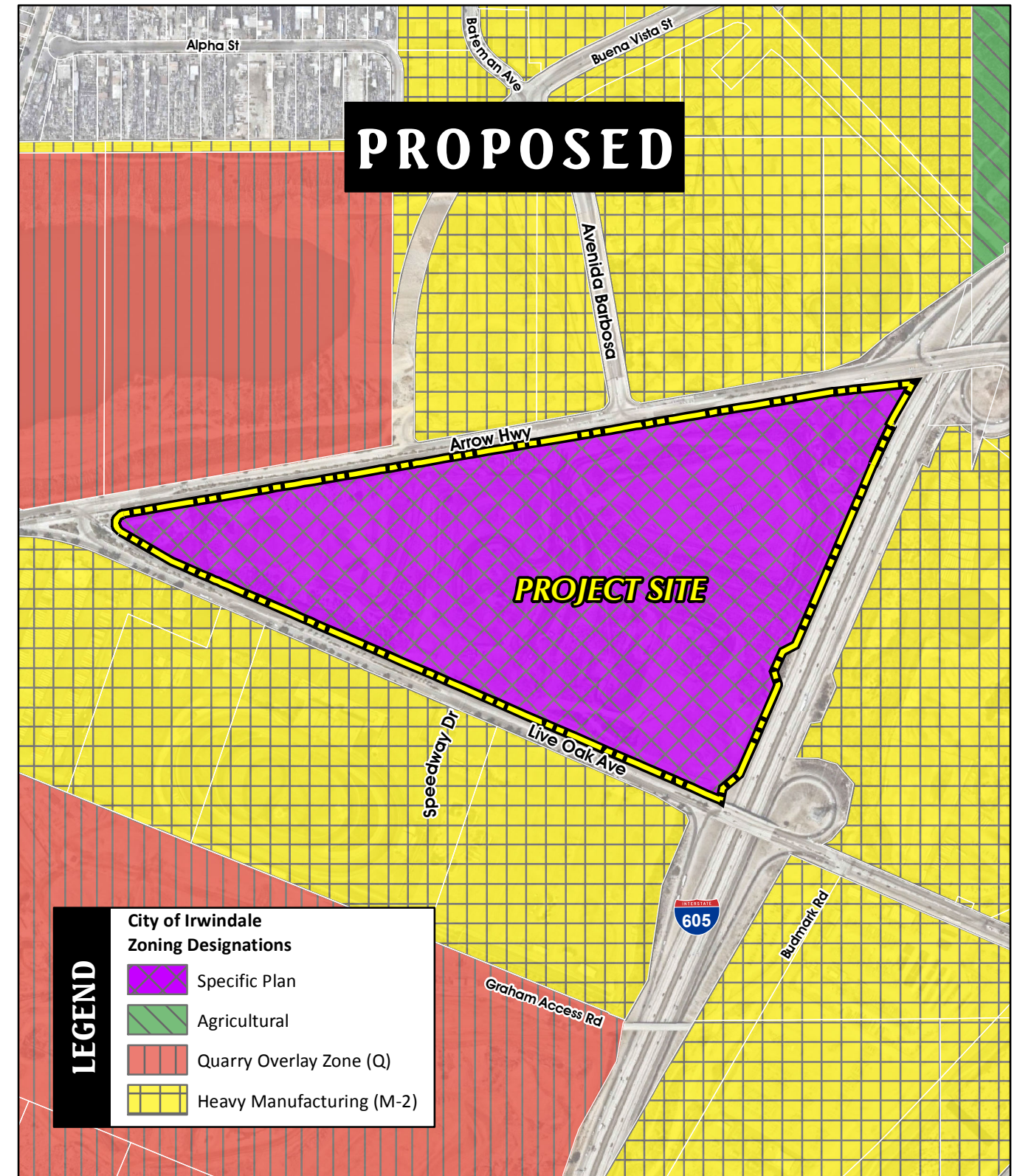
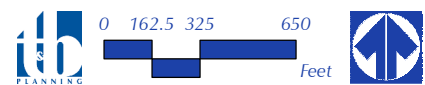


Figure 3-9

EXISTING AND PROPOSED ZONING CLASSIFICATIONS



GENERAL NOTES

1. OWNER/DEVELOPER	IRWINDALE PARTNERS II, LP 510 E. FOOTHILL BLVD., SUITE 206 SAN DIMAS, CA 91773 ATTN: TONY SPRAD (626)222-4924	4. DATE SURVEY:	JANUARY 26, 2018 BY JOHNSON-FRANK & ASSOCIATES, INC.	7. EXISTING ZONING	QUARRY OVERLAY ZONE (Q) HEAVY MANUFACTURING (M-2)
2. ENGINEER	D & D ENGINEERING, INC 8901 S. LA GENEGA BLVD., SUITE 106 INGLEWOOD, CA 90301 ATTN: HENRIK NARAZIAN, P.E. (424) 351-6800	5. EXISTING LAND USE (ONSITE)	REGIONAL COMMERCIAL	PROPOSED ZONING	SPECIFIC PLAN (SP)
3. SOILS ENGINEER	HO GEOSOLUTIONS, INC. 6320 CANOGA AVENUE, SUITE 1500 WOODLAND HILLS, CA 91367 ATTN: BRIAN D. SKYERS (818)357-5845	6. EXISTING LAND USE	REGIONAL COMMERCIAL COMMERCIAL/RECREATION INDUSTRIAL/BUSINESS PARK QUARRY OVERLAY	8. GROSS AREA NET AREA	78.3 AC± 74.5 AC±
				9. ASSESSOR'S PARCEL NO:	8532-001-900 8532-001-006 8532-001-002
				10. DENSITY:	PER SPECIFIC PLAN 160

LEGEND

---	RIGHT OF WAY
---	PROPOSED LOT LINES
---	EXISTING LOT LINES
---	CENTERLINE
---	PROPOSED SEWER
---	PROPOSED WATER
---	PROPOSED STORM DRAIN
---	EXISTING FENCE
---	EXISTING MAJOR CONTOUR
---	EXISTING MINOR CONTOUR

LEGAL DESCRIPTION

PARCEL 1:
MAP NO. 18724, AS PER FILED IN BOOK 198, PAGES 77 AND 78 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ASSESSOR'S PARCEL NO: 8532-001-900

PARCEL 2:
THAT PORTION OF LOT 6 OF FRACTIONAL SECTION 1 OF TOWNSHIP 1 SOUTH, RANGE 11 WEST, AS SHOWN ON MAP OF THE SUBDIVISION OF THE RANCHO AZUSA DE DUARTE, IN THE CITY OF IRWINDALE, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 6 PAGES 80 TO 82 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, BOUNDED AS FOLLOWS:

BOUNDED NORTHERLY BY THE SOUTHERLY LINE OF ARROW HIGHWAY, 100 FEET WIDE, AS DESCRIBED IN PARCEL 4-3, IN FINAL ORDER OF CONDEMNATION ENTERED IN LOS ANGELES COUNTY SUPERIOR COURT CASE NO. 517607, A CERTIFIED COPY OF WHICH WAS RECORDED IN BOOK 29149 PAGE 166 OF OFFICIAL RECORDS OF SAID COUNTY, BOUNDED SOUTHERLY BY THE NORTHERLY LINE OF LIVE OAK AVENUE, 100 FEET WIDE, AS DESCRIBED IN FINAL ORDER OF CONDEMNATION ENTERED IN LOS ANGELES COUNTY SUPERIOR COURT CASE NO. 269622, A CERTIFIED COPY OF WHICH WAS RECORDED IN BOOK 12289 PAGE 277 OF OFFICIAL RECORDS OF SAID COUNTY, BOUNDED WESTERLY BY THE EAST LINE OF PARCEL 1 OF PARCEL MAP NO. 18724, AS SHOWN ON MAP FILED IN BOOK 198 PAGES 77 AND 78 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ASSESSOR'S PARCEL NO. 8532-001-006, COMMONLY KNOWN AS 1220 ARROW HIGHWAY, IRWINDALE.

PARCEL 3:
THOSE PORTIONS OF LOTS 36, 43, AND 44 OF THE J.R. LOFTUS TRACT NO. 1, IN THE CITY OF IRWINDALE, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON A MAP RECORDED IN BOOK 14, PAGE 29 OF MAPS IN THE OFFICE OF THE COUNTY RECORDER OF LOS ANGELES, CALIFORNIA, AND ALSO THAT PORTION OF SECTION 1, TOWNSHIP 1 SOUTH, RANGE 11 WEST, OF THE SUBDIVISION OF THE RANCHO AZUSA DE DUARTE, IN SAID CITY, COUNTY AND STATE, AS SHOWN ON A MAP RECORDED IN BOOK 6, PAGES 80 TO 82 OF MISCELLANEOUS RECORDS OF LOS ANGELES COUNTY, CALIFORNIA, BOUNDED AS FOLLOWS:

BOUNDED WESTERLY BY THE SOUTHERLY PROLONGATION OF THE WESTERLY LINE OF LOT 35 OF SAID J.R. LOFTUS TRACT NO. 1; BOUNDED SOUTHWESTERLY BY THE NORTHEASTERLY LINE OF THE 100-FOOT WIDE PUBLIC ROAD DESCRIBED IN THE FINAL JUDGEMENT IN FAVOR OF THE COUNTY OF LOS ANGELES UNDER CASE NO. 269622 IN SUPERIOR COURT, RECORDED AUGUST 18, 1933 IN BOOK 12289, PAGE 277 OF OFFICIAL RECORDS; BOUNDED EASTERLY BY THE GENERAL WESTERLY LINES OF THE LAND DESCRIBED IN PARCEL 3A (REAMENDED) IN THE FINAL ORDER OF CONDEMNATION IN FAVOR OF THE PEOPLE OF THE STATE OF CALIFORNIA UNDER CASE NO. 842381 IN SUPERIOR COURT, RECORDED FEBRUARY 25, 1970 AS DOCUMENT NO. 2784, IN BOOK D-4641, PAGE 866 OF OFFICIAL RECORDS; BOUNDED NORTHWESTERLY BY THE SOUTHEASTERLY LINE OF 100-FOOT WIDE PUBLIC ROAD DESCRIBED IN THE FINAL ORDER OF CONDEMNATION IN FAVOR OF THE COUNTY OF LOS ANGELES UNDER CASE NO. 517607 IN SUPERIOR COURT, RECORDED JANUARY 12, 1949 AS DOCUMENT NO. 1324, IN BOOK 29149, PAGE 166 OF OFFICIAL RECORDS; AND BOUNDED NORTHERLY BY A LINE HAVING A BEARING AND DISTANCE OF "SOUTH 83°39'23" WEST, 384.64," AS SAID LINE IS SET FORTH IN PARCEL 3A OF THE FINAL ORDER OF CONDEMNATION RECORDED FEBRUARY 25, 1970 AS DOCUMENT NO. 2784, IN BOOK D-4641, PAGE 866 OF OFFICIAL RECORDS.

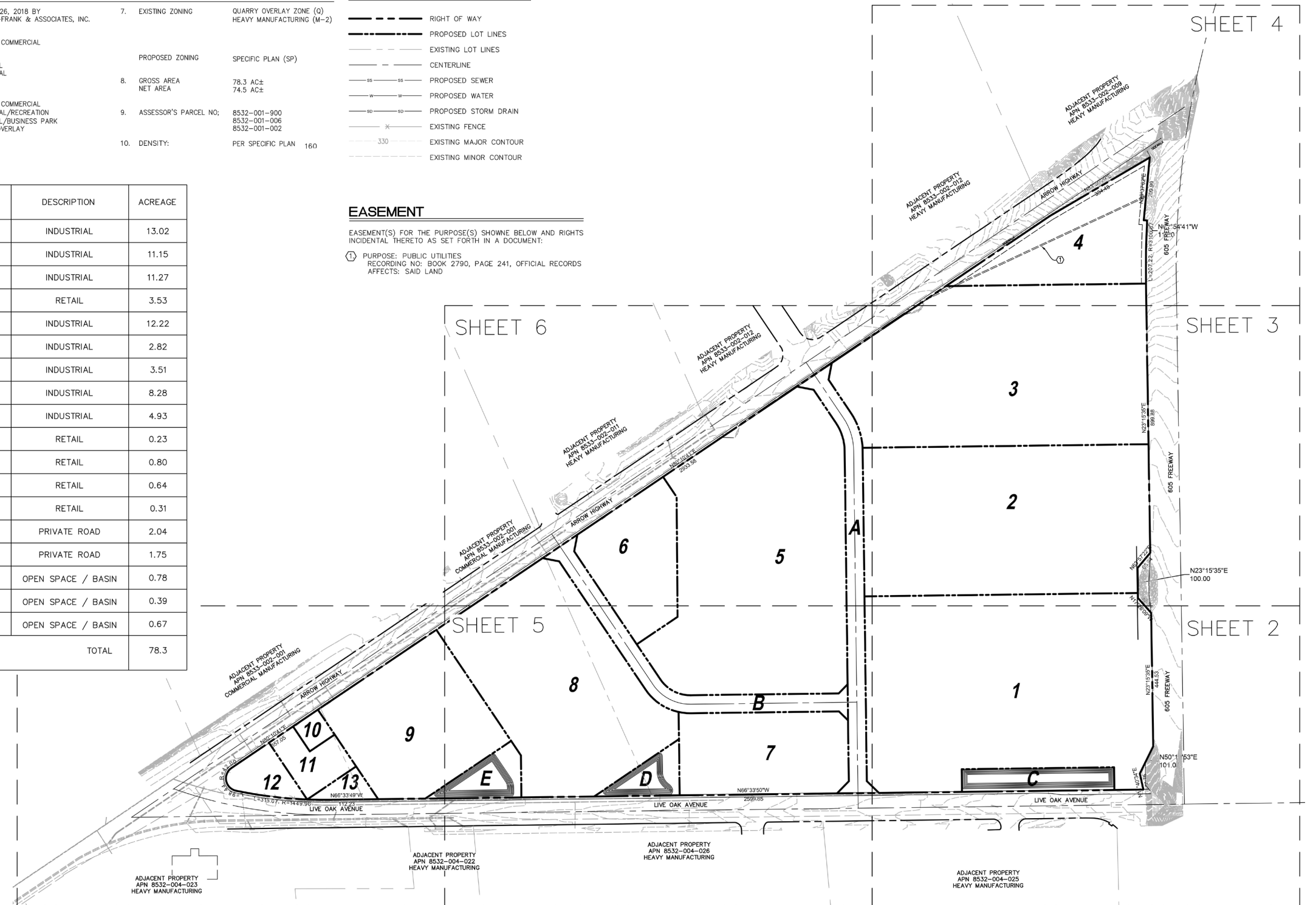
ASSESSOR'S PARCEL NO. 8532-001-002, COMMONLY KNOWN AS 1270 ARROW HIGHWAY, IRWINDALE.

PARCEL NUMBER/ LETTER	DESCRIPTION	ACREAGE
1	INDUSTRIAL	13.02
2	INDUSTRIAL	11.15
3	INDUSTRIAL	11.27
4	RETAIL	3.53
5	INDUSTRIAL	12.22
6	INDUSTRIAL	2.82
7	INDUSTRIAL	3.51
8	INDUSTRIAL	8.28
9	INDUSTRIAL	4.93
10	RETAIL	0.23
11	RETAIL	0.80
12	RETAIL	0.64
13	RETAIL	0.31
A	PRIVATE ROAD	2.04
B	PRIVATE ROAD	1.75
C	OPEN SPACE / BASIN	0.78
D	OPEN SPACE / BASIN	0.39
E	OPEN SPACE / BASIN	0.67
	TOTAL	78.3

EASEMENT

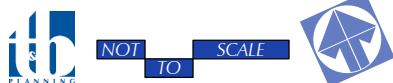
EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

- ① PURPOSE: PUBLIC UTILITIES
RECORDING NO: BOOK 2790, PAGE 241, OFFICIAL RECORDS
AFFECTS: SAID LAND



Source(s): D&D Engineering, Inc. (01-30-2019)

Figure 3-10



TENTATIVE PARCEL MAP NO. 82551

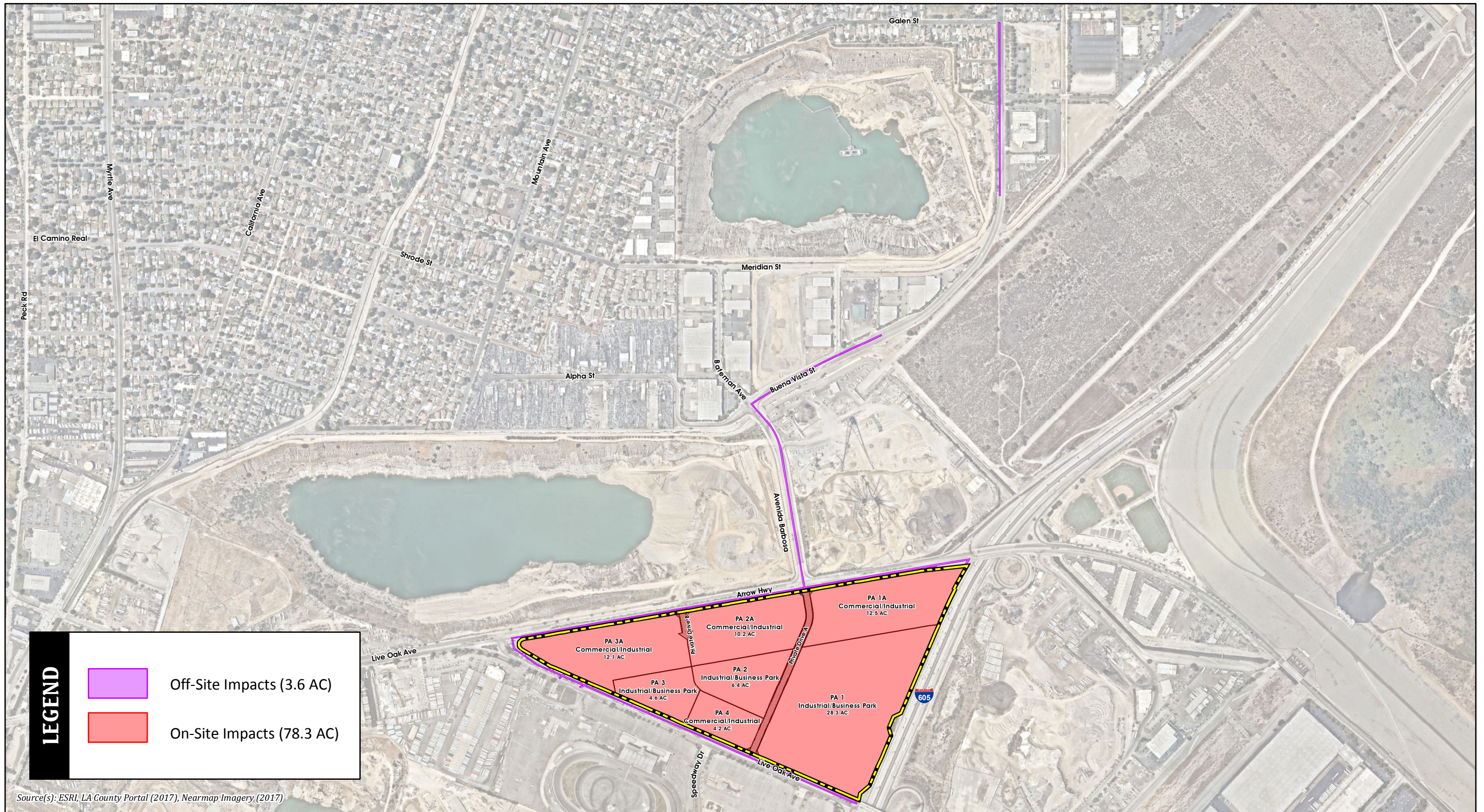
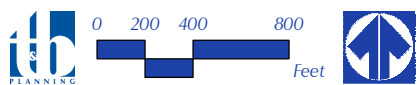


Figure 3-11



PROPOSED PHYSICAL DISTURBANCES



4.0 ENVIRONMENTAL ANALYSIS

4.0.1 SUMMARY OF EIR SCOPE

In accordance with CEQA Guidelines §§15126 - 15126.4, this EIR Section 4.0, *Environmental Analysis*, provides analyses of potential direct, indirect, and cumulatively considerable impacts that could occur from planning, constructing, and operating the proposed Project.

In compliance with the procedural requirements of CEQA, the City of Irwindale prepared an Initial Study to determine the scope of environmental analysis for this EIR. Public comment on the scope of this EIR consisted of written comments received by the City of Irwindale in response to the NOP; the City received no comments from members of the public at the EIR scoping meeting held on April 26, 2018. Taking all known information and public comments into consideration, 13 primary environmental subject areas are evaluated in this Section 4.0, as listed below. Each subsection of this Section 4.0 evaluates several specific subject matters related to the general topic of the subsection. The title of each subsection is not limiting; therefore, refer to each subsection for a full account of the subject matters addressed therein.

After the Initial Study was prepared and the NOP was released for public review, but before this EIR was released for public review, the California Natural Resources Agency finalized updates to the CEQA Guidelines. The changes were approved by the Office of Administrative Law on December 28, 2018. The revisions to the CEQA Guidelines implemented legislative changes, clarified rules that govern the CEQA procedural process, and limited duplicative analysis. The revisions also resulted in re-organization and consolidation of the environmental checklist offered by CEQA Guidelines Appendix G, which forms the basis of the environmental analyses presented in this Section 4.0. Prior to release of this EIR for public review, the City of Irwindale considered the substantive content of the revised CEQA Guidelines to ensure that this EIR complies with the revised CEQA Guidelines. The topics listed below that are fully analyzed in this Section 4.0 meet the substantive requirements of the CEQA Guidelines revisions approved in December 2018, and do not differ from those identified by the Initial Study.

4.1	Aesthetics	4.8	Land Use and Planning
4.2	Air Quality	4.9	Noise
4.3	Energy	4.10	Public Services
4.4	Geology and Soils	4.11	Transportation
4.5	Greenhouse Gas Emissions	4.12	Tribal Cultural Resources
4.6	Hazards & Hazardous Materials	4.13	Utilities and Service Systems
4.7	Hydrology & Water Quality		

As part of the Initial Study process, six (6) environmental subjects were determined by the City of Irwindale to have no potential to be significantly impacted by the Project, as concluded by the Project's Initial Study (included in *Technical Appendix A* to this EIR) and after consideration of all comments received by the City on the scope of this EIR and documented in the City's administrative record.



These six (6) subjects are discussed briefly in Section 5.0, *Other CEQA Considerations*, and include Agriculture and Forest Resources; Biological Resources; Cultural (Archaeological and Paleontological) Resources; Mineral Resources; Population and Housing; and Recreation. The Project site is a former sand and gravel quarry, which was mined to depths of up to 170 feet below ground surface (bgs). As such, there is no potential for the site to contain significant agriculture, forest, archaeological, paleontological, and mineral resources. Because the Project does not entail a residential component under existing or proposed conditions, it does not have the potential to result induce population growth or displace housing or people. Additionally, because the Project proposes employment-generating uses and does not include a residential component, there is no potential for the Project to generate a resident population that would create substantive demand for recreation facilities. Last, based on the CEQA Guidelines Appendix G revisions of December 2018, the City identified Wildfire as an issue area that the proposed Project has no potential to adversely affect, because the property is surrounded by roads and developed or mined properties and is not located in a high wildfire hazard zone. Refer to EIR Section 5.0, *Other CEQA Considerations*, for more information about these topics.

4.0.2 SCOPE OF CUMULATIVE EFFECTS ANALYSIS

CEQA requires that an EIR contain an assessment of the cumulative impacts that may be associated with a proposed project. As noted in CEQA Guidelines §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 §15130(a)(1)). As defined in CEQA Guidelines §15355:

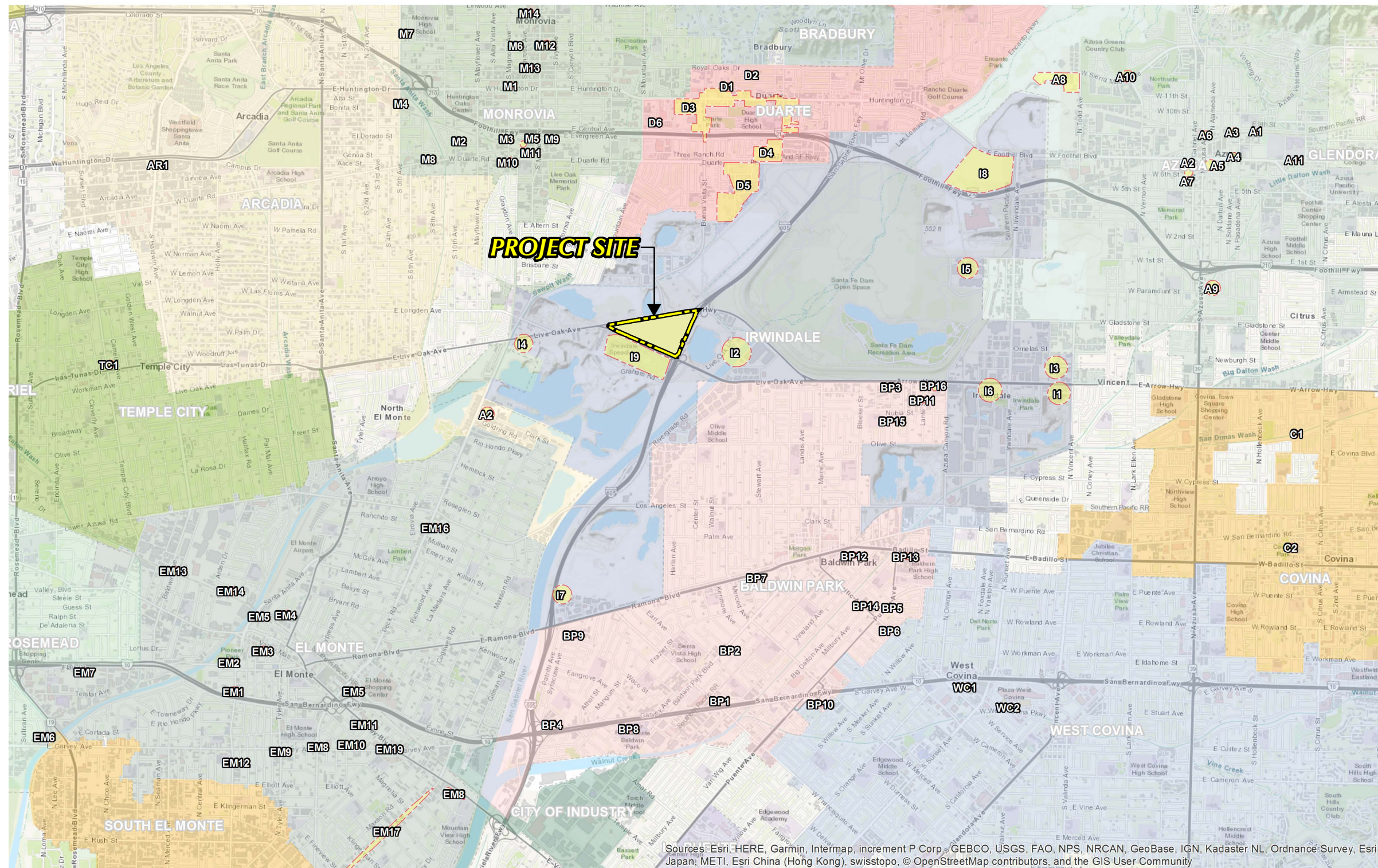
‘Cumulative Impacts’ refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

- (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 §15130(b) describes two acceptable methods for identifying a study area for purposes of conducting a cumulative impact analysis. These 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’].”



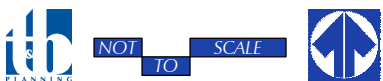
The cumulative analysis presented in this EIR relies on the list of projects approach. This approach was determined to be appropriate by the City of Irwindale because the Project area is largely built out, and the summary of projections approach would not adequately account for ambient and other growth (e.g., redevelopment) in the Project's cumulative study area. Specific development projects included in the cumulative analysis are shown in Figure 4.0-1, *Cumulative Development Projects Location Map*, and are listed below in Table 4.0-1, *List of Cumulative Development Projects*. This approach is considered conservative because the cumulative study area encompasses a large area surrounding the Project site and it is unlikely that the Project's impacts would directly or indirectly interact with impacts from all of the 82 identified past, present, and reasonably foreseeable projects listed in Table 4.0-1. The list of projects was compiled in consultation with planning and engineering staff from Cities of Irwindale, Baldwin Park, Duarte, West Covina, Azusa, Monrovia, El Monte, Temple City, Arcadia, and Covina, and is provided in Table 4-4 of the Project's Traffic Impact Analysis (EIR *Technical Appendix II*). In instances where a wider or different geographic cumulative effects area is appropriate, the rationale for determining the area is described in the relevant subsection of Section 4.0 of this EIR under the subheading "Cumulative Impact Analysis."



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

Source(s): Urban Crossroads (05-11-2018)

Figure 4.0-1



CUMULATIVE DEVELOPMENT PROJECTS LOCATION MAP



Table 4.0-1 List of Cumulative Development Projects

ID	Project Name/Location	Land Use	Quantity ¹
City of Irwindale			
I1	Manning Pit (SWC of Vincent Av. & Arrow Hwy.)	Industrial	545.735 TSF
I2	Nu-Way Pit (13620 Live Oak Lane)	Pilot Flying J Travel Center	15.000 TSF
		New Truck Sales Dealership	3.000 TSF
I3	Panatonni (16203-16233 Arrow Highway)	Industrial	133.800 TSF
I4	Panatonni (242 Live Oak Avenue)	Industrial	85.400 TSF
I5	Ayala Industrial Building (5589 Ayala Avenue)	Industrial	80.000 TSF
I6	Irwindale Med Clinic (15768 Arrow Highway)	Medical Office Building	13.300 TSF
		Wendy's Restaurant (15768 Arrow Highway)	2.300 TSF
I7	Kaiser Medical Office Building (12761 Schabarum Av.)	Medical Office Building	90.000 TSF
I8	Irwindale Reliance II Business Park	Warehouse	1,241.442 TSF
		Industrial Park	612.058 TSF
		Commercial Retail	5.000 TSF
		Fast-Food without Drive-Thru	5.000 TSF
I9	Regional Shopping Center (500 Speedway Dr.)	Shopping Center	640.000 TSF
City of Baldwin Park			
BP1	Retail/Restaurant - 003 Garvey	Restaurant	6.800 TSF
BP2	SP Modification 8552-017-004	SFDR	51 DU
BP3	Warehouse - 5014 Heintz St.	Warehouse	1.500 TSF
BP4	Residential - 12762-70 Torch St.	Condos	24 DU
BP5	Residential - 3726 Puente Av.	Condos	4 DU
BP6	Commercial/Residential - 14911 Pacific	Commercial	1.740 TSF
		Apartments	4 DU
BP7	Residential - 3913 Stewart Av.	Multi-Family Residential	4 DU
BP8	Medical - 1011 Baldwin Park Bl.	Medical Office	60.000 TSF
BP9	Residential - 3540 Barnes Av.	SFDR	8 DU
BP10	Office - 14622 Dalewood St.	Office	60.000 TSF
BP11	Warehouse - 5044 Gayhurst Av.	Warehouse	2.600 TSF
BP12	Residential - 15000 Badillo St.	Condos	16 DU
BP13	Residential - 15110-20 Badillo St.	Condos	12 DU
BP14	Residential - 3715-3725 Puente Av.	SFDR	47 DU
BP15	Residential - 4923-4929 Fortin St.	SFDR	15 DU
BP16	Residential/Warehouse - 5115 Azusa Canyon Rd.	Condos	10 DU
		Warehouse	90.000 TSF
City of Duarte			
D1	The Huntington-Duarte Town Center Mixed Use Project (1405-37 Huntington Dr., Residential/Retail Hybrid)	Retail	3.500 TSF
		Apartments	161 DU
		Live/Work	2.100 TSF
D2	3rd & Oak Residential Development	Townhomes	18 DU
D3	Town Center Specific Plan	Retail	703.000 TSF
		Residential	800 DU
		Hotel	450 RM
D4	Duarte Station Specific Plan	Office	400.000 TSF
		Residential	475 DU
		Hotel	250 RM
D5	City of Hope Specific Plan	Core Medical	1,030.500 TSF
D6	928 Huntington Dr.	Apartments	22 DU



Table 4.0-1 List of Cumulative Development Projects (Continued)

ID	Project Name/Location	Land Use	Quantity ¹
City of West Covina			
WC1	Porto's Bakery & Café (1360 W. Garvey Av.)	Restaurant	21.943 TSF
WC2	Gaucha Grill Argentinean Steakhouse (1129 W. Covina Pkwy.)	Restaurant	4.356 TSF
City of Azusa			
A1	Promenade at Citrus (Promenade and Citrus)	Retail	8.250 TSF
A2	525 N. Azusa Av. (Residential/Retail Hybrid)	Apartments	102 DU
		Retail	4.600 TSF
A3	Metro Walk (803-813 N. Dalton Av.)	Condo/Townhomes	30 DU
A4	Smart & Final Extra (303 E. Foothill Bl.)	Discount Store	29.429 TSF
A5	Block 36 (S. of Foothill Bl. between Azusa Av. & Alameda Av.)	Condo/Townhomes	108 DU
		Commercial Retail	33.000 TSF
		Movie Theater	10.000 TSF
A6	A-2 Property (Azusa Av. & 9th St.)	Apartments	350 DU
		Commercial Retail	15.000 TSF
A7	Azusa Regency Villas (618 N. San Gabriel Av., Residential/Retail Hybrid)	Apartments	70 DU
		Commercial Retail	14.840 TSF
A8	Azusa Business Center (1025 N. Todd Av.)	Industrial	462.491 TSF
A9	Gladstone Senior Villas (360 E. Gladstone St.)	Senior Apartments	60 DU
A10	619 N. San Gabriel Av. (Residential/Retail Hybrid)	Apartments	6 DU
		Commercial Retail	0.965 TSF
A11	Popeyes Louisiana Kitchen (994 E. Alosta Av.)	Fast Food w/ Drive-Thru	2.279 TSF
City of Monrovia			
M1	Marriott (102-140 W. Huntington Dr.)	Hotel	109 RM
M2	530 Fano St.	Condos	12 DU
M3	MODA (Pomona Av. between Primrose & Magnolia)	Multi-Family Residential	261 DU
		Gym	225.220 TSF
M4	1110-1212 S. Fifth Av.	Multi-Family Residential	154 DU
		Gym	1.340 TSF
M5	Artisan Food Village (137 W. Pomona Av.)	Restaurant	12.617 TSF
		Coffee Shop	2.165 TSF
		Brewery	3.477 TSF
		Retail	2.675 TSF
M6	239 W. Chestnut Av.	Condos	10 DU
M7	303 S. Madison Av.	SFDR	6 DU
M8	717-721 W. Duarte Rd.	Condos	11 DU
M9	1601 S. Myrtle Av.	Multi-Family Residential	103 DU
M10	Northeast Corner of Magnolia Av. & Duarte Rd.	Apartments	296 DU
M11	1625 S. Magnolia Av.	Apartments	392 DU
M12	825 S. Myrtle Av.	Multi-Family Residential	154 DU
M13	Starbucks (239 W. Huntington Dr.)	Coffee Shop w/Drive-Thru	2.200 TSF
M14	Corner of Myrtle & Lime	Multi-Family Residential	140 DU



Table 4.0-1 List of Cumulative Development Projects (Continued)

ID	Project Name/Location	Land Use	Quantity ¹
City of El Monte			
EM1	Gateway Specific Plan	High-Density Residential	485 DU
EM2	El Monte Gateway	Apartments	420 DU
		Affordable Apartments	132 DU
		Retail	25.000 TSF
EM3	Valley Walk (NW of Valley & Ramona)	Townhomes	62 DU
EM4	Santa Fe Trail Plaza (NEC Santa Anita & Valley)	Retail	115.000 TSF
EM5	Norms (SEC of Valley & Santa Anita)	Restaurant	6.800 TSF
EM6	China Press Media Center (Garvey west of Rosemead)	Office	60.000 TSF
EM7	Flair Spectrum (SEC of Rio Hondo & Flair)	Hotel	250 RM
		Apartments	600 DU
		Restaurant	50.000 TSF
		Retail	640.000 TSF
EM8	Garvey Square (NEC of Garvey & Peck)	Apartments	114 DU
		Retail	2.800 TSF
EM9	Garvey Walk (SEC of Garvey & Tyler)	Apartments	70 DU
		Retail	2.100 TSF
EM10	Garvey Senior Homes (NEC of Garvey & La Madera, Retail/Residential Hybrid)	Memory Care	20 DU
		Assisted Living	78 DU
		Retail	19.500 TSF
EM11	La Madera Senior Homes (NWC of Garvey & La Madera, Retail/Residential Hybrid)	Senior Housing	30 DU
		Retail	6.100 TSF
EM12	Santa Anita & Owens Project (South of the Garvey Mixed-Use Corridor)	Townhomes	36 DU
EM13	Baldwin Rose Veterans Village (Baldwin between Rose & railroad)	SFDR	2 DU
		Affordable Housing	55 DU
EM14	Hickson Campus (Arden between Hickson & railroad)	Industrial	165.000 TSF
EM15	Valley Mixed Use (Valley east of I-10 Freeway, Retail/Residential Hybrid)	Apartments	78 DU
		Retail	30.000 TSF
EM16	Palo Verde Housing (NWC of Peck & Ranchito)	Affordable Housing	49 DU
EM17	Durfee Mixed-Use Projects (Durfee between Fineview & Magnolia)	Apartments w/Ground Retail	49 DU
EM18	East Valley Hotel Projects (Valley between Durfee & I-605)	Hotel	140-160 RM
EM19	Valley Center (Mountain View between Valley & Garvey)	Retail	29.600 TSF
City of Temple City			
TC1	Terraces at Temple City (5935 Temple City Bl.)	Restaurant	7.250 TSF
City of Arcadia			
AR1	Bowlero (400 S. Baldwin Av.)	Bowling Alley	41.804 TSF
AR2	TTM No. 77169 (11700 Goldring Rd.)	Warehouse	16.360 TSF
City of Covina			
C1	Corona Innovation, Technology and Event Center (NEC of Citrus & Covina)	Condos	120 DU
		Event Center	21.000 TSF
		Office	17.200 TSF
C2	Hassen Development Project (Near North Citrus/West Orange & East San Bernardino/Park)	Multi-Family Residential	18 DU
		Retail	4.400 TSF

¹ TSF = Thousand Square Feet; DU = Dwelling Unit; RM = Rooms

Source: (Urban Crossroads, Inc., 2018f, Table 4-4)



4.0.3 IDENTIFICATION OF IMPACTS

Subsections 4.1 through 4.13 of this EIR evaluate the 13 environmental subjects warranting detailed analysis, as determined by this EIR's Initial Study (EIR *Technical Appendix A*). 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 Project's potential environmental impacts 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 presented in CEQA Guidelines Appendix G and as applied by the City Irwindale to create the Project's Initial Study Checklist (the Initial Study is included in *Technical Appendix A* to this EIR). 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. As required by CEQA Guidelines §15126.2(a), impacts are identified as direct, indirect, cumulative, short-term, long-term, on-site, and/or off-site impacts of the proposed Project. A summarized "impact statement" is provided in each subsection following the analysis. The following terms are used to describe the level of significance as related to the physical conditions within the area affected by the proposed Project:

- No Impact: An adverse change in the physical environment would not occur as a result of the proposed Project.
- Less-than-Significant Impact: An adverse change in the physical environment would occur as a result of the proposed Project but the change would not be substantial or potentially substantial and would not exceed the threshold(s) of significance presented in this EIR.
- Significant Impact: A substantial or potentially substantial adverse change in the physical environment would occur as a result of the proposed Project and would exceed the threshold(s) of significance presented in this EIR, requiring the consideration of mitigation measures.

Each subsection also includes a discussion of the applicable regulatory criteria (laws, policies, regulations) that the Project is required to comply with (if any). If impacts are identified as significant after mandatory adherence to all applicable government laws, policies, and regulations, mitigation measures are recommended to either avoid the impact or to reduce the magnitude of the impact, if mitigation is feasible and has a proportional nexus to the Project's level of impact. CEQA requires that mitigation measures be fully enforceable, have an essential nexus to a legitimate governmental interest, and be "roughly proportional" to the impacts of the Project. The following terms are used to describe the level of significance following the application of recommended mitigation measures:

- Less-than-Significant Impact with Mitigation: A substantial or potentially substantial adverse change in the physical environment would occur as a result of the proposed Project that would exceed the threshold(s) of significance presented in this EIR; however, the impact can be avoided or reduced to a less-than-significant level through the application of feasible mitigation measures.
- Significant and Unavoidable Impact: A substantial or potentially substantial adverse change in the physical environment would occur as a result of the proposed Project that would exceed



the threshold(s) of significance presented in this EIR. Feasible mitigation measures are either not available or would not be fully effective in avoiding or reducing the impact to below a level of significance.

For any impact identified as significant and unavoidable, the City of Irwindale would be required to adopt a statement of overriding considerations pursuant to CEQA Guidelines §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.



4.1 AESTHETICS

This Subsection describes the aesthetic qualities and visual resources present on the Project site and in the site's vicinity. Potential aesthetic impacts that could result from implementing the proposed Project are based in part on the following: field observations of T&B Planning, Inc. (hereafter referred to as "T&B Planning"); photographs collected by T&B Planning on March 16, 2018; available aerial photography (Google Earth, 2018); Project application materials submitted to the City of Irwindale (including The Park @ Live Oak Specific Plan) as described in Section 3.0, *Project Description*, of this EIR; the City of Irwindale General Plan; and the City of Irwindale 2010 General Plan Update Environmental Impact Report ([EIR]; SCH No. 2005071047).

4.1.1 EXISTING CONDITIONS

A. *Existing Visual Setting*

The Project site is located in the City of Irwindale, which is situated in the northern portion of the San Gabriel Valley. The City of Irwindale is located within a relatively flat area of the Los Angeles Basin south of the San Gabriel Mountain range, north of the Puente Hills, and northeast of the Montebello Hills. The San Gabriel River traverses the central portion of the City of Irwindale in a northeast to southwest orientation.

The Project site is located within the western portion of the City of Irwindale and is abutted by Arrow Highway to the north, the I-605 freeway to the east, the intersection of Arrow Highway and Live Oak Avenue to the west, and Live Oak Avenue to the south. In order to characterize the existing visual landscape of the Project vicinity, a description of the land uses surrounding the Project site is provided below.

North: Arrow Highway is located immediately north of the Project site, which is a six-lane 100-foot right of way (ROW). Curb adjacent sidewalks are located along the Project site's frontage with Arrow Highway. A landscaped median containing street trees is located within the majority of the segment of Arrow Highway that abuts the northerly Project site boundary. Evenly-spaced street lights are located on both sides of the Arrow Highway ROW, while pole-mounted electric utilities are located in the landscaped area along the northerly (westbound) side of the Arrow Highway ROW. The signalized intersection of Avenida Barbosa and Arrow Highway is located to the immediate north of the northerly Project site boundary. Land uses located to the north of the Project site beyond Arrow Highway include mining and aggregate materials processing operations. A large open space area containing flood control and electric power transmission lines is located approximately 950 feet to the northeast of the Project site. Looking north from the Project site, the San Gabriel Mountains are visible on the horizon. (Google Earth Pro, 2018)

East: The I-605 freeway abuts the Project site to the east, which is characterized as an 8-lane freeway, with concrete center divider and emergency lanes along the northbound and eastbound sides. Immediately east of the I-605 freeway, high-voltage transmission lines and dual-faced static billboards are visible. Existing land uses east of the I-605 include trailer truck storage yards, the NuWay landfill,



a concrete ready-mix operation, an asphalt plant, and various other industrial uses. The San Gabriel River is located approximately 1,700 feet to the southeast of the Project site. Looking east from the Project site, man-made berms associated with nearby quarry and aggregate materials processing operations are visible, with the San Gabriel Mountains and San Bernardino Mountains visible on the horizon to the east-northeast. (Google Earth Pro, 2018)

South: Live Oak Avenue abuts the southern Project site boundary. Live Oak Avenue is a four-lane 100-foot ROW that includes a landscaped median with street trees and signage. The segment of Live Oak Avenue that fronts the southerly Project site boundary is not landscaped, does not include a sidewalk, and includes pole-mounted electric utilities and street lights. The southerly (eastbound) side of Live Oak Avenue includes a landscaped parkway along the street's frontage with the Irwindale Speedway. The signalized intersection of Live Oak Avenue and Speedway Drive (main entrance to the Irwindale Speedway) is located immediately southwest of the Project site at approximately the midpoint of the southerly Project site boundary. Immediately south of Live Oak Avenue is the Irwindale Events Center, which includes the Irwindale Speedway. The Irwindale Speedway is clearly visible looking south from the southerly Project site boundary across Live Oak Avenue, and is characterized by landscaped areas (i.e., palm trees), asphalt-paved parking areas, stadium lighting, a large scaffold structure for spectator seating, and fencing and signage associated with the race track. Aggregate material processing equipment, quarry machinery, and high-voltage transmission lines are visible on the horizon farther south beyond the Irwindale Speedway. A trailer truck fueling facility is located immediately northwest of the Irwindale Speedway, and is clearly visible from the southwesterly Project site boundary in the form of asphalt-paved parking areas for trailer trucks, parked trailer trucks, fuel pumps, and security lighting. Across Live Oak Avenue, a two-story office building and its associated parking areas, lighting and landscaped areas are visible to the west-southwest of the Project site. Looking directly south from the Project site, the Puente Hills are visible on the horizon. (Google Earth Pro, 2018)

West: The intersection of Live Oak Avenue and Arrow Highway is located immediately west of the Project site and is characterized visually as a signalized intersection with landscaped medians (including street trees), street lights, signage, parkways (some including sidewalks), and overhead power lines. Quarry and aggregate material processing facilities are visible to the northwest beyond Live Oak Avenue/Arrow Highway. Farther west of the Project site, freight logistics operations, trailer truck storage, and construction material/equipment storage yards are visible along Live Oak Avenue/Arrow Highway. (Google Earth Pro, 2018)

Artificial light within the Project site's vicinity is associated with vehicle headlights using other surrounding roadways including the I-605 freeway (abuts the Project site to the east); surrounding industrial/mining operations to the north and east of the Project site; and the Irwindale Speedway to the south of the Project site.



B. Existing Physical Site Conditions

Under existing conditions, the Project site's appearance and topographic characteristics are under constant modification due to the on-going inert debris engineered fill operation (IDEFO) activities at the site. As previously depicted in Figure 2-6, *Aerial Photograph*, and Figure 2-7, *Oblique Angle Aerial Photograph*, the appearance of the Project site is predominantly characterized by two (2) large former quarry pits located on the eastern and western areas of the Project site. When mining activities ceased at the Project site in approximately 2002, the maximum depths at the pits reached approximately 170 feet below ground surface (bgs). As of April 2018 (the date of publication of the Notice of Preparation [NOP] for this Project), elevations at the non-quarry portions of the Project site—areas nearest to the property boundary (on all sides) and the westernmost portion of the Project site—are approximately 400 feet above mean sea level (amsl). The topographic highpoint of the Project site is the large stockpile located on the northeast portion of the Project site. The Project site is barren with the exception of sparse shrubbery and vegetation and construction equipment associated with the on-going inert landfill operations at the Project site as well as the small Cal-Blend mulch sales operation located on the northeast portion of the Project site. Four (4) evenly-spaced dual-faced static billboards are located along the easterly Project site boundary and are visible from the I-605 freeway. Pole-mounted overhead power lines also run along the easterly Project site boundary and are visible from the I-605 freeway. An evenly-spaced row of ornamental trees occurs along the Project site's frontage with Arrow Highway.

The majority of the Project site is visible from the I-605 freeway that abuts the Project site to the east, with the exception of a large stockpile located along the northeast portion of the Project site which partially obscures views of the interior central portions of the Project site from the I-605 freeway. Figure 2-8, *USGS Topographic Map*, depicts the Project site's topographic conditions as of 2013, which is the most recent year the USGS map was published for this area. Under existing conditions, the Project site does not contain any structures or other permanent sources of light and/or glare at the Project site. Existing sources of light and/or glare at the Project site are limited to daytime operation of construction equipment associated with ongoing IDEFO activities at the Project site.

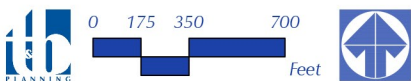
C. Site Photographs

To illustrate the existing visual conditions of the Project site, a photographic inventory is presented herein. Figure 4.1-1, *Site Photograph Key Map*, depicts the location of six (6) vantage point photographs from public viewing areas, each of which are described below. These photographs, shown on Figure 4.1-2, *Site Photographs 1-3*, and Figure 4.1-3, *Site Photographs 4-6*, were taken by T&B Planning staff during a site visit conducted on March 16, 2018, and provide a representative visual inventory of the site's visual characteristics as seen from nearby locations accessible to the public:

- Site Photograph 1 (Figure 4.1-2): Site Photograph 1 was taken at the intersection of the I-605 freeway and the Arrow Highway off-ramp looking south to west. In the left (south) portion of the of the photograph, the easterly portion of the Project site that abuts the I-605 freeway is visible in the foreground, on which a soil stockpile, pole-mounted electric utilities, and static



Figure 4.1-1



SITE PHOTOGRAPH KEY MAP

South



West

Site Photograph 1: From the intersection of southbound Interstate 605 Arrow Highway off-ramp and Arrow Highway looking south to west.

East



West

Site Photograph 2: From the intersection of Arrow Highway and Avenida Barbosa looking east to west.

Northeast



Southeast

Site Photograph 3: From the intersection of Arrow Highway and Live Oak Avenue looking northeast to southeast.

Figure 4.1-2



Site Photograph 4: From Live Oak Avenue looking northwest to southeast.



Site Photograph 5: From Live Oak Avenue and Interstate 605 overpass looking northwest to north.



Site Photograph 6: From Interstate 605 looking south to north.

Figure 4.1-3



billboards occur. The I-605 freeway is visible farther to the left, beyond which high-voltage power lines, billboards and the Puente Hills are visible. Arrow Highway is visible in the foreground of the photograph, portions of which are improved with a landscaped median. Beyond Arrow Highway, the northeast portion of the Project site is visible, characterized by a soil stockpile that slopes towards the southwest. Construction vehicles (i.e. dump truck and water truck) are visible atop the stockpile and are associated with the ongoing IDEFO activities at the Project site. Chain-link fencing and vegetative overgrowth, including shrubs, trees, and flowering plants, occurs along the northerly Project site boundary that abuts Arrow Highway. The on-site mulch processing operation is visible in the central portion of the photograph. The right side of the photograph is looking westerly along Arrow Highway with the Monterey Hills, Montecito Hills and Downtown Los Angeles skyline visible on the horizon.

- Site Photograph 2 (Figure 4.1-2): Site Photograph 2 was taken at the intersection of Avenida Barbosa and Arrow Highway looking east to west. To the east (left side of the photograph), the traffic signal at the intersection of Avenida Barbosa and Arrow Highway is visible, with high-voltage transmission lines visible farther to the southeast. The Project site is visible in the background of the photograph, characterized by parked passenger vehicles, trucks, construction equipment, the soil stockpile located on the eastern portion of the site, and stockpiled dirt and debris on the westerly portion of the Project site. The dirt driveway entrance to the Project site from Arrow Highway is visible in the left portion of the photograph. Vegetative overgrowth is visible along much of the Project site's frontage with Arrow Highway. Palm trees and the Puente Hills are visible in the far background beyond (south of) the Project site.
- Site Photograph 3 (Figure 4.1-2): Site Photograph 3 was taken from the intersection of Arrow Highway and Live Oak Avenue looking northeast to southeast. The westernmost portion of the Project site which does not contain a former quarry pit is visible in the foreground and is enclosed by a chain-link fence. Arrow Highway is visible on the left side of the photograph while Live Oak Avenue is visible on the right side of the photograph. On-site berms and stockpiles associated with the ongoing IDEFO activities at the site are visible in the background.
- Site Photograph 4 (Figure 4.1-3): Site Photograph 4 was taken from Live Oak Avenue near the signalized intersection of Speedway Drive and Live Oak Avenue (left side of the photograph), looking northwest to southeast. The Project site is visible in the midground of the photograph and is shown to be of varying topography, with various construction equipment scattered across the Project site. Equipment associated with the mining and materials processing operations to the north of the Project site (beyond Arrow Highway) are visible in the background of the photograph, as are the San Gabriel Mountains.
- Site Photograph 5 (Figure 4.1-3): Site Photograph 5 was taken from the overpass Live Oak Avenue I-605 freeway overpass, looking northwest to north. The foreground of the majority of the photograph is occupied by an earthen grade separation that abuts and supports the



freeway overpass. The Project site is visible in the midground of the photograph and is characterized by man-made berms and stockpiles and construction equipment. Four (4) on-site static billboards are visible along the easterly Project site boundary (right side of the photograph). The southbound I-605 freeway is visible on the far-right portion of the photograph. The Arrow Highway I-605 freeway overpass is visible in the background in the far-right side of the photograph. A multi-story building and the San Gabriel Mountains are visible in the background of the photograph beyond the Arrow Highway I-605 freeway overpass.

- **Site Photograph 6 (Figure 4.1-3):** Site Photograph 6 was taken from the emergency lane of the southbound I-605 freeway, looking south to north. The foreground of the photograph is comprised of the shoulder of the I-605 freeway, with the easterly Project site boundary visible in the midground of the photograph. As is apparent in the photograph, the Project site is enclosed by a chain-link fence. Construction workers and pieces of construction equipment are visible in the photo across the Project site. The left side of the photograph shows that the southeast portion of the Project site slopes up slightly at the Live Oak Avenue/I-605 freeway overpass. The larger on-site soil stockpile is visible on the right side of the photograph. Two (2) of the four (4) on-site static billboards are visible on the right side of the photograph which are located on the eastern portion of the Project site.

D. City of Irwindale General Plan

The City of Irwindale General Plan Community Development Element and Resource Management Element contain goals and policies related to the topic of aesthetics. Relevant to the proposed Project is Community Development Element Policy 12, which requires the City to "...continue to promote quality design in the review and approval of commercial and industrial development through the application of the commercial and industrial design guidelines" (City of Irwindale, 2008, p. 38). Additionally, Community Development Element Policy 13 is relevant to the Project and requires the City "...continue to employ a design theme in the review of future commercial and industrial development..." (City of Irwindale, 2008, p. 38).

E. City of Irwindale General Plan Update EIR

Section 3.14, *Aesthetics Impacts*, of the City of Irwindale General Plan Update EIR states that there are no unique geologic features, scenic highways, or scenic corridors within the City of Irwindale. Additionally, the City of Irwindale General Plan Update EIR concluded that any new development within the City would be required to comply with the City's design standards, zoning requirements, and the City's General Plan policies related to aesthetics (refer to the relevant policies from the City's General Plan identified above in Subsection 4.1.1D). The City of Irwindale General Plan Update EIR does not identify any scenic vistas within the City. No mitigation measures were applied by the City of Irwindale General Plan Update EIR related to aesthetics. (City of Irwindale, 2006, p. 73)



F. City of Irwindale Municipal Code

The City of Irwindale Municipal Code applies to all properties in the City of Irwindale. Provisions of the Municipal Code applicable to the Project site and pertaining to the topic of aesthetics include, but are not limited to the following:

- **Site Plan and Design Review:** The City of Irwindale Municipal Code §17.70.010 establishes that “no person shall construct any building or structure or make structural and physical improvements, additions, extensions, and/or exterior alteration, and no permit shall be issued for such construction until the site plan and design has been submitted to, reviewed by, and approved” by the City of Irwindale. Section 17.70.050 of the Irwindale Municipal Code also includes Site Plan and Design Review Criteria which address lighting and its potential impact on adjacent lands. (City of Irwindale, 2018, Chapter 17.70).

4.1.2 BASIS FOR DETERMINING SIGNIFICANCE

The proposed Project would result in a significant impact to aesthetics if the Project or any Project-related component (except as provided in Public Resources Code Section 21099) would:

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

4.1.3 IMPACT ANALYSIS

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

Development projects have the potential to impact scenic vistas in two ways. Development could physically alter a designated scenic resource (for example, disturb or develop upon a ridgeline, hillside, peak, or shoreline), or could block or substantially obscure the public view of a scenic vista (for example, designated scenic views from public roads, trails, parks, landmarks, and other public viewing points). Views from private properties are not a legal right or protected government interest, so views from private properties are not considered viewing points for the purposes of this analysis.

As previously discussed under Subsection 4.1.1E, according to the City of Irwindale General Plan Update EIR, no scenic vistas are located within the City of Irwindale. Under existing conditions, the Project site is a former sand and gravel quarry that is undergoing reclamation via an IDEFO (refer to the previous description and photos of the Project site). As described above, the existing aesthetic of



the Project site is characterized by two (2) large former quarry pits, man-made berms, stockpiled debris, static billboards, construction equipment, and a chain-link fence that encloses the Project site. The Project site is located within an urbanized area that is characterized by roadways (including the I-605 freeway which abuts the Project site to the east), overhead power lines, streetlights, quarries, aggregate materials processing facilities, the Irwindale Speedway, and industrial/commercial land uses. Therefore, neither the Project site nor the immediately surrounding areas contain any scenic vistas.

The San Gabriel River is approximately 1,700 feet to the southeast of the Project site. The river sits at or below its surrounding topography; therefore, views to the river are blocked or highly limited from any distance. As such, the San Gabriel River is not considered to be a scenic vista. Also, the river is not visible from the Project site or from the segments of Live Oak Avenue or Arrow Highway that abut the Project site. Accordingly, the proposed Project has no potential to block public views of the San Gabriel River due to the lack of public views of the river available from the site and surrounding areas.

Views of the San Gabriel Mountains to the north are available from the Project site, the segments of Live Oak Avenue, Arrow Highway, and I-605 that abut the Project site, and the surrounding areas. The San Gabriel Mountains rise to an elevation of approximately 10,000 feet and for the purposes of this EIR are considered a scenic vista. Often, mountain views are partially masked by smog and haze. The Project would have no potential to adversely affect mountain views during construction activities. Construction equipment that would be located on the property would be similar in size and stature to the IDEFO equipment that occurs on the property as part of the IDEFO reclamation activities, resulting in no substantive change compared to existing conditions. Public views of the San Gabriel Mountains from Arrow Highway would not be affected by the Project, because views of the mountain range from Arrow Highway are primarily available looking to the north, whereas the Project site is located to the south of Arrow Highway. Under existing conditions, distant views of the San Gabriel Mountains (to the north) are available from the segments of Live Oak Avenue and the I-605 freeway that abut Project site, but are partially and intermittently obscured from view as experienced by travelers using these roads by the man-made berms, stockpiles, and billboards that are currently located on-site. Similarly, partial distant views of the Puente Hills are available looking south from the segment of Arrow Highway that abuts the northerly Project site boundary, though are largely obscured by the existing man-made topographic features located at the Project site. Implementation of the Project would result in the development of the Project site with industrial/business park buildings that would reach a maximum height of 60 feet above finished grade and commercial buildings that would reach a maximum height of 60 feet above finished grade. Therefore, implementation of the Project could potentially partially and intermittently obstruct existing views of the San Gabriel Mountains and the Puente Hills experienced by pedestrians and motorists traveling along the segments of the surrounding roadways that abut the Project site. However, these distant landforms are only partially visible from the Project site's vicinity on clear days. Views of the San Gabriel Mountains and the Puente Hills are generally limited due to intervening development as well as atmospheric haze that is common throughout the region. Furthermore, the maximum building height of the proposed Project's industrial/business park buildings would reach 60 feet above finished grade and the maximum building height of the proposed Project's commercial buildings would reach 60 feet above finished grade. These maximum building heights would not result in obstruction of, or substantially detract from, public



views of these landforms because the landforms are at a much greater height and elevation, rising up to approximately 10,000 feet in elevation. The Project would not have a substantial adverse effect on the public views of the San Gabriel Mountains or the Puente Hills. Accordingly, the Project would result in a less-than-significant impact on scenic vistas.

Based on the foregoing analysis, the proposed Project would have a less-than-significant impact associated with the blockage of scenic landform views. No other scenic views are available that could be adversely affected by the Project.

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?

As described throughout this EIR Subsection, the Project site's appearance and topographic characteristics are under constant modification due to the on-going IDEFO reclamation activities at the site. Under existing conditions, the visual features at the Project site include the two (2) former quarry pits; man-made stockpiles and berms; four (4) static billboards located along the easterly Project site boundary; sparse shrubbery and vegetation; and construction equipment associated with the on-going inert landfill operations at the Project site. The Project site does not contain any trees of scenic value, rock outcroppings, or historic buildings. Accordingly, development of the site with the proposed Project would not substantially damage any scenic resources.

The Project site is not located within—nor is it prominently visible from—any scenic highway corridors and does not contain any scenic resources (as described above). According to the City of Irwindale General Plan Update EIR, there are no State-designated or eligible scenic highways or corridors within the City of Irwindale (City of Irwindale, 2006, p. 73). The nearest Officially Designated State Scenic Highway to the Project site is the segment of State Route 2 (SR-2) located between State Route 138 (SR-138) and Interstate 210 (I-210), located approximately 11.3 miles north of the Project site (Caltrans, 2011; Google Earth, 2018). The nearest Eligible State Scenic Highway to the Project site is the segment of State Route 39 (SR-39) located between I-210 and SR-2, and is located approximately 4.0 miles east of the Project site (Caltrans, 2011; Google Earth, 2018). Due to distance as well as the intervening development, landscaping, and topography, the Project's proposed development features would not be visible from the segments of SR-2 and SR-39 that are considered Designated/Eligible scenic highways. Further, the Project's proposed physical improvements would not affect any trees, rock outcroppings, and historic buildings visible from a state scenic highway.

Because the Project site is not located within or prominently visible from a state scenic highway, and contains no scenic resources, the proposed Project have no potential to damage scenic resources located within a state scenic highway. No impact 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?*

A. Construction-Related Impacts

Various pieces of heavy machinery would be used during the Project's construction, which would be no more visible to the immediately surrounding areas than the equipment that operates on-site as part of the IDEFO activities. The introduction of construction equipment to facilitate development of the proposed Project would not constitute a substantial change from the existing visual character and quality of the Project site. All Project-related construction activities would be temporary in nature and all construction equipment would be removed from the Project site following completion of the Project's construction activities. For these reasons, Project-related changes to local visual character would be less than significant during temporary, near-term construction activities.

B. Long-Term Project Impacts

According to mapping information provided from the Southern California Association of Governments (SCAG), which is based on U.S. Census data for urbanized areas, the Project site is located within an urbanized area (SCAG, 2018). As discussed throughout this EIR, and as shown on Figure 3-9, *Existing and Proposed Zoning Designations*, the Project proposes Zone Change No. 01-2017 to change the existing zoning designations applicable to the Project site from Q and M-2 to "The Park @ Live Oak Specific Plan Zone." The application of The Park @ Live Oak Specific Plan Zone would allow for the Project to be developed in accordance with Chapter 3, *Development Standards*, of The Park @ Live Oak Specific Plan, which would constitute the zoning regulations applicable to any future development within the Project site. The City's approval and implementation of Zone Change No. 01-2017 would ensure the Project would be consistent with the proposed zoning regulations (including those which govern scenic quality) as identified in Chapter 3, *Development Standards*, of The Park @ Live Oak Specific Plan. Additionally, the Project site would be developed in accordance with the Design Guidelines established in Chapter 4 of The Park @ Live Oak Specific Plan, which include comprehensive architectural and landscape standards and development criteria that provide for an attractive, contemporary industrial and commercial business park. As such, the Project would be consistent with the applicable City of Irwindale General Plan policies governing scenic quality, which include Community Development Element Policy 12 and Community Development Element Policy 13. Furthermore, future implementing development projects within The Park @ Live Oak Specific Plan would be subject to an administrative site plan and design review pursuant to Specific Plan Chapter 5, *Implementation Plan*. Compliance with the mandatory site plan and design review process would ensure that future implementing development projects within The Park @ Live Oak Specific Plan comport with the development standards and design guidelines established in The Park @ Live Oak Specific Plan, and would preclude the potential for implementation of the Project to result in negative impacts to visual quality and public views.



In the long-term, views of the Project site from the surrounding area would change from that of an active quarry reclamation site to that of a fully-developed property containing industrial and commercial business park buildings supported by drive aisles, truck courts, parking areas, landscaping, water quality basins, monument signage, lighting, and property walls, gates, and fencing. As part of this Project, and as more fully described in EIR Section 3.0, *Project Description*, the proposed building materials would consist of concrete, stucco, and similar materials, including concrete tilt-up panels, with architectural enhancements. The proposed Park @ Live Oak Specific Plan would set a maximum height limit of 60 feet for industrial/business park buildings and 60 feet for commercial buildings. The Project would be subject to the minimum building setbacks established in The Park @ Live Oak Specific Plan, which range from 10 feet along Privates Drive A and B, 20 feet along Arrow Highway and Live Oak Avenue, and 35 feet along the I-605 freeway for commercial buildings and 50 feet along the I-605 freeway for industrial/business park buildings. Furthermore, The Park @ Live Oak Specific Plan includes guidelines for architecture, which address building form, materials, colors, textures, windows, doors, and functional elements (loading doors, mechanical equipment, trash enclosures, etc.), which are described in detail in EIR Subsection 3.0, *Project Description*, and Chapter 4, *Design Guidelines*, of The Park @ Live Oak Specific Plan. Pursuant to the requirements of The Park @ Live Oak Specific Plan, any manufacturing and processing activities would only be conducted within a wholly-enclosed building, and outdoor loading/storage and truck parking areas would be screened from public view by walls or fencing and landscaping.

As indicated in the analysis presented above, buildout of the proposed Project would change the existing visual character of the Project site from the active quarry reclamation activity to a developed site consisting of industrial/business park buildings, commercial buildings, and associated improvements. Although the aesthetic changes would be substantial compared to existing conditions, the proposed Project incorporates a number of features intended to soften the visual prominence of the development from the public viewing areas along Arrow Highway, Live Oak Avenue, and the I-605 freeway. In addition to enhanced architectural treatments, The Park @ Live Oak Specific Plan also requires the installation of screen walls, fencing, and landscaping. Views from the surrounding roadways would markedly change, although improvements proposed by the Project would include fencing, landscaping, and enhanced architectural treatments, which is considered a visual improvement as compared to existing IDEFO operations and the 50+ years of mining and reclamation activities.

The proposed Project would be visually compatible with the existing industrial/commercial uses that surround the Project site. As previously shown on Figure 3-7, *Conceptual Landscaping and Greenspace Plan*, the Project would include entry treatments at the intersections of Private Drives A and B with Arrow Highway and Live Oak Avenue; landscape interfaces with Live Oak Avenue, Arrow Highway, and the I-605 freeway; enhanced streetscapes along proposed Private Drives A and B; and streetscape improvements along the Project site's frontage with Arrow Highway and Live Oak Avenue. Accordingly, the proposed Project would not degrade the visual character or quality of the Project site and its surroundings in the long-term and impacts would be less than significant.



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

Under existing conditions, the Project site contains minimal sources of artificial light. With implementation of The Park @ Live Oak Specific Plan, artificial lighting would be introduced on the property as part of the proposed industrial and commercial business park. The introduction of lighting associated with the Project would increase artificial lighting levels in the surrounding area; however, Specific Plan Chapter 4, *Design Guidelines*, includes requirements for exterior lighting—such as inclusion of lighting cutoff devices, low-mounted fixtures, and downward-directed lighting fixtures—that are intended to prevent glare and spillover of light to public streets or adjoining property. Implementing development within the Specific Plan area would be required to adhere to the outdoor lighting standards set forth in The Park @ Live Oak Specific Plan. Thus, compliance with The Park @ Live Oak Specific Plan requirements would ensure that the proposed Project would not produce substantial amounts of light or glare from artificial lights that could adversely affect day or nighttime views, and also would preclude substantial light spill on adjacent properties. The night sky as seen from the Project site and immediate vicinity is already subjected to skyglow (illumination due to artificial light that emits light pollution and casts a “glow” on the dark night sky) in the San Gabriel Valley. The introduction of lighting on the Project site which complies with the exterior lighting requirements of Specific Plan Chapter 4, *Design Guidelines*, would not cause stars or other features of the night sky to become obscured or invisible.

With respect to daytime glare impacts that could result from reflective building materials, The Park @ Live Oak Specific Plan specifies that a majority of the exterior building surfaces would consist of concrete (including tilt-up concrete walls) and stucco that does not include any physical properties that would produce substantial amounts of glare. Based upon the guidelines laid out in The Park @ Live Oak Specific Plan, the use of glass in architectural enhancements of the proposed warehouse buildings are limited to glass that is “clear or tinted with medium to high performance glazing,” and “mirrored glass is prohibited” (T&B Planning, Inc., 2019, p. 46). Accordingly, the use of the glazing treatments specified by The Park @ Live Oak Specific Plan would not adversely affect daytime views of any surrounding properties because the glass would not be highly reflective. Accordingly, a less-than-significant daytime glare impact would occur.

With respect to the potential conversion of the Project site’s four (4) existing billboards to light-emitting diode (LED) digital billboards in the future, The Park @ Live Oak Specific Plan requires that lighting levels on LED digital billboards not exceed 0.3-foot candles over ambient levels, as measured using a foot candle meter at a distance of 250 feet. Foot-candle is a unit of measure for lighting intensity, which is the amount of light produced by a single candle when measured from one foot away (for reference, a 100-watt light bulb produces 137 foot-candles at one foot away). The Specific Plan also requires that LED billboards be equipped with light sensors to measure ambient light levels and to adjust light intensity to respond to a change in ambient light conditions. Due to the Specific Plan’s requirements relating to the intensity of any future LED digital billboards, areas within the vicinity of the Project site would experience a nearly undetectable increase in ambient light as a result of digital billboard operation, should any of the Project site’s existing static billboards be changed to LED digital



billboards in the future. As such, light and glare impacts from digital billboard operations would have a less-than-significant impact on day and nighttime lighting levels in the area.

4.1.4 CUMULATIVE IMPACT ANALYSIS

As noted under the discussion of Threshold a, the Project site is undergoing an active mine reclamation process, is not a scenic vista, and does not contribute to any scenic vistas. The Project would not substantially affect public views of the San Gabriel Mountains or the Puente Hills, and no other cumulative development projects are proposed in the Project's viewshed toward the San Gabriel Mountains that could combine with the Project to cumulatively block mountain views. Therefore, the Project's impacts to scenic vistas are less than cumulatively considerable.

As noted under the analysis of Threshold b, the Project site is not located within close proximity to any designated or eligible state scenic highways and does not contain any scenic resources under existing conditions, including, but not limited to, trees, rock outcroppings, and historic buildings. Therefore, the proposed Project has no potential to directly impact a scenic resource or to contribute to a cumulatively significant impact to scenic resources within scenic highways.

As noted under the discussion of Threshold c, the Project would result in less-than-significant impacts related to degradation of the existing visual character or quality of the Project site and surroundings. The development of a contemporary master-planned industrial and commercial business park is considered more aesthetically pleasing than an active quarry reclamation operation. Furthermore, the Project would be required to adhere to the design guidelines contained in The Park @ Live Oak Specific Plan. With the exception of the pending Irwindale Regional Shopping Center project at 500 Speedway Drive (Irwindale Speedway site located directly south of the Project site), all of the reasonably foreseeable development projects listed in Table 4.0-1, *List of Cumulative Development Projects*, are located considerable distances from the Project site and would not have any interactive aesthetic effects that would directly combine with the aesthetic effects of the proposed Project. The pending Irwindale Regional Shopping Center project proposes to construct a 640,000-square foot (sq. ft.) retail shopping center and associated parking areas at the Irwindale Speedway site. The Draft EIR (SCH No. 2014071042) prepared for the Irwindale Regional Shopping Center concluded the Irwindale Regional Shopping Center would result in less-than-significant impacts associated with degradation of the existing visual character of the site and its surroundings (LSA, 2014, p. 2-9). Similar to the proposed Project, the Irwindale Regional Shopping Center project plans to redevelop the Irwindale Speedway property with a contemporarily designed employment-generating use. Accordingly, both the proposed Project and the Irwindale Regional Shopping Center would represent an improvement to the existing visual character and/or quality of the Project site and vicinity compared to existing conditions and therefore would not degrade the visual character and/or quality of the area. Therefore, the Project has no potential to contribute to a cumulatively significant impact associated with degradation of visual character and/or quality.

As discussed under Threshold d, the proposed Project is designed to adhere to the outdoor lighting restrictions and standards set forth in The Park @ Live Oak Specific Plan (including those applicable



to LED digital billboards), which would ensure that the proposed Project does not produce substantial amounts of light or glare that could adversely affect day or nighttime views. As discussed above, all of the pending development projects listed in Table 4.0-1, *List of Cumulative Development Projects*, are located considerable distances from the Project site except for the Irwindale Regional Shopping Center project located at 500 Speedway Drive (Irwindale Speedway site located directly south of the Project site). The Draft EIR (SCH No. 2014071042) prepared for the Irwindale Regional Shopping Center concluded that with mandatory compliance with the City's exterior lighting requirements, the Irwindale Regional Shopping Center would result in less-than-significant light and glare impacts (LSA, 2014, p. 2-9). The night sky as seen from the Project site and immediate vicinity is already subjected to light pollution and even with additional lighting that may occur from other cumulative projects in the San Gabriel Valley, the Project's contribution to such effects would be less than cumulatively considerable given the outdoor lighting requirements set forth in Chapter 4, *Design Guidelines*, of The Park @ Live Oak Specific Plan.

4.1.5 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Less-than-Significant Impact. The Project site does not compromise all or part of a scenic vista. The Project site is currently undergoing quarry reclamation activities and does not contain any potential scenic vistas. The nearest potential scenic vistas include public views of the San Gabriel Mountains to the north and Puente Hills to the south. However, views of the higher elevations of the San Gabriel Mountains and Puente Hills would remain available and the existing mountain views along a majority of the surrounding roadway segments would remain similar to existing conditions. Impacts to scenic vistas would be less than significant and no other recognized scenic vistas are present that the Project could affect.

Threshold b: No Impact. The Project site does not contain any scenic resources and is not located within or visible from any state scenic highways. Therefore, the Project would have no potential to substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. No impact would occur.

Threshold c: Less-than-Significant Impact. The proposed Project would change the existing visual character of the Project site from an active quarry reclamation site to a developed master-planned industrial and commercial business park. Construction activities would result in a temporary change to the visual character of the Project site through the introduction of construction equipment, staging areas, and construction machinery, which would not represent a substantial change from the existing visual character of the Project site; impacts would be less than significant. Under long-term conditions, buildout of the proposed Project would change the existing visual character of the site from an active quarry reclamation operation to an industrial and commercial business park developed in accordance with the standards and design guidelines of The Park @ Live Oak Specific Plan. Adherence to the design guidelines of The Park @ Live Oak Specific Plan would ensure that the Project would not conflict with any applicable zoning or other regulations governing scenic quality and would result in less-than-significant long-term impacts associated with degradation of public views.



Threshold d: Less-than-Significant Impact. The Project would not create substantial light or glare. Compliance with the outdoor lighting requirements and standards for digital LED billboards from The Park @ Live Oak Specific Plan would ensure less-than-significant impacts associated with light and glare affecting day or nighttime views in the area.

4.1.6 MITIGATION MEASURES

Impacts would be less than significant and mitigation is not required.

4.2 AIR QUALITY

This Subsection is based in part on two technical studies that were prepared by Urban Crossroads, Inc. to evaluate the Project’s potential to adversely affect local and regional air quality. The air quality impact analysis prepared for the Project is titled “The Park @ Live Oak Air Quality Impact Analysis, City of Irwindale” dated July 5, 2018, and appended to this EIR as *Technical Appendix B1* (Urban Crossroads, 2018a). The mobile source health risk assessment prepared for the Project is titled “The Park @ Live Oak Mobile Source Diesel Health Risk Assessment, City of Irwindale” dated July 5, 2018 and appended to this EIR as *Technical Appendix B2* (Urban Crossroads, 2018b). Additionally, “The Park @ Live Oak Supplemental Air Quality Assessment,” dated February 20, 2019, is appended to this EIR as *Technical Appendix B3* (Urban Crossroads, 2019).

4.2.1 EXISTING CONDITIONS

A. Air Basin

The Project site is located in the South Coast Air Basin (SCAB, or “Basin”), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB encompasses approximately 6,745 square miles and includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The SCAB is bound by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and the Jacinto Mountains to the north and east, respectively; and the San Diego County line to the south. (Urban Crossroads, 2018a, p. 16)

B. Regional Climate and Meteorology

The regional climate – temperature, wind, humidity, precipitation, and the amount of sunshine – has a substantial influence on air quality. The distinctive climate of the SCAB is determined by its terrain and geographical location, which comprises a coastal plain connected to broad valleys and low hills bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. The annual average temperatures throughout the SCAB vary from the low to middle 60s, measured in degrees Fahrenheit (F). Inland areas of the SCAB, including where the Project site is located, show more variability in annual minimum and maximum temperatures than coastal areas within the SCAB due to a decreased marine influence. (Urban Crossroads, 2018a, p. 16)

The climate of the SCAB is characterized as semi-arid; however, 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 relative high humidity heightens the conversion of sulfur dioxide to sulfates. 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 percent along the coast and 59 percent inland. (Urban Crossroads, 2018a, p. 16)

More than 90 percent of the SCAB’s rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to 14 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. (Urban Crossroads, 2018a, p. 17)

Dominant airflow direction and speed are the driving mechanisms for transport and dispersion of air pollution. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with storms moving through the region from the northwest. This period also brings five to 10 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. During the nighttime, heavy, cool air descends mountain slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. (Urban Crossroads, 2018a, p. 17)

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 of 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 and carbon monoxide, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline. (Urban Crossroads, 2018a, p. 17)

C. Air Quality Pollutants and Associated Health Effects

The federal government and State of California have established maximum permissible concentrations for common air pollutants that may pose a risk to human health or would otherwise degrade air quality and adversely affect the environment. These regulated air pollutants are referred to as “criteria pollutants.” An overview of the common criteria air pollutants in the SCAB, their sources, and associated effects to human health are summarized on the following pages (refer also to Section 2.6 of *Technical Appendix B1*).

- **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. 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. The most common symptoms associated with CO poisoning include headache, nausea, vomiting, dizziness, fatigue, and weakness. 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 (SO₂)** is a colorless gas or liquid. SO₂ 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 SO₂ oxidizes in the atmosphere, it forms sulfates (SO₄). Collectively, these pollutants are referred to as sulfur oxides (SO_x). SO₂ is a respiratory irritant to people afflicted with asthma. After a few minutes' exposure to low levels of SO₂, asthma sufferers can experience breathing difficulties, including airway constriction and reduction in breathing capacity. Although healthy individuals do not exhibit similar acute breathing difficulties in response to SO₂ exposure at low levels, 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 (NO₂) and nitrous oxide (N₂O) and are formed when nitrogen (N₂) combines with oxygen (O₂). 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. NO₂ 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, NO₂ is the most abundant in the atmosphere. As ambient concentrations of NO₂ are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO₂ 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 NO₂. Short-term exposure to NO₂ can result in resistance to air flow and airway contraction in healthy subjects. Exposure to NO₂ can result in 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 (O₃)** 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 live in communities with high ozone levels.

- **Particulate Matter less than 10 microns (PM₁₀)** is an air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. 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}. PM₁₀ also causes visibility reduction.
- **Particulate Matter less than 2.5 microns (PM_{2.5})** is a similar air pollutant to PM₁₀ consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO₂ release from power plants and industrial facilities and nitrates that are formed from NO_x release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles is highly dependent on location, time of year, and weather conditions. Elevated ambient concentrations of fine particulate matter (PM₁₀ and PM_{2.5}) have been linked to 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 PM₁₀ and PM_{2.5}.
- **Volatile Organic Compounds (VOCs) and Reactive Organic Gasses (ROGs)** are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) 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. Odors generated by VOCs can irritate the eye, nose, and throat, which can reduce respiratory



volume. In addition, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune 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. As a result of the removal of lead from gasoline, there have been no violations at any of the SCAQMD's regular air quality monitoring stations since 1982. Currently, emissions of lead are largely limited to stationary sources such as lead smelters. 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 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

Air quality is evaluated in the context of ambient air quality standards published by the federal and State governments. 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, as well as health effects of each pollutant regulated under these standards are detailed in Table 4.2-1, *Ambient Air Quality Standards*.

A region's air quality is determined to be healthful or unhealthful by comparing contaminant levels in ambient air samples to the State and federal standards presented in Table 4.2-1. The air quality in a region is considered to be in attainment by the State of California if the measured ambient air pollutant levels for ozone (O₃), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), inhalable particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}) are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O₃, PM₁₀, PM_{2.5}, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O₃ standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. (Urban Crossroads, 2018a, p. 18)



Table 4.2-1 Ambient Air Quality Standards

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	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) ⁹	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}) ⁹	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		
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) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 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) ¹¹	1 Hour	0.25 ppm (655 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) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	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) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	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 ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes in *Technical Appendix B1*.

Source: (Urban Crossroads, 2018a, Table 2-1)



1. Attainment Status of Criteria Pollutants in the SCAB

The federal government designated seven pollutants that are pervasive enough across the nation to warrant national health standards. Called “criteria pollutants,” these are O₃, NO₂, PM₁₀, PM_{2.5}, CO, Pb, and SO₂ (SCAQMD, 2018, p. 3). The SCAQMD monitors levels of various criteria air pollutants at 30 monitoring stations throughout its jurisdiction. In 2015, the most recent year for which detailed data was available, the federal and State ambient air quality standard (NAAQS and CAQQS) were exceeded on at least one or more days for O₃, PM₁₀, and PM_{2.5}. No areas of the SCAB exceeded federal or state standards for NO₂, SO₂, CO, or Pb. (SCAQMD, 2018, p. 22) The attainment status for criteria pollutants within the SCAB is summarized in Table 4.2-2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*.

Table 4.2-2 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Criteria Pollutant	State Designation	Federal Designation
Ozone - 1hour standard	Nonattainment	Nonattainment (“extreme”)
Ozone - 8 hour standard	Nonattainment	Nonattainment (“extreme”)
PM ₁₀	Nonattainment	Attainment (Maintenance)
PM _{2.5}	Nonattainment	Nonattainment (“serious”)
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Unclassifiable/Attainment
Sulfur Dioxide	Attainment	Unclassifiable/Attainment
Lead ²	Attainment	Nonattainment (Partial)

Source: State/Federal designations were taken from <http://www.arb.ca.gov/desig/adm/adm.htm>

Source: (Urban Crossroads, 2018a, Table 2-2)

2. Air Quality History and Trends

Criteria Pollutants

The SCAB has experienced unhealthful air since World War II and historically has been one of the most unhealthful air basins in the United States; however, as a result of the region’s air pollution control efforts over the last ±68 years, air pollution concentrations in the SCAB have dramatically reduced. This overall air quality within the SCAB is dramatically improving as the result of regulatory programs and is expected to continue to improve in the future as government regulations become more stringent. For example, peak ozone levels were cut by almost three-fourths since air monitoring began in the 1950s and population exposure to ozone was cut in half during the 1980s alone. (SCAQMD, 2018, p. 2)

The SCAQMD’s *Final 2016 Air Quality Management Plan* states, “the remarkable historical improvement in air quality since the 1970’s is the direct result of Southern California’s comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs.” Ozone, NO_x, VOCs, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020. These decreases result primarily from motor vehicle controls and reductions in



evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NO_x and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_x emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. Ozone contour maps show that the number of days exceeding the national 8-hour standard decreased between 1997 and 2007. The overall trends of PM₁₀ and PM_{2.5} in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM₁₀ have remained somewhat constant in the Basin and direct emissions of PM_{2.5} have decreased slightly since 1975. (Urban Crossroads, 2018a, pp. 28-29)

Further, according to SCAQMD:

Ozone levels have fallen by more than three-quarters since peaks in the mid-1950s. U.S. EPA revised and strengthened the 8-hour ozone NAAQS, effective December 28, 2015, from concentrations exceeding 75 parts-per-billion (ppb) to concentrations exceeding 70 ppb. In 2017, the new 2015 8-hour ozone NAAQS was exceeded in the Basin on 145 days and the former 2008 ozone NAAQS was exceeded on 122 days based on preliminary data. The 2015 ozone NAAQS was exceeded in the Basin on 132 days in 2016 and 113 days in 2015. The increase in ozone exceedance days in 2016 and 2017 is largely attributed to enhanced photochemical ozone formation through the spring, summer and fall period due to persistent weather patterns that limited vertical mixing and warmed the lower atmosphere. Other potential factors are being assessed; for example, possible changes in relative emissions of VOC or NO_x. While the ozone control strategy continued to reduce precursor emissions from sources in the Basin in 2017, ozone-forming emissions transported from several long-term, large wildfires in southern and central California in the summer may have also played a role in the increase of exceedance days. The maximum observed ozone levels also show some year-to-year variability, but have generally been decreasing over the years. The highest 8-hour ozone level in the preliminary 2017 data was 136 ppb, compared to 122 ppb in 2016 and 127 ppb in 2015.

PM_{2.5} levels have decreased dramatically in the Basin since 1999; however, design value concentrations are still above the current annual 24-hour NAAQS. Effective March 18, 2013, U.S. EPA strengthened the annual average PM_{2.5} standard from 15 µg/m³ to 12 µg/m³, while retaining the 24-hour PM_{2.5} NAAQS of 35 µg/m³. In 2017, the 24-hour PM_{2.5} NAAQS was exceeded on 10 days at the highest station (Metropolitan Riverside County), based on preliminary filter data. In 2016, the same station exceeded the 24-hour NAAQS on only 6 days, the lowest on record, due to improving emissions and the influence of the increase in wintertime storm systems and improved ventilation in the Basin on many days in the winter months when the highest PM_{2.5} concentrations typically occur. The PM_{2.5} NAAQS was exceeded on seventeen days in 2015. Both the 2015 and 2017 PM_{2.5} measurements were strongly influenced by the long-term effects of the drought in California and 2017 was also influenced by large fires in southern and central California. The Basin's peak annual average PM_{2.5}



level in 2017, $14.6 \mu\text{g}/\text{m}^3$ (preliminary data) was a little lower than the 2016 value, $14.8 \mu\text{g}/\text{m}^3$, which occurred at the same site. In 2017, quarterly $\text{PM}_{2.5}$ averages for the fourth quarter were above normal for recent years, likely due to the impact of smoke transported from the series of wildfires that burned for several days in December. Out of the 29 wildfires across Southern California in December, six were very large fires, including the Thomas Fire which became the largest wildfire in modern California history.

In 2006, U.S. EPA rescinded the annual federal standard for PM_{10} but retained the 24-hour standard. U.S. EPA re-designated the Basin as attainment of the health based standard for PM_{10} , effective July 26, 2013. Ambient levels of PM_{10} in the Basin have continued to meet the federal 24-hour PM_{10} NAAQS through 2017.

In November 2008, U.S. EPA revised the lead NAAQS from a $1.5 \mu\text{g}/\text{m}^3$ quarterly average to a rolling 3-month average of $0.15 \mu\text{g}/\text{m}^3$ and added new near-source monitoring requirements. The Los Angeles County portion of the Basin has been designated non-attainment for lead due to monitored concentrations near one facility. However, starting with the 3-year 2012-2014 design value, the Basin has met the lead standard. A re-designation request to U.S. EPA is pending. Nitrogen dioxide, sulfur dioxide, and carbon monoxide levels have improved in the Basin and are in full attainment of the NAAQS. In 2007, U.S. EPA formally re-designated the Basin to attainment of the carbon monoxide NAAQS. Maximum levels of carbon monoxide in the Basin have been consistently less than one-third of the federal standards since 2004. In 2010, U.S. EPA revised the NO_2 1-hour standard to a level of 100 ppb and the SO_2 1-hour standard to a level of 75 ppb. In 2017, all sites in the Basin remained in attainment of these NAAQS.

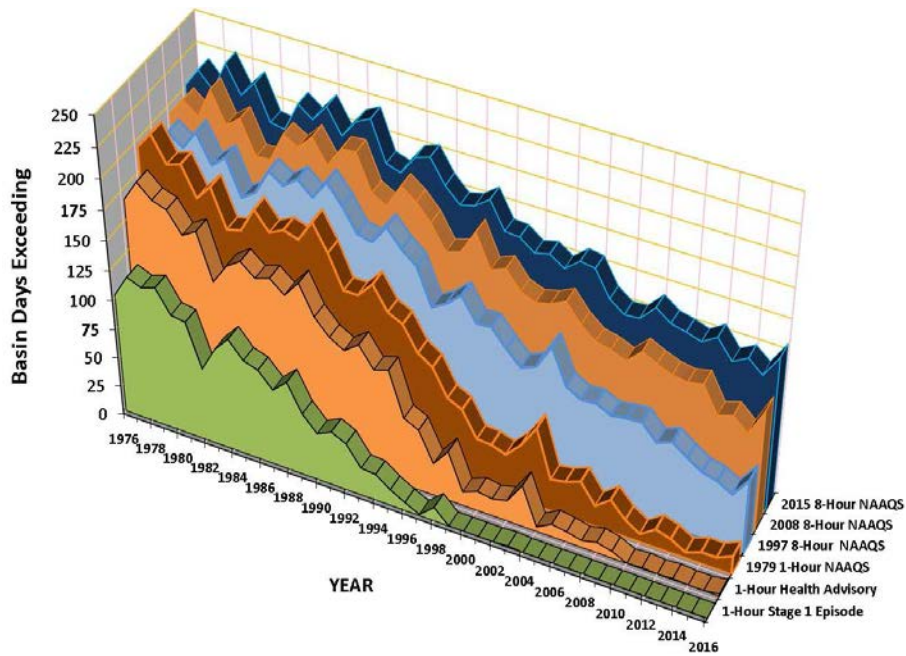
(SCAQMD, 2018, pp. 4-5)

The graphs on the following pages show air quality trend information as reported by the SCAQMD. The overall trend represents improvement in air quality. It should be noted, however, that air quality fluctuates day to day and year to year based on meteorological conditions including but not limited to wind patterns, temperature variations, humidity levels, and other factors. The SCAQMD acknowledged at a Mobile Source Committee Meeting held on October 20, 2017, that the 2016 and 2017 summers were characterized by a “very strong, persistent high-pressure ridge aloft and warm temperatures, causing strong temperature inversions and enhanced ozone photochemistry; and, above average surface temperatures occurred through the summer months in the western third of the U.S.” In summary, the SCAQMD reported that “[l]ong-term, ozone shows a downward trend, but with marginal increases in 2016 and 2017; year-to-year fluctuations of this magnitude are typical but needs continual assessment” (SCAQMD, 2017b).

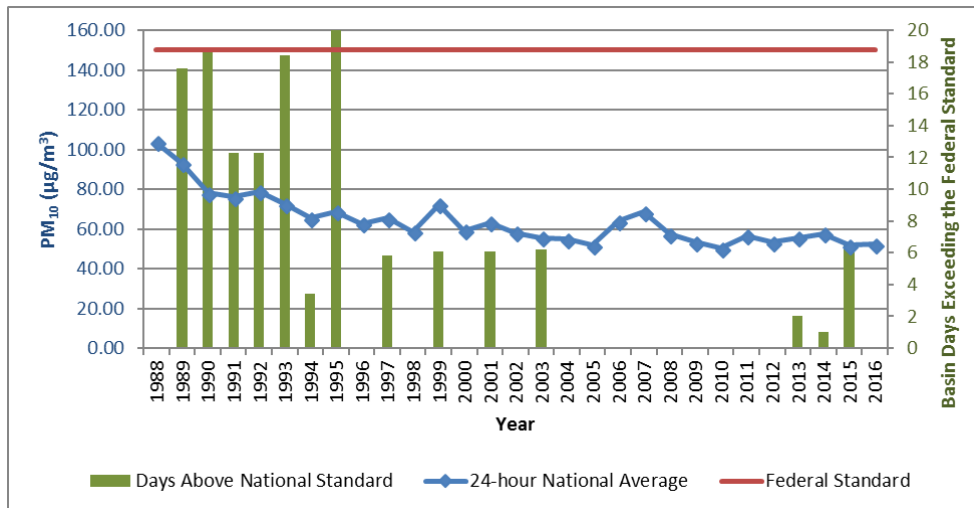
Continued improvement in air quality is expected to occur in the SCAB through the continued implementation of federal, State, and SCAQMD regulations, such as California’s low-sulfur diesel fuel programs, CARB’s truck and bus regulations, and statewide renewable electricity standards. The



South Coast Air Basin Ozone Trend

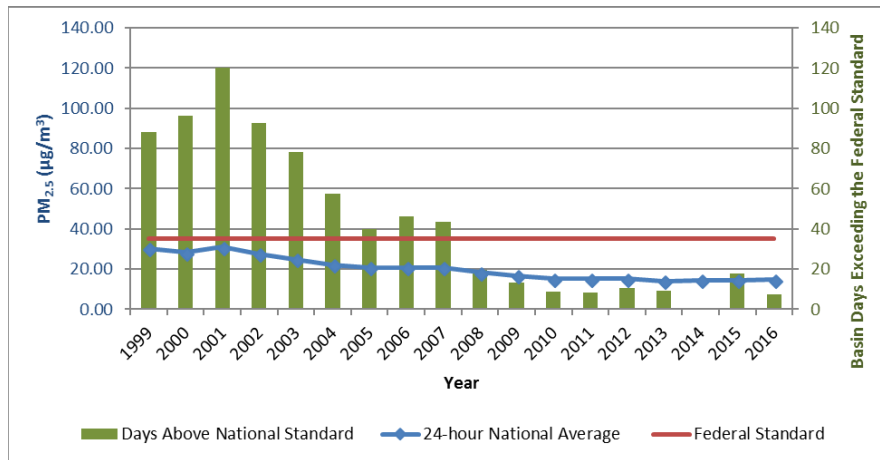


South Coast Air Basin PM₁₀ Trend

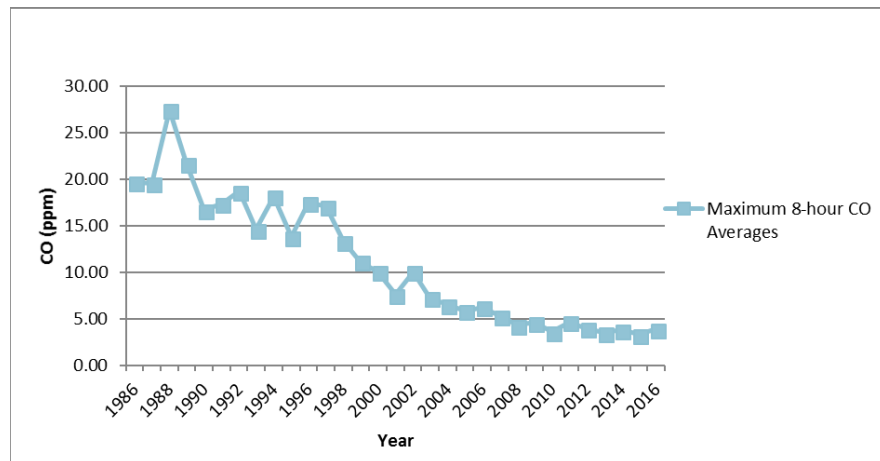




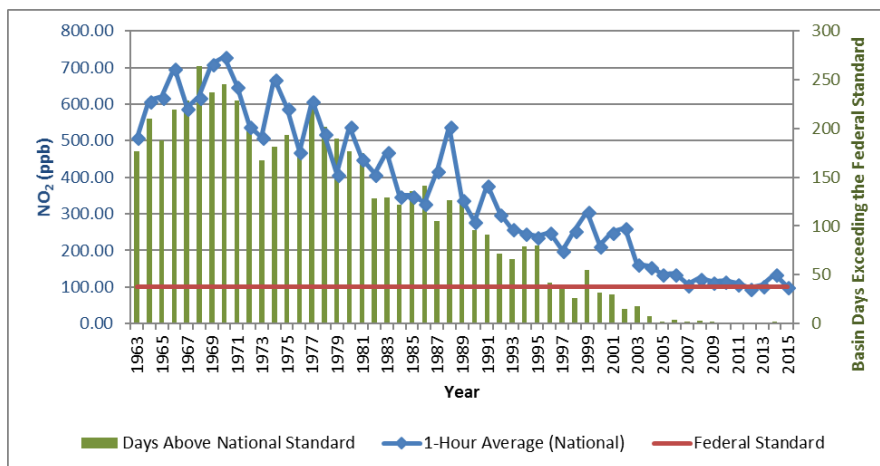
South Coast Air Basin PM_{2.5} Trend



South Coast Air Basin Carbon Monoxide Trend



South Coast Air Basin NO₂ Trend





California Air Resources Board (CARB) and the Ports of Los Angeles and Long Beach have adopted several iterations of regulations for diesel trucks that are aimed at reducing diesel particulate matter (DPM). Specifically, the CARB Drayage Truck Regulation, the CARB statewide On-Road Truck and Bus Regulation, and the Ports of Los Angeles and Long Beach “Clean Truck Program (CTP).” Through these programs, older more polluting trucks will be replaced with newer, cleaner trucks as a function of these regulatory requirements. (Urban Crossroads, 2018a, p. 35)

Refer to Section 2.8 of the Project’s Air Quality Impact Analysis (*Technical Appendix B1*) for a detailed summary of regional air quality improvements in the SCAB.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a classification of air pollutants that have been attributed to carcinogenic and non-carcinogenic health risks. Beginning in the mid-1980s, the CARB has adopted a series of regulations to reduce the amount of air toxic contaminant emissions resulting from mobile and stationary sources, such as cars, trucks, stationary products, and consumer products. As a result of CARB’s regulatory efforts, ambient concentrations of TACs have declined substantially across the State. (Urban Crossroads, 2018a, p. 33)

To reduce TAC emissions from mobile sources, CARB has required that all light- and medium-duty vehicles sold in California since 1996 be outfitted with an on-board diagnostic system to alert drivers of potential engine problems (as approximately half of all tailpipe emissions result from malfunctioning emissions control devices). Also, since 1996, CARB has required the use of cleaner burning, reformulated gasoline in all light- and medium-duty vehicles. These two regulations resulted in an over 80 percent reduction in TAC emissions from light- and medium-duty vehicles in the State between 1990 and 2012 despite an approximately 30 percent increase in the State’s population over that time period. The CARB also implemented programs to retrofit diesel-fueled engines and facilitate the use of diesel fuels with ultra-low sulfur content to minimize the amount diesel emissions and their associated TACs. As a result of CARB’s programs, diesel emissions and their associated TACs have fallen by approximately 68 percent between 1990 and 2012 despite an approximately 81 percent increase in diesel vehicle miles driven over that time period. (Urban Crossroads, 2018a, p. 33)

In 2000, CARB’s Diesel Risk Reduction Plan (DRRP) recommended the replacement and retrofit of diesel-fueled engines and the use of ultra-low-sulfur (<15 parts per million [ppm]) diesel fuel. As a result of these measures, DPM concentrations have declined 68% since 2000, even though the state’s population increased 31% and the amount of diesel vehicles miles traveled increased 81%. With the implementation of these diesel-related control regulations, CARB expects a DPM decline of 71% for 2000-2020. (Urban Crossroads, 2018a, pp. 33-34)

In 2000, the SCAQMD prepared a comprehensive urban toxic air pollution study to evaluate the TAC concentration levels in the SCAB and their associated health risks, called *MATES-II (Multiple Air Toxics Exposure Study in the South Coast Air Basin)*. *MATES-II* showed the average excess cancer risk within the SCAB ranging from 1,100 in one million persons to 1,750 in one million persons, with



an average excess regional risk of about 1,400 in one million. As part of the *MATES-II* study, the SCAQMD concluded that DPM accounted for more than 70 percent of the identified cancer risk. (Urban Crossroads, 2018a, p. 36)

The SCAQMD updated their urban toxic air pollution survey twice since 2000, with the 2008 (*MATES-III*) and 2014 updates (*MATES-IV*) showing a lowering of the average cancer risk within the SCAB as compared to *MATES-II*. The current version of the urban toxic air pollution survey, *MATES-IV*, is the most comprehensive dataset of ambient air toxic levels and health risks within the SCAB. The SCAQMD based the average Basin-wide excess cancer risk estimates on monitoring data collected at ten fixed sites within the SCAB. None of the fixed monitoring sites are within the local area of the Project site. However, *MATES-IV* extrapolates the excess cancer risk levels throughout the SCAB by modeling specific geographic grids. The *MATES-IV* report estimates the average Basin-wide excess cancer risk level within the SCAB to be 418 million, an approximately 70 percent improvement from the findings of *MATES-II* report just 14 years earlier. According to SCAQMD, DPM accounts for approximately 68 percent of the total risk shown in *MATES-IV*. (SCAQMD, 2015b, ES-1 through ES-2) The *MATES-IV* Interactive Map of the SCAB predicts an estimated excess carcinogenic risk of 1,084.68 in one million for the Project area (Urban Crossroads, 2018a, p. 36).

Refer to Section 2.8 of the Project's Air Quality Impact Analysis (*Technical Appendix B1*) for a more detailed account of Statewide and regional trends in TAC emissions.

3. Local Air Quality

Relative to the Project site, the nearest long-term monitoring site for CO, O₃, NO₂, PM_{2.5}, and PM₁₀ is the SCAQMD East San Gabriel Valley monitoring station (SRA 9), located approximately 3.5 miles northeast of the Project site. (Urban Crossroads, 2018a, p. 21)

Table 4.2-3, *Project Area Air Quality Monitoring Summary 2014-2016*, provides a summary of ambient air quality conditions in the general vicinity of the Project site from 2014 to 2016, which is the most recent three-year period for which air quality information is available.

E. Applicable Environmental Regulations

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

1. Federal Regulations

Federal Clean Air Act

The Clean Air Act (CAA; 42 U.S.C. § 7401 et seq.) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants, which include O₃, CO, NO_x, SO₂, PM₁₀, PM_{2.5}, and lead. (EPA, 2017a)



Table 4.2-3 Project Area Air Quality Monitoring Summary 2014-2016

POLLUTANT	STANDARD	YEAR		
		2014	2015	2016
Ozone (O ₃)				
Maximum 1-Hour Concentration (ppm)		0.123	0.122	0.146
Maximum 8-Hour Concentration (ppm)		0.092	0.096	0.106
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	11	21	30
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	20	28	40
Number of Days Exceeding Federal 8-Hour Standard	> 0.07 ppm	0	0	0
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0.123	0.122	0.146
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		2.0	2.1	1.3
Maximum 8-Hour Concentration (ppm)		1.9	1.3	1.2
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO ₂)				
Maximum 1-Hour Concentration (ppm)		0.070	0.071	0.074
Annual Arithmetic Mean Concentration (ppm)		0.018	0.015	0.029
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM ₁₀)				
Maximum 24-Hour Concentration (µg/m ³)		96	101	74
Annual Arithmetic Mean (µg/m ³)		44.1	37.1	33.7
Number of Samples		60	59	60
Number of Samples Exceeding State Standard	> 50 µg/m ³	22	12	12
Number of Samples Exceeding Federal Standard	> 150 µg/m ³	0	0	0
Particulate Matter ≤ 2.5 Microns (PM _{2.5})				
Maximum 24-Hour Concentration (µg/m ³)		32.4	44.3	32.2
Annual Arithmetic Mean (µg/m ³)		11.63	9.40	10.15
Number of Samples Exceeding Federal 24-Hour Standard	> 35 µg/m ³	0	1	0

-- = data not available from SCAQMD or ARB;

Source: (Urban Crossroads, 2018a, Table 2-3)



One of the goals of the CAA was to set and achieve NAAQS in every state by 1975 in order to address the public health and welfare risks posed by certain widespread air pollutants. The setting of these pollutant standards was coupled with directing the states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards. The CAA was amended in 1977 and 1990 primarily to set new goals (dates) for achieving attainment of NAAQS since many areas of the country had failed to meet the deadlines. (EPA, 2017a)

The sections of the federal 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 address the urban air pollution problems of ozone (smog), carbon monoxide (CO), and particulate matter (PM₁₀). Specifically, it clarifies how areas are designated and re-designated "attainment." It also allows EPA to define the boundaries of "nonattainment" areas: geographical areas whose air quality does not meet Federal air quality standards designed to protect public health (EPA, 2017b). Mobile source emissions are regulated in accordance with the CAA Title II provisions. These standards are intended to reduce tailpipe emissions of hydrocarbons, CO, and NO_x on a phased-in basis that began in model year 1994. Automobile manufacturers also are required to reduce vehicle emissions resulting from the evaporation of gasoline during refueling. These provisions further require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. (EPA, 2017c)

Section 112 of the Clean Air Act addresses emissions of hazardous air pollutants. Prior to 1990, CAA established a risk-based program under which only a few standards were developed. The 1990 Clean Air Act Amendments revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. "Major sources" are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An "area source" is any stationary source that is not a major source. (EPA, 2017a)

For major sources, Section 112 requires that EPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as "maximum achievable control technology" or "MACT" standards. Eight years after the technology-based MACT standards are issued for a source category, EPA is required to review those standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk. (EPA, 2017a)

2. State Regulations

California Clean Air Act (CCAA)

The California Clean Air Act (CCAA) establishes numerous requirements for district plans to attain state ambient air quality standards for criteria air contaminants. The CCAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the State's ambient air quality standards, the California Ambient Air Quality Standards (CAAQS), by the earliest practical date. The CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, established standards for sulfates,



visibility, hydrogen sulfide, and vinyl chloride. Generally, the CAAQS are more stringent than the NAAQS. For districts with serious air pollution, its attainment plan should include the following: no net increase in emissions from new and modified stationary sources; and best available retrofit technology for existing sources. (SCAQMD, 2017a)

Air Quality Management Planning

The California Air Resources Board (CARB) and local air districts throughout the State are responsible for developing clean air plans to demonstrate how and when California will attain air quality standards established under both the CAA and CCAA. For the areas within California that have not attained air quality standards, CARB works with local air districts to develop and implement State and local attainment plans. In general, attainment plans contain a discussion of ambient air quality data and trends; a baseline emissions inventory; future year projections of emissions, which account for growth projections and already adopted control measures; a comprehensive control strategy of additional measures needed to reach attainment; an attainment demonstration, which generally involves complex modeling; and contingency measures. Plans may also include interim milestones for progress toward attainment. Air quality planning activities undertaken by CARB also include the development of policies, guidance, and regulations related to State and federal ambient air quality standards; coordination with local agencies on transportation plans and strategies; and providing assistance to local districts and transportation agencies. (CARB, 2012)

California Air Resources Board Rules

The CARB enforces rules related to air pollutant emissions in the State of California. Rules with applicability to the Project include, but are not limited to, those listed below.

- CARB Rule 2480 (13 CCR 2480): Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools, which limits nonessential idling for commercial trucks and school buses within 100 feet of a school.
- CARB Rule 2485 (13 CCR 2485): Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling, which limits nonessential idling to five minutes or less for commercial trucks.
- CARB Rule 2449 (13 CCR 2449): In-Use Off-Road Diesel Idling Restricts, which limits nonessential idling to five minutes or less for diesel-powered off-road equipment.

3. *South Coast Air Quality Management District Rules*

The South Coast Air Quality Management District (SCAQMD) enforces rules related to air pollutant emissions in the SCAB. Rules with applicability to the Project include, but are not limited to, those listed below.

- SCAQMD Rule 402: Nuisance Odors, which regulates the emission of offensive odors.
- SCAQMD Rule 403: Fugitive Dust, which requires the implementation of a dust control plan during construction activities.



- SCAQMD Rule 431.2, Low Sulfur Fuel, which applies low sulfur fuel standards.
- SCAQMD Rule 1113: Table of Standards, which apply to architectural coatings.
- SCAQMD Rule 1186: PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations, which requires the use of street sweepers.

4.2.2 METHODOLOGY FOR ESTIMATING PROJECT-RELATED AIR QUALITY IMPACTS

A. Project-Related Construction Emissions

On October 17, 2017, the SCAQMD 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™) v2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NO_x, VOCs, PM₁₀, PM_{2.5}, SO_x, and CO) 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. (Urban Crossroads, 2018a, p. 39)

Construction activities associated with the Project would result in emissions of NO_x, VOC, PM₁₀, PM_{2.5}, SO_x, and CO. Construction related emissions are expected from the following construction activities:

- Grading
- Building Construction
- Architectural Coating
- Paving
- Construction Workers Commuting

For the purposes of evaluating the Project's construction-related air quality impacts, construction of the Project is anticipated to commence in July 2019 and last through December 2020. Construction duration by phase is shown on Table 4.2-4, *Construction Duration*. The construction schedule utilized in this analysis represents a "worst-case" analysis scenario because emission factors for construction decrease as the analysis year increases due to the replacement of older, less efficient construction vehicles with more modern vehicles. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per the CEQA Guidelines. The site-specific construction fleet may vary due to specific Project needs at the time of construction. The duration of construction activity was estimated based on consultation with the Project Applicant and an assumed 2020 Project opening year. Associated equipment was estimated based on consultation with the Project Applicant. Detailed modeling inputs/outputs are contained in Appendix 3.1 of the Project's Air Quality Impact Analysis (*Technical Appendix B1*). A detailed summary of construction equipment assumptions by phase was previously presented in EIR Table 3-2, *Construction Equipment Assumptions*. The construction equipment estimates provided in EIR Table 3-2 represent an overestimation of actual construction equipment that would likely be used during



construction activities in order to present a conservative analysis. Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from the Project Applicant and the CalEEMod model. (Urban Crossroads, 2018a, pp. 39-40)

Table 4.2-4 Construction Duration

Phase Name	Start Date	End Date	Days
Site Preparation	07/01/2019	08/23/2019	40
Grading	08/24/2019	01/24/2020	110
Building Construction	01/25/2020	12/11/2020	230
Paving	09/05/2020	12/18/2020	75
Architectural Coating	04/11/2020	12/18/2020	180

Source: (Urban Crossroads, 2018a, Table 3-2)

B. Construction Localized Pollutant Emissions

Localized emissions associated with Project-related construction activities were calculated and evaluated in accordance with SCAQMD’s *Final Localized Significance Threshold Methodology* (“Methodology”). The SCAQMD 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 Thresholds (LSTs). LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5} (Urban Crossroads, 2018a, p. 46).

The East San Gabriel Valley 1 monitoring station (SRA 9) was used as the baseline for ambient air quality because it is the closest monitoring station to the Project site for which air quality data is available (Urban Crossroads, 2018a, p. 47). 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:

- The CalEEMod model is utilized to determine the maximum daily on-site emissions that will occur during construction activity.
- The SCAQMD’s *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* is 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 five acres per day, then the SCAQMD’s screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact (the SCAQMD recommends that Projects exceeding the screening look-up tables undergo dispersion modeling to determine actual impacts). The look-up tables establish a maximum daily emissions threshold in pounds per day that can be compared to CalEEMod outputs. (Urban Crossroads, 2018a, p. 47).



Based on the construction fleet information provided by the Project Applicant and CalEEMod model defaults, the analysis performed in *Technical Appendix B1* and presented in this Subsection assumes that a maximum of 3.5 acres per day of the Project site would be subject to disturbance on any given day during construction activities. SCAQMD's LST Methodology states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod on-site emissions outputs were considered. (Urban Crossroads, 2018a, p. 47)

SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual and cumulatively significant impact. The nearest sensitive receptor land use (defined as a place where an individual who might have respiratory difficulties could remain for 24-hours) to the Project site is the residential neighborhood located approximately 1,900 feet north of the Project site. The nearest sensitive receptor location to the proposed off-site water infrastructure improvements is the residential neighborhood and Beardslee Elementary School, which are located approximately 359 feet northwest of the proposed water infrastructure alignment in Buena Vista Street. The Project's Air Quality Impact Analysis (EIR *Technical Appendix B1*) concluded that any localized impacts associated with off-site utility and infrastructure improvements would occur in limited daily disturbance areas due to physical constraints and would therefore not result in any localized impacts beyond those identified herein for peak site preparation and grading activities (Urban Crossroads, 2018a, p. 42). As such, the Project's Air Quality Impact Analysis (EIR *Technical Appendix B1*) analyzed the localized impacts from construction-related emissions on the residential neighborhood located approximately 1,900 feet north of the Project site by using a distance of 500 meters as a conservative measure. (Urban Crossroads, 2018a, p. 47)

Refer to Section 3.6 of the Project's Air Quality Impact Analysis (*Technical Appendix B1*) for a detailed explanation of the model inputs and equations used in the analysis of construction-related localized emissions. Inputs from the model runs for construction and operational activity are provided in Appendices 3.2 through 3.5 of the Air Quality Impact Analysis (*Technical Appendix B1*).

C. Project Operational Emissions

Operational activities associated with the proposed Project would result in the emission of NO_x, VOCs, PM₁₀, PM_{2.5}, SO_x, and CO. During long-term operation of the Project, emissions would be expected from Area Source Emissions, Energy Source Emissions, Mobile Source Emissions, and On-Site Equipment Emissions. Each of these sources is discussed below. For additional information regarding the calculation of Project operational emissions, please refer to Section 3.5 of the Project's Air Quality Impact Analysis (*Technical Appendix B1*). (Urban Crossroads, 2018a, p. 42)

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 developed within The Park @ Live Oak Specific Plan area would be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using the CalEEMod model. (Urban Crossroads, 2018a, pp. 42-43)

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 the CalEEMod model. (Urban Crossroads, 2018a, p. 43)

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in the CalEEMod model. (Urban Crossroads, 2018a, p. 43)

2. *Energy Source Emissions*

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. 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 is generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using the CalEEMod model. (Urban Crossroads, 2018a, p. 43)

3. *Mobile Source Emissions*

Project Trip Generation Characteristics

Project operational vehicular impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations. Project-related operational air quality impacts derive predominantly from the introduction of additional mobile sources (vehicles). Information related to the Project's daily vehicle trip generation and trip characteristics was obtained from the Project's Traffic Impact Analysis contained as *Technical Appendix II* to this EIR. The analysis assumes that all vehicles traveling to and from the Project site are new, additional vehicle trips not already on the roadway system. This assumption is conservative and may result in a likely over estimation of additional air emissions because industrial developments (such as those allowed within



The Park @ Live Oak Specific Plan) typically divert trips traveling to and from other locations, and do not necessarily generate new traffic trips.

Trip generation rates used in the Project's Traffic Impact Analysis (EIR *Technical Appendix II*) were based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, 2017. Use of the ITE rates are standard industry practice for the calculation of projected traffic volumes in traffic studies supporting CEQA compliance documents throughout California and are recommended by the SCAQMD. A reasonably foreseeable mix of General Light Industrial, Manufacturing, Warehousing, High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage), High-Cube Fulfillment Center, and a variety of commercial uses were assumed by the Project's Traffic Impact Analysis (EIR *Technical Appendix II*). Refer to EIR *Technical Appendix II* for a more detailed description of the Project's traffic generation assumptions. (Urban Crossroads, 2018f, Section 4.1)

The Project's Traffic Impact Analysis (EIR *Technical Appendix II*) presents the total Project vehicle trips in terms of Passenger Car Equivalents (PCEs) and actual vehicles in an effort to recognize and acknowledge the effects of heavy vehicles at the traffic study area intersections and in accordance with traffic engineering best practices. In order to more accurately estimate and model vehicular-source emissions, the actual number of vehicles, by vehicle classification (e.g., passenger cars [including light trucks], heavy trucks) were used in the Project's air quality impact analysis. Thus, for purposes of the analysis herein and based on the Project's Traffic Impact Analysis (*Technical Appendix II*), the Project is anticipated to generate a total of 14,607 vehicle trips per day (Urban Crossroads, 2018a, pp. 43-44).

Trip Length

For passenger car trips, the CalEEMod default for a one-way trip length of 16.6 miles was assumed. For heavy duty trucks, an average trip length was derived from distances from the Project site to the far edges of the SCAB. It is appropriate to stop the vehicle miles traveled (VMT) calculation at the boundary of the SCAB because this approach is consistent with professional industry practice and accurately captures all potential foreseeable impacts in the SCAB. (Urban Crossroads, 2018a, p. 44)

- Project site to the Port of Los Angeles/Long Beach: 40 miles;
- Project site to Cajon Pass: 49 miles;
- Project site to Downtown Los Angeles: 21 miles;
- Project site to Banning Pass/San Geronio Pass: 83 miles;
- Project site to San Diego County: 68 miles. (Urban Crossroads, 2018a, p. 44)

Assuming 50% of trucks travel to the Port of Los Angeles and Port of Long Beach and the remaining 50% of trucks travel to either the Cajon Pass, Downtown Los Angeles, Banning Pass/San Geronio, and/or San Diego County Line, a weighted truck trip length of 47.7 miles was determined; however, for purposes of this analysis, and as a conservative measure, a truck trip length of 50 miles was used. (Urban Crossroads, 2018a, p. 44)

Fugitive Dust Related to Vehicular Travel

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates. Emissions for travel on paved roads were calculated using the CalEEMod model. (Urban Crossroads, 2018a, p. 44)

4. On-Site Equipment Emissions

Warehouse, e-commerce fulfillment center, and similar uses that require loading docks on buildings are permitted uses in The Park @ Live Oak. Thus, equipment emissions associated with loading docks need to be included in the air quality analysis. It is common for industrial business park buildings with loading docks to require cargo handling equipment to move empty containers and empty chassis to and from the various pieces of cargo handling equipment that receive and distribute containers. The most common type of cargo handling equipment is the yard truck which is designed for moving cargo containers. Yard trucks are also known as yard goats, utility tractors (UTRs), hustlers, yard hostlers, and yard tractors. The cargo handling equipment is assumed to have a horsepower (hp) range of approximately 175 hp to 200 hp. Based on the latest available information from SCAQMD, warehouse projects typically have 3.6 yard trucks per one million square feet of building space. This is a reasonable assumption; thus, for the proposed Project, on-site modeled operational equipment includes five (5) 200 hp yard tractors operating at four (4) hours a day for 365 days of the year. (Urban Crossroads, 2018a, pp. 44-45)

D. Operational Localized Emissions

For the purposes of this air quality analysis, and as a conservative measure, the SCAQMD look-up tables of 5 acres are used to determine LSTs for the Project's operational activity. Although the Project site is much greater than 5 acres, the LST look-up tables can be used as a conservative measure to show that even if the daily emissions from all Project operations were emitted on a 5-acre site (and therefore concentrated over a smaller area which would result in greater site adjacent concentrations), if the impacts are less than significant, then a more detailed evaluation is not necessary. The LST analysis includes on-site sources only; however, CalEEMod does not separate on-site and off-site emissions from mobile sources. In an effort to establish a maximum potential impact scenario for analytic purposes, emission calculations represent all on-site Project-related stationary (area) sources and five percent (5%) of the Project-related mobile sources. Considering that the weighted trip length used in CalEEMod™ for the Project is approximately 16.6 miles for passenger cars and 50 miles for trucks, 5% of this total would represent an on-site travel distance of approximately 0.83 mile (or 4,383 feet) for each passenger car and approximately 2.5 miles (or 13,200 feet) for each truck. Thus the 5% assumption is conservative and would tend to overstate the actual impact. (Urban Crossroads, 2018a, p. 51) As previously noted, a 500-meter receptor distance is utilized to determine the LSTs for emissions of CO, NO₂, PM₁₀, and PM_{2.5}.

E. Toxic Air Contaminants (Including Diesel Particulate Matter)

Toxic Air Contaminants (TACs) (including vehicle DPM emissions) were calculated using emission factors for PM₁₀ generated with the 2014 version of the EMFAC developed by the CARB. Refer to Section 2.2, *Emissions Estimation*, of the Project's Mobile Source Diesel Health Risk Assessment

(*Technical Appendix B2*) for a detailed description of the model inputs and equations used in the estimation of the Project-related TAC emissions. (Urban Crossroads, 2018b, pp. 13-18)

The potential health risks of Project-related DPM emissions were quantified in accordance with the guidelines in the SCAQMD's *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*. Pursuant to SCAQMD's recommendations, emissions were modeled using the U.S. EPA's AERMOD software program. For informational purposes, potential health risks were modeled using the 2015 California Office of Environmental Health Hazard Assessment (OEHHA) receptor exposure parameters. Refer to Section 2.3, *Exposure Quantification*, of the Mobile Source Diesel Health Risk Assessment (*Technical Appendix B2*) for a detailed description of the model inputs and equations used in the calculation of average particulate concentrations associated with operations at the Project site. (Urban Crossroads, 2018b, pp. 19-21)

Excessive health risks associated with exposure to TAC emissions are defined in terms of the probability of developing cancer or adverse, chronic non-cancer health effects as a result of exposure to TAC emissions at a given concentration. The cancer and non-cancer risk probabilities are determined through a series of equations to calculate unit risk factor, cancer potency factor, and chronic daily intake. The evaluation results in a maximum health risk value, which is merely a calculation of risk and does not necessarily mean anyone will contract cancer or other non-cancer health concern as a result of the exposure. The equations and input factors utilized in the Project analysis were obtained from OEHHA. Refer to Section 2.4, *Carcinogenic Chemical Risk*, of the Project's Mobile Source Diesel Health Risk Assessment (*Technical Appendix B2*) for a detailed description of the variable inputs and equations used in the estimation of receptor population health risks associated with Project operations. (Urban Crossroads, 2018b, pp. 13-18)

Potential receptor population health risks were calculated for the maximally exposed residential receptor (MEIR), the maximally exposed individual worker receptor (MEIW), and the maximally exposed school child receptor (MEISC). The residential land use with the greatest potential exposure to Project TAC source emissions is located approximately 1,900 feet north of the Project site. The worker receptor land use with the greatest potential exposure to Project DPM source emissions is located immediately south of the Project site at the Irwindale Event Center on the south side of Live Oak Avenue. The school site land use with the greatest potential exposure to Project-related TACs is the Beardslee Elementary School located roughly 4,532 feet north of the Project site. (Urban Crossroads, 2018b, p. 24)

4.2.3 BASIS FOR DETERMINING SIGNIFICANCE

Section III of Appendix G to the CEQA Guidelines addresses typical adverse effects to air quality, and includes the following threshold questions to evaluate the Project's impacts on air quality (OPR, 2018):

- a. *Conflict with or obstruct implementation of the applicable air quality plan;*



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

Accordingly, Threshold a evaluates whether the proposed Project would conflict with SCAQMD's 2016 AQMP, which addresses State and federal requirements under the CAA. A conflict with the AQMP standards and requirements would inhibit the SCAQMD's ability to achieve State and federal standards for air quality.

Within the context of the above threshold considerations, emissions generated by a development project would be significant under Thresholds b and c if emissions are projected to exceed the regional thresholds established by the SCAQMD for criteria pollutants and would be significant under Threshold c if emissions are projected to exceed the localized thresholds established by the State of California and the SCAQMD for criteria pollutants. The criteria applicable to the proposed Project are summarized in Table 4.2-5, *Maximum Daily Regional Emissions Thresholds*. Pursuant to SCAQMD guidance, any development project in the SCAB with daily emissions that would exceed any of the thresholds summarized in Table 4.2-5 would be considered to have a significant impact to air quality on both a direct (individual) and cumulatively considerable basis (Urban Crossroads, 2018a, p. 38). Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual Project-related construction and operational emissions that exceed SCAQMD thresholds for Project-specific impacts would be considered cumulatively considerable.

The SCAQMD published a report giving direction on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution*. In this report the SCAQMD states:

"...the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is $HI > 1.0$ while the cumulative (facility-wide) is $HI > 3.0$. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance



thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.” (SCAQMD, 2003, p. D-3)

Table 4.2-5 Maximum Daily Regional Emissions Thresholds

Pollutant	Construction	Operations
Regional Thresholds		
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
Sox	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

^a: Based on SCAQMD Air Quality Significance Thresholds, March 2015

Pollutant	Construction	Operations
Localized Thresholds		
CO	549 lbs/day (site preparation)	584 lbs/day
	560 lbs/day (grading)	
NOx	23,826 lbs/day (site preparation)	25,558 lbs/day
	24,403 lbs/day (grading)	
PM10	218 lbs/day (site preparation)	55 lbs/day
	222 lbs/day (grading)	
PM2.5	108 lbs/day (site preparation)	28 lbs/day
	111 lbs/day (grading)	

Source: (Urban Crossroads, 2018a, Table 3-1)

Given this direction from the SCAQMD, the proposed Project evaluated in this EIR would result in a significant direct and cumulatively considerable impact under Threshold c if it would emit toxic air contaminants, like DPM, to such a degree that it would expose sensitive receptor populations to an incremental cancer risk of greater than 10 in one million. (Urban Crossroads, 2018b, p. 22)

The SCAQMD has also established non-carcinogenic risk parameters. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at or



below which health effects are not likely to occur. A hazard index less than one (1.0) means that adverse health effects are not expected. Thus, non-carcinogenic exposures of less than 1.0 are considered less than significant on a direct and cumulatively considerable basis under Threshold c. (Urban Crossroads, 2018b, p. 23)

Additionally, the significance of localized emissions impacts depends on whether ambient levels in the vicinity of any given project are above or below State standards. In the case of CO and NO₂, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM₁₀ and PM_{2.5} both of which are non-attainment pollutants. Applicable localized thresholds as follows:

- California State 1-hour CO standard of 20.0 ppm;
- California State 8-hour CO standard of 9.0 ppm;
- California State 1-hour NO₂ standard of 0.18 ppm;
- California State Annual NO₂ standard of 0.03 ppm;
- SCAQMD 24-hour operational PM₁₀ LST of 2.5 µg/m³;
- SCAQMD Annual-operational PM₁₀ LST of 1.0 µg/m³;
- SCAQMD 24-hour operational PM_{2.5} LST of 2.5 µg/m³.

(Urban Crossroads, 2018a, p. 46)

4.2.4 IMPACT ANALYSIS

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

The 2016 SCAQMD AQMP is the applicable air quality plan for the Project area, which estimates long-term air quality conditions for the SCAB. The air quality conditions presented in the 2016 AQMP are based in part on the growth forecasts identified by SCAG in its 2016-2040 RTP/SCS, which is a regional transportation and housing plan that transcends jurisdictional boundaries. The RTP/SCS anticipates that development in the various incorporated and unincorporated areas within the SCAB will occur in accordance with the adopted general plans for these areas. In addition, the air quality conditions presented in the 2016 AQMP are based on the assumption that future development projects will implement strategies to reduce emissions generated during the construction and operational phases of development (Urban Crossroads, 2018a, p. 54). Accordingly, if a proposed project is consistent with these growth forecasts, and if available emissions reduction strategies are implemented as effectively as possible on a project-specific basis, then the project is considered to be consistent with the 2016 AQMP.



The SCAQMD has established criteria for determining consistency with the 2016 AQMP. These criteria are defined in Chapter 12, Sections 12.2 and 12.3 of the SCAQMD CEQA Air Quality Handbook (1993) and 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. Violations of the CAAQS and NAAQS would occur if LSTs were exceeded. As evaluated within the response to Threshold c below, the Project's localized construction-source emissions would not exceed the applicable level of significance thresholds, and a less-than-significant impact would occur (Urban Crossroads, 2018a, p. 58).

Although the Project's operational LST analysis (included below within the response to Threshold c) demonstrates that operational Project emissions would not exceed the applicable LSTs, the Project's anticipated emissions of VOC and NO_x would exceed the applicable SCAQMD Regional Thresholds as shown on Table 4.2-7, *Summary of Operational Emissions*, under the responses to Thresholds b and c. Therefore, the Project has the potential to conflict with the AQMP according to this criterion (Urban Crossroads, 2018a, p. 58).

- **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 SCAB are provided to SCAG which develops regional growth forecasts that are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in a city's General Plan is considered to be consistent with the AQMP. (Urban Crossroads, 2018a, p. 55)

The Project Applicant proposes a General Plan Amendment that would amend the land use designation from applied to the Project site by the City of Irwindale General Plan from "Regional Commercial" to "Commercial/Industrial" to allow for both industrial and commercial business park development. Additionally, the Project Applicant proposes a Zone Change to amend the existing zoning classification of the site from "Heavy Manufacturing (M-2)" and "Quarry Overlay Zone" to "The Park @ Live Oak Specific Plan." The maximum 1,451,400 s.f. of Industrial/Business Park uses and 98,600 s.f. of commercial uses proposed by the Project would result in a less traffic-intensive development scenario compared to that which would be allowed to occur under the existing General Plan which designates the entirety of the Project site for Regional Commercial land uses. Given that the majority of the Project's operational emissions would be generated by mobile sources, the Project would emit less airborne pollutants than if the Project site was developed with the maximum building intensity



allowable under the existing General Plan land use designation (Regional Commercial). Since the Project site's existing General Plan land use designation (Regional Commercial) was relied upon to form the regional air emission assumptions in the 2016 SCAQMD AQMP, the air quality impacts of the Project would be lower compared to those assumed under the 2016 SCAQMD AQMP. As such, based on Consistency Criterion No. 2, the proposed Project would not exceed the assumptions in the 2016 AQMP and would be consistent with the 2016 AQMP. (Urban Crossroads, 2018a, p. 56)

On the basis of the preceding discussion, the Project does not meet the first criterion but does meet the second criterion for determining consistency with the 2016 SCAQMD AQMP. Accordingly, the Project is considered to be inconsistent with the 2016 AQMP and would result in a significant impact due to this inconsistency.

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

For purposes of analysis, it is assumed that construction of the Project would commence in July 2019 and last through December 2020 and would consist of two (2) construction phases. If construction activities occur at a later date than assumed in this EIR, emissions quantities associated with construction equipment exhaust would be less than disclosed in this Subsection due to the application of more restrictive regulatory requirements for construction equipment and on-going replacement of older construction fleet equipment with newer, less-polluting equipment by construction contractors. (Urban Crossroads, 2018a, pp. 39-40)

SCAQMD Rules that are applicable during construction activity for the proposed Project include but are not limited to: Rule 1113 (Architectural Coatings); Rule 431.2 (Low Sulfur Fuel); Rule 403 (Fugitive Dust); and Rule 1186 / 1186.1 (Street Sweepers) (Urban Crossroads, 2018a, p. 42).

The estimated maximum daily construction-related air emissions for the Project are summarized in Table 4.2-6, *Maximum Daily Peak Construction Emissions Summary*. As shown, emissions resulting from Project construction would not exceed the regional thresholds established by the SCAQMD for emissions for any criteria pollutant (Urban Crossroads, 2018a, p. 42). Therefore, a less-than-significant impact would occur and no mitigation is required.



Table 4.2-6 Maximum Daily Peak Construction Emissions Summary

Year	Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2019	5.93	68.18	34.73	0.07	11.04	6.75
2020	50.55	85.39	75.66	0.23	14.31	5.68
Maximum Daily Emissions	50.55	85.39	75.66	0.23	14.31	6.75
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Source: (Urban Crossroads, 2018a, Table 3-4).

Roadway frontage and water system improvements would occur outside of the Project site boundary that would result in additional construction-related emissions. The Project's Air Quality Impact Analysis (EIR *Technical Appendix B1*) concluded that short-term emissions associated with construction of the off-site utilities and roadway frontage improvements proposed as part of the Project would not exceed the daily emission quantities identified for Project-related construction activities. As such, no impacts associated with off-site utility and infrastructure improvements beyond what has already been identified throughout this EIR are expected to occur. The emissions associated with all off-site construction activities and impacts to any nearby sensitive land uses would not be greater than what is already calculated to occur for other construction-related activities. As such, emissions and impacts from construction are expected to be less than or equal to the emissions identified in Table 4.2-6 and no additional impacts related to off-site construction are expected. (Urban Crossroads, 2018a, pp. 41-42)

B. Operational Emissions Impact Analysis

The Project's operational source emissions are summarized below in Table 4.2-7, *Summary of Operational Emissions*. Detailed emissions model outputs are presented in Appendices 3.2 through 3.5 of the Air Quality Impact Analysis (*Technical Appendix B1*). As shown in Table 4.2-7, the Project's operational emissions would not exceed SCAQMD's regional criteria thresholds for CO, SO_x, PM₁₀, or PM_{2.5} during the summer or winter scenarios. Accordingly, the Project would not emit substantial concentrations of CO, SO_x, PM₁₀, or PM_{2.5} during long-term operation and would not cause or contribute to an existing or projected air quality violation, on either a direct or cumulatively considerable basis. Therefore, the Project would result in less-than-significant impacts associated with emissions of CO, SO_x, PM₁₀, and PM_{2.5} during long-term operation. However, the Project's operational emissions of VOCs and NO_x would exceed the regional criteria thresholds of significance established by the SCAQMD. Additionally, both VOCs and NO_x are precursors for ozone, a pollutant for which the SCAB does not attain federal or State standards. The Project's emissions of VOCs and NO_x during long-term operation is considered a significant impact to the environment on both a direct and cumulatively considerable basis. A large majority of these emissions are associated with vehicle exhaust produced by passenger cars and trucks traveling to and from the Project site.



Table 4.2-7 Summary of Operational Emissions

Operational Activities – Summer Scenario	Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area Source	34.77	1.49E-03	0.16	1.00E-05	5.70E-04	5.70E-04
Energy Source	0.33	3.01	2.53	0.02	0.23	0.23
Mobile (Trucks)	11.30	319.21	88.44	1.17	37.74	11.99
Mobile (Passenger Cars)	6.40	9.65	142.67	0.51	57.83	15.58
Mobile (Commercial Uses)	27.16	113.45	209.15	0.60	41.75	11.58
On-Site Equipment	0.73	8.93	3.90	0.02	0.29	0.27
Total Maximum Daily Emissions	80.70	454.27	446.86	2.31	137.85	39.64
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	YES	YES	NO	NO	NO	NO
Operational Activities – Winter Scenario	Emissions (pounds per day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area Source	34.77	1.49E-03	0.16	1.00E-05	5.70E-04	5.70E-04
Energy Source	0.33	3.01	2.53	0.02	0.23	0.23
Mobile (Trucks)	11.41	328.70	90.14	1.16	37.75	12.00
Mobile (Passenger Cars)	5.88	10.51	126.68	0.48	57.83	15.58
Mobile (Commercial Uses)	25.69	113.40	210.19	0.56	41.76	11.58
On-Site Equipment	0.73	8.93	3.90	0.02	0.29	0.27
Total Maximum Daily Emissions	78.82	464.56	433.60	2.23	137.86	39.66
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	YES	YES	NO	NO	NO	NO

Source: (Urban Crossroads, 2018a, Table 3-6)

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

A recent Supreme Court of California decision, *Sierra Club v. County of Fresno (Friant Ranch)*, states that EIRs should relate the expected adverse air quality impacts to likely health consequences or explain in meaningful detail why it is not feasible at the time of preparing the EIR to provide such an analysis, so that the public may make informed decisions regarding the costs and benefits of the Project. (The project analyzed in the *Friant Ranch* EIR consisted of approximately 2,500 residential units and 250,000 square feet of commercial space.) Given that the analysis for The Park @ Live Oak Project under Threshold b identifies a significant and unavoidable direct and cumulatively considerable impact associated with daily VOCs and NO_x emissions under long-term operating conditions, the potential health consequences associated with these air pollutants has been considered. “The Park @ Live Oak Supplemental Air Quality Assessment,” dated February 20, 2019, is appended to this EIR as *Technical Appendix B3* (Urban Crossroads, 2019), and serves to provide an analysis in conformance with the *Sierra Club v. County of Fresno* Supreme Court of California decision, and further clarifies, amplifies, and augments the air quality analysis already undertaken for The Park @ Live Oak Project.



Although as explained below, it may be misleading and unreliable to attempt to specifically quantify the proposed Project's health risks related to NO_x and VOC, the technical air quality impact analysis (*Technical Appendix B1*) and mobile source HRA prepared for the Project (*Technical Appendix B2*) provide extensive information concerning the proposed Project's quantifiable and non-quantifiable health risks.

Specific to NO_x and VOC, population-based studies suggest that long-term exposure to NO_x can cause an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants). Short-term exposure can result in resistance to air flow and airway contraction in healthy subjects. Exposure also 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. VOCs often have an odor, including such common VOCs as gasoline, alcohol, and the solvents used in paints. Odors generated by VOCs can irritate the eye, nose, and throat, which can reduce respiratory volume. In addition, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system.

Quantifying Project-specific health risks resulting for air pollutant emissions, other than the cancer and non-cancer risks reported below and in *Technical Appendix B2* would be misleading because of modeling limitations. As noted in the Brief of Amicus Curiae by the SCAQMD in the *Friant Ranch* case (SCAQMD, 2015a) (hereafter, "Brief"), SCAQMD noted that it has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with Project-specific health outcomes (refer to EIR *Technical Appendix B3*). The SCAQMD discusses that it does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects (as compared to large regional projects) due to photochemistry and regional model limitations. As part of SCAG's rulemaking activity, they reported that 6,620 pounds per day of NO_x and 89,180 pounds per day of VOC was expected to result in approximately 20 premature deaths per year. In comparison, the proposed Project is calculated to result in emissions of up to approximately 464 pounds per day of NO_x (7%) and 78 pounds per day of VOC (0.08%). Provided below are analyses of the Project's LST evaluation and mobile source DPM evaluation, based on quantifiable methodologies accepted by the SCAQMD.

A. Construction Localized Emissions Impact Analysis

Table 4.2-8, *Localized Significance Summary - Construction*, identifies the localized impacts at the nearest receptor location in the vicinity of the Project (residential land uses located approximately 1,900 feet to the north of the Project site). As shown in Table 4.2-8, Project-related construction emissions would not exceed the SCAQMD Localized Threshold for CO, NO_x, PM₁₀, or PM_{2.5}. Accordingly, construction of the proposed Project would not result in the exposure of any sensitive receptors to substantial pollutant concentrations. Therefore, localized emissions from construction of the Project would result in less-than-significant impacts with respect to Threshold c. Refer to Section 3.6 of the Project's Air Quality Impact Analysis (*Technical Appendix B1* to this EIR) for a detailed

explanation of the model inputs and equations used in the analysis of construction-related localized emissions.

Table 4.2-8 Localized Significance Summary - Construction

On-Site Site Preparation Emissions	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	68.11	23.14	10.84	6.69
SCAQMD Localized Threshold	549	23,826	218	108
Threshold Exceeded?	NO	NO	NO	NO
On-Site Grading Emissions	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	65.79	33.92	6.47	3.91
SCAQMD Localized Threshold	560	24,403	222	111
Threshold Exceeded?	NO	NO	NO	NO

Source: (Urban Crossroads, 2018a, Table 3-8)

B. Operation Localized Emissions Impact Analysis

1. Criteria Pollutant Emissions

Table 4.2-9, *Localized Significance Summary - Operation*, presents the results of the LST analysis for long-term operation of the Project. Detailed operational localized emissions model outputs are presented in Appendix 3.1 of *Technical Appendix B1* to this EIR. As shown on Table 4.2-9, operational emissions would not exceed the SCAQMD’s LSTs for any criteria pollutant at the nearest sensitive receptor (residential neighborhood located approximately 1,900 feet to the north of the Project site). Therefore, the Project would have a less-than-significant localized impact during operational activity.

Table 4.2-9 Localized Significance Summary - Operation

Peak Operational Emissions	Emissions (pounds per day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Maximum Daily Emissions	25.58	24.90	7.11	2.20
SCAQMD Localized Threshold	584	25,558	55	28
Threshold Exceeded?	NO	NO	NO	NO

Source: (Urban Crossroads, 2018a, Table 3-9)

2. CO Hot Spot Impact Analysis

A CO “Hot Spot” Analysis was not performed to evaluate the effect of Project-related vehicular emissions on localized concentrations of CO. CO attainment was thoroughly analyzed as part of the SCAQMD’s 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). As discussed in the 2003 AQMP, CO “Hot Spots” are typically associated with idling vehicles at extremely busy intersections (i.e., intersections with an excess of 100,000 vehicle trips per day) in areas with unusual meteorological and topographical conditions. Based on an analysis of the busiest



intersections within the Project's vicinity, Urban Crossroads determined that none of the intersections in the vicinity of the Project would have peak traffic volumes that would generate the CO concentrations needed to create a CO "Hot Spot." Furthermore, a study prepared by the Bay Area Air Quality Management District (BAAQMD) determined 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—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO "Hot Spot" impact. The SCAQMD has not undertaken a similar study, so use of the BAAQMD study is appropriate here. The proposed Project would generate a maximum of 6,137 peak hour trips during any time period at any of the study area intersections and therefore would not remotely approach the volume of hourly traffic required to generate a CO "Hot Spot." (Urban Crossroads, 2018a, pp. 52-53) Therefore, Project-related vehicular emissions would not result in a substantial contribution of CO concentrations at intersections in the vicinity of the Project site and sensitive receptors would not be exposed to substantial CO concentrations generated by the Project's vehicular traffic. Based on the foregoing analysis, the Project would result in less-than-significant impacts related to the creation of CO Hot Spots.

3. Toxic Air Contaminants Impact Analysis

The Project's operational activities would generate/attract diesel-fueled trucks. Diesel trucks produce TACs, including DPM and potential TACs resulting from operation of a gasoline station (if a gas station were to be constructed as part of the Project's commercial development component). TACs, including DPM are known to be associated with health hazards, including cancer. To evaluate the Project's potential to expose nearby sensitive receptors to substantial amounts of TACs during long-term operation, a Mobile Source Health Risk Assessment was prepared for the proposed Project and is included as *Technical Appendix B2* to this EIR.

Project-related DPM health risks were evaluated under three (3) receptor scenarios which are described below. Detailed air dispersion model outputs and risk calculations are presented in Appendices 2.1 and 2.2, respectively, of *Technical Appendix B2*.

Residential Exposure Scenario: The residential land use with the greatest potential exposure to Project TAC source emissions is located approximately 1,900 feet north of the Project site near existing industrial uses west of Mountain Avenue and east of El Toro Road. At the MEIR, the maximum incremental cancer risk attributable to Project TAC source emissions is calculated at 0.54 in one million under the 2015 OEHHA exposure parameters, which is far less than the SCAQMD threshold of 10 in one million. At this same location, non-cancer risks are calculated to be 0.0002 under the 2015 OEHHA exposure parameters, which would not exceed the applicable SCAQMD hazard risk threshold of 1.0. (Urban Crossroads, 2018b, p. 24)

Worker Exposure Scenario: The worker receptor land use with the greatest potential exposure to Project TAC source emissions is located south of the Project site at the Irwindale Event Center on the south side of Live Oak Avenue. At the MEIR, the maximum incremental cancer risk attributable to Project TAC source emissions is calculated to be 1.12 in one million under the 2015 OEHHA exposure



parameters, which is less than the SCAQMD threshold of 10 in one million. At this same location, non-cancer risks are calculated to be 0.001 under the 2015 OEHHA exposure parameters, which would not exceed the applicable SCAQMD threshold of 1.0. (Urban Crossroads, 2018b, p. 24)

School Child Exposure Scenario: The school site land use with the greatest potential exposure to Project TAC source emissions is the Beardslee Elementary School located approximately 4,532 feet north of the Project site. At the MEISC, the maximum incremental cancer risk attributable to the Project TAC source emissions is calculated to be 0.73 in one million under the 2015 OEHHA exposure parameters, which is less than the applicable SCAQMD threshold of 10 in one million. At this same location, non-cancer risks are calculated to be 0.00009 under the 2015 OEHHA exposure parameters, which would not exceed the applicable SCAQMD threshold of 1.0. (Urban Crossroads, 2018b, pp. 24-25)

Accordingly, long-term operation of the Project would not directly cause or contribute in a cumulatively considerable manner to the exposure of the MEIR, MEIW, or MEISC to substantial TAC emissions. Therefore, implementation of the proposed Project would result in a less-than-significant impact with respect to exposure of MEIR, MEIW, and MEISC within 1.0 mile of the Project site to substantial point source TAC emissions.

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

The Project could produce odors during proposed construction activities resulting from construction equipment exhaust, application of asphalt, and/or the application of architectural coatings; however, standard construction practices would minimize the odor emissions and their associated impacts. Furthermore, any odors emitted during construction would be temporary, short-term, and intermittent in nature. Temporary odor impacts would not affect substantial numbers of people and would cease following completion of each phase of construction. In addition, construction activities on the Project site would be required to comply with SCAQMD Rule 402, which prohibits the discharge of odorous emissions that would create a public nuisance. Accordingly, the proposed Project would not create objectionable odors affecting a substantial number of people during construction. Therefore, the Project would result in less-than-significant odor impacts during short-term construction activities and no mitigation is required.

The Project's proposed Commercial/Industrial and Industrial/Business Park uses are not typically associated with objectionable odors. However, The Park @ Live Oak Specific Plan allows for the following uses, the operation of which have the potential to generate odor: gas station, various manufacturing operations, bakeries, distribution plant (up to 250,000 gallons), dry cleaners, restaurants, and plastic fabrication and molding. Additionally, the temporary storage of refuse associated with the proposed Project's long-term operational use could be a potential source of odor; however, Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations, thereby precluding any significant odor impact. Furthermore, the proposed Project would be required to comply with SCAQMD Rule 402, which prohibits the discharge of odorous emissions that would create a public nuisance, during long-



term operation (Urban Crossroads, 2018a, p. 57). As such, compliance with the City's solid waste regulations and SCAQMD Rule 402 would ensure that long-term operation of the proposed Project would not create objectionable odors affecting a substantial number of people. Accordingly, the Project would have a less-than-significant impact with respect to the creation of objectionable odors affecting a substantial number of people.

4.2.5 CUMULATIVE IMPACT ANALYSIS

The cumulative study area for air quality impacts is the SCAB, and the summary of projections approach based on General Plan buildout was used to evaluate the Project's potential cumulative air quality impacts. Furthermore, the SCAQMD considers all impacts that are significant and direct to also be cumulatively considerable.

As discussed above in the response to Threshold a, the proposed Project would not be consistent with SCAQMD's 2016 AQMP because the Project's long-term operational emissions of VOCs and NO_x would exceed the applicable SCAQMD regional thresholds. Because the SCAQMD considers all impacts that are significant and direct to also be cumulatively considerable, the Project's potential to conflict with the 2016 AQMP identified in the response to Threshold a is considered a cumulatively considerable impact.

As previously shown in Table 4.2-6, *Maximum Daily Peak Construction Emissions Summary*, construction activities associated with the proposed Project would not exceed any of the applicable SCAQMD Regional Thresholds. Accordingly, impacts associated with Project-related construction emissions would be less-than-cumulatively considerable.

As previously shown in Table 4.2-7, *Summary of Operational Emissions*, operation of the Project would exceed the SCAQMD's regional thresholds for emissions of VOCs and NO_x. Pursuant to the SCAQMD'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 (Urban Crossroads, 2018a, p. 28). Accordingly, the Project's operational emissions of VOCs and NO_x represent a cumulatively considerable impact.

As shown on Table 4.2-8, *Localized Significance Summary - Construction*, Project-related construction emissions would not exceed the SCAQMD Localized Threshold for CO, NO_x, PM₁₀, or PM_{2.5}. Pursuant to the SCAQMD'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 (Urban Crossroads, 2018a, p. 28). While it is not likely based on the list of cumulative projects noted in Table 4.0-1, but theoretically possible that Project-related construction activities may occur simultaneous with and in close proximity to other developments, the Project's construction-related emissions would be below the SCAQMD LSTs; therefore, the Project's emissions during construction would be less than significant on a direct and cumulative basis.



As shown on Table 4.2-9, *Localized Significance Summary - Operation*, under long-term operating conditions, the Project's localized operational emissions would not exceed any of the SCAQMD LST thresholds. Pursuant to the SCAQMD'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 (Urban Crossroads, 2018a, pp. 52-53).

Additionally, as discussed in the response to Threshold c, long-term operation of the Project would not exceed SCAQMD's cancer or non-cancer health risk thresholds at the MEIR, MEIW, or MEISC. Because the Project's direct contribution to health risk hazards in the local area would not exceed the SCAQMD's significance thresholds at any sensitive receptor location, the Project's DPM emissions would be less-than-cumulatively considerable based on the SCAQMD's CEQA Air Quality Significance Thresholds.

The SCAQMD has established a significance threshold in order to determine cumulatively considerable TAC impacts. Specifically, if a given project would generate TACs resulting in or causing an increase in cancer risks of 10 or more incidents per million population, that project's incremental contribution to ambient TAC source cancer risks is considered cumulatively considerable. Project-source TACs (from DPM and emissions from the gasoline dispensing station) would incrementally increase the background cancer risk in the Project area by a maximum of 1.12 incidents per million population under all the scenarios. The Project-related increase in the background cancer risk of 1.12 incidents per million does not exceed the SCAQMD threshold of 10 in one million; therefore, the Project would result in a less-than-cumulatively considerable TAC impact.

As indicated under the response to Threshold d, construction of the Project could emit odors associated with construction equipment exhaust, application of asphalt, and/or the application of architectural coatings; however, standard construction practices would minimize the odor emissions and their associated impacts to below a level of significance. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Accordingly, impacts associated with emissions of odor during the Project's construction activities would be less-than-cumulatively considerable.

Long-term operation of the proposed Project may include land uses that could produce objectionable odors. Additionally, the temporary storage of refuse associated with the proposed Project's long-term operational use could be a potential source of odor. However, the Project and other cumulative developments would be required to comply with SCAQMD Rule 402, which prohibits the discharge of odorous emissions that would create a public nuisance during long-term operation. As such, long-term operation of the proposed Project would not create or substantially contribute to objectionable odors affecting a substantial number of people and the Project would have a less-than-cumulatively considerable impact. (Urban Crossroads, 2018a, p. 57)



4.2.6 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Significant Direct and Cumulative Impact. The Project's operational emissions of NO_x and VOCs would exceed SCAQMD daily regional thresholds, meaning the Project would conflict with Consistency Criterion No. 1 of the 2016 AQMP. Accordingly, the Project would conflict with the implementation of the AQMP on a direct and cumulatively considerable basis.

Thresholds b: Significant Direct and Cumulative Impact. The Project would exceed the SCAQMD significance thresholds for daily VOCs and NO_x emissions under long-term operating conditions. Both VOCs and NO_x are precursors for ozone, a pollutant for which the SCAB does not attain federal or State standards. The Project's long-term emissions of VOCs and NO_x represent significant direct and significant cumulatively considerable impacts.

Threshold c: Less-than-Significant Impact. Project emissions during construction and operation would not exceed the SCAQMD's LSTs for CO, NO_x, PM₁₀, or PM_{2.5}. The carcinogenic risk attributable to TAC emissions from the proposed Project would not exceed the SCAQMD threshold for direct and cumulatively considerable emissions. Non-cancer risks would also be below the SCAQMD's threshold for direct and cumulatively considerable emissions and would be less than significant. Emissions also would not exceed LSTs and would not cause or contribute to 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 Irwindale and SCAQMD would reduce odor impacts to less-than-significant levels. Near- and long-term odor impacts would be less than significant.

4.2.7 MITIGATION

Although the Project's construction-related VOC emissions would be less than significant with mandatory compliance to SCAQMD Rule 1113, the following mitigation measure would ensure Rule 1113 compliance and minimize the Project's construction-related VOC emissions.

MM 4.2-1 Prior to building permit issuance, the City of Irwindale shall verify that a note is provided on all building plans specifying that compliance with SCAQMD Rule 1113 is mandatory during application of all architectural coatings. Project contractors shall be required to comply with the note and maintain written records of such compliance that can be inspected by the City of Irwindale upon request. This note also shall indicate that only "low-volatile organic compound" paint products (no more than 50 gram/liter of VOC) and/or High Pressure Low Volume (HPLV) applications shall be used. All other architectural coatings shall comply with the VOC limits prescribed by SCAQMD Rule 1113.

Although the Project's construction-related particulate matter (PM₁₀ and PM_{2.5}) emissions would be less than significant with mandatory compliance to SCAQMD Rule 403 and Rule 1186, the following



mitigation measures would ensure Rule 403 and Rule 1186 compliance and minimize the Project's construction-related particulate matter emissions.

MM 4.2-2 Project construction activities shall comply with the provisions of South Coast Air Quality Management District Rule 403, "Fugitive Dust." Rule 403 requires implementation of best available dust control measures during construction activities that generate fugitive dust, such as earth moving, grading, and equipment travel on unpaved roads. Prior to grading permit issuance, the City of Irwindale shall verify that the following notes are specified on the grading plan. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Irwindale staff or its designee to confirm compliance. These notes shall also be specified in bid documents issued to prospective construction contractors.

- a. During grading and ground-disturbing construction activities, the construction contractor shall ensure that all unpaved roads, active soil stockpiles, and areas undergoing active ground disturbance within the Project site are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas by water truck, sprinkler system, or other comparable means, shall occur in the mid-morning, afternoon, and after work is done for the day. The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite.
- b. Temporary signs shall be installed on the construction site along all unpaved roads indicating a maximum speed limit of 15 miles per hour (MPH). The signs shall be installed before construction activities commence and remain in place for the duration of construction activities that include vehicle activities on unpaved roads.
- c. Gravel pads must be installed at all access points to prevent tracking of mud onto public roads.
- d. Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect (e.g., Install wheel shakers, wheel washers, and limit site access.)
- e. When materials are transported off-site, all material shall be covered or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- f. All street frontages adjacent to the construction site shall be swept at least once a day using SCAQMD Rule 1186 certified street sweepers utilizing reclaimed water trucks if visible soil materials are carried to adjacent streets.
- g. Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and initiate corrective action within 24 hours.



- h. Any vegetative cover to be utilized onsite shall be planted as soon as possible to reduce the disturbed area subject to wind erosion. Irrigation systems required for these plants shall be installed as soon as possible to maintain good ground cover and to minimize wind erosion of the soil.
- i. Any on-site stock piles of debris, dirt, or other dusty material shall be covered or watered as necessary to minimize fugitive dust pursuant to SCAQMD Rule 403.
- j. A high wind response plan shall be formulated and implemented for enhanced dust control if winds are forecast to exceed 25 mph in any upcoming 24-hour period.

MM 4.2-3 Project construction activities shall comply with the provisions of South Coast Air Quality Management District Rule 1186 “PM₁₀ Emissions from Paved and Unpaved Roads and Livestock Operations” and Rule 1186.1, “Less-Polluting Street Sweepers” by complying with the following requirements. To ensure and enforce compliance with these requirements, prior to grading and building permit issuance, the City of Irwindale shall verify that the following notes are included on the grading and building plans. Project construction contractors shall be required to ensure compliance with the notes and permit periodic inspection of the construction site by City of Irwindale staff or its designee to confirm compliance. The notes also shall be specified in bid documents issued to prospective construction contractors.

- a. If visible dirt or accumulated dust is carried onto paved roads during construction, the contractor shall remove such dirt and dust at the end of each work day by street cleaning.
- b. Street sweepers shall be certified by the South Coast Air Quality Management District as meeting the Rule 1186 sweeper certification procedures and requirements for PM₁₀-efficient sweepers. All street sweepers having a gross vehicle weight of 14,000 pounds or more shall be powered with alternative (non-diesel) fuel or otherwise comply with South Coast Air Quality Management District Rule 1186.1.

Although the Project’s construction emissions of NO_x would be less than significant with mandatory compliance to the California Code of Regulations, the following mitigation measure would ensure compliance with the applicable provisions and minimize the Project’s construction-related NO_x emissions.

MM 4.2-4 Project construction activities shall comply with California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025, “Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles” and 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” by complying with the following requirement. To ensure and enforce compliance with the five (5) minute



idling restriction and thereby limit the release of diesel particulate matter, oxides of nitrogen, and other criteria pollutants into the atmosphere from the burning of fuel, prior to grading permit and building permit issuance, the City of Irwindale shall verify that the following note is included on the grading and building plans. Project construction contractors shall be required to ensure compliance with the note and permit periodic inspection of the construction site by City of Irwindale staff or its designee to confirm compliance. This note also shall be specified in bid documents issued to prospective construction contractors.

- a. Temporary signs shall be placed on the construction site at all construction vehicle entry points and at all loading, unloading, and equipment staging areas indicating that heavy duty trucks and diesel-powered construction equipment are prohibited from idling for more than three (3) minutes. The signs shall be installed before construction activities commence and remain in place during the duration of construction activities at all loading, unloading, and equipment staging areas.

Although the Project's construction emissions of SO_x would be less than significant with mandatory compliance with SCAQMD Rule 431.2, the following mitigation measure would ensure compliance with Rule 431.2 and minimize the Project's construction-related SO_x emissions.

MM 4.2-5 The Project shall comply with the provisions of SCAQMD Rule 431.2, "Sulfur Content of Liquid Fuels" by complying with the following requirement. To ensure and enforce compliance with this requirement and thereby limit the release of SO_x into the atmosphere from the burning of fuel, prior to grading and building permit issuance, the City of Irwindale shall verify that the following note is included on the grading and building plans. Project contractors shall be required to ensure compliance with this note and permit periodic inspection of the construction site by City of Irwindale staff or its designee to confirm compliance. This note also shall be specified in bid documents issued to prospective construction contractors.

- a. All liquid fuels shall have a sulfur content of not more than 0.05 percent by weight, except as provided for by South Coast Air Quality Management District Rule 431.2.

The following mitigation measures would ensure compliance with the California Building Standards Code and CARB and SCAQMD requirements related to vehicle use and idling and add additional requirements on the Project to reduce operational-related emissions of NO_x and VOCs and the contributions of these pollutants to the SCAB's non-attainment status for ozone.

MM 4.2-6 As a condition of building permit issuance, the City of Irwindale shall require installation of passenger car EV charging stations and designated carpool parking stalls per the provisions of the California Green Building Standards Code.



- MM 4.2-7 Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than three (3) minutes once the vehicle is stopped, the transmission is set to “neutral” or “park,” and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of a certificate of occupancy, the City of Irwindale shall conduct a site inspection to ensure that the signs are in place.
- MM 4.2-8 As a condition of certificates of occupancy, owner users and tenants of buildings with loading docks shall be required to ensure that all heavy-heavy duty (HHD) vehicles accessing the building comply with 13 California Code of Regulations Section 2025, as may be amended (the "Regulations"), and that all HHD vehicles accessing the Project site comply with the required registration and reporting provisions of the Regulations. Developer and all successors also shall include these obligations in all leases of buildings with loading docks. The building owner and occupant shall allow periodic inspection of the site by the City of Irwindale or its designee to confirm compliance.
- MM 4.2-9 As a condition of certificates of occupancy, all on-site outdoor cargo handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) shall be required to be powered by electricity, compressed natural gas, propane, or diesel-fueled engines that comply with the CARB/USEPA Tier IV Engine standards for off-road vehicles or better (defined as emitting less than or equal to 0.015 grams per brake horsepower-hour [g/bhp-hr] for PM₁₀) and all indoor cargo handling equipment shall be required to be powered by electricity, compressed natural gas, or propane. Use of indoor diesel-fueled equipment shall be prohibited. Developer and all successors also shall include these obligations in all building leases. The building owner and occupant shall allow periodic inspection of the site by the City of Irwindale or its designee to confirm compliance.
- MM 4.2-10 Prior to the issuance of a building permit for any building having over 200,000 square feet of floor space, the City of Irwindale shall verify that the building’s roof is designed to accommodate a photovoltaic (PV) solar array taking into consideration limitations imposed by other rooftop equipment, roof warranties, building and fire code requirements, and other physical or legal limitations. The building shall be constructed with an adequately sized electrical panel(s) to accommodate PV arrays in the future. The electrical system and infrastructure shall be clearly labeled with noticeable and permanent signage which informs future occupants/owners of the existence of this infrastructure.



- MM 4.2-11 Prior to the issuance of a building permit for any building with loading docks having over 200,000 square feet of floor space, the City of Irwindale shall verify that the building will be constructed with an adequately sized electrical panel(s) and conduit to accommodate future EV charging stations at 2% of the tractor trailer parking spaces, in an appropriate location on the building site where truck charging would likely occur in the future when EV trucks become commercially available.
- MM 4.2-12 Prior to the issuance of a building permit or certificate of occupancy for any warehouse building that will contain chilled, cooled, or freezer warehouse space, the City of Irwindale shall confirm that the loading docks designated to handle temperature-controlled trucks are equipped with electrical plug-ins to allow cooling of the trailer when the diesel truck engine is turned off.

4.2.8 SIGNIFICANCE OF IMPACTS AFTER MITIGATION

Threshold a: Significant Direct and Cumulatively Considerable Impact. Although compliance with regulatory requirements and Mitigation Measures MM 4.2-6 through MM 4.2-12 would reduce the Project's air pollutant impacts and thus its inconsistency with SCAQMD's 2016 AQMP, the Project's inconsistency with the AQMP would remain significant and unavoidable due to the Project's NO_x and VOC operational emissions exceeding SCAQMD daily significance thresholds. There are no feasible mitigation measures that can reduce the Project's impacts to below a level of significance because a large majority of these emissions are from vehicle tailpipes and the City of Irwindale does not have jurisdiction to regulate engine types or fuel usage or to prohibit vehicles from accessing the Project site that are otherwise lawful to drive on public streets in the State of California.

Threshold b: Significant Direct and Cumulative Impact. The Project's operational source emissions would exceed the SCAQMD regional threshold for emissions of VOCs and NO_x after compliance with all mandatory regulatory requirements and adherence to Mitigation Measures MM 4.2-6 through MM 4.2-12. This EIR recommends all feasible mitigation to reduce regional operational source VOC and NO_x emissions and no additional feasible mitigation is available to reduce regional operational source VOC and NO_x emissions to below a level of significance. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Irwindale to enforce that have a proportional nexus to the Project's level of impact. Moreover, more than 94 percent of all operational-source emissions (by weight) would be generated by mobile sources (tailpipe emissions). Neither the Project Applicant nor the City of Irwindale can substantively or materially affect reductions in the Project's mobile-source emissions beyond what is reduced via regulatory requirements (Urban Crossroads, 2018a, p. 7). As such, it is concluded that even with mitigation, the Project's operational emissions of VOCs and NO_x would exceed the SCAQMD daily regional thresholds, which would constitute a significant direct and cumulatively considerable impact. Accordingly, the Project's operational emissions of VOCs and NO_x would result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.



4.3 ENERGY

This Subsection is based in part on the information provided in the Project's Energy Analysis Report, dated July 5, 2018, and appended to this EIR as *Technical Appendix C* (Urban Crossroads, 2018c).

4.3.1 EXISTING CONDITIONS

A. Electricity Consumption

Under existing conditions, the Project site is currently undeveloped but operates as an Inert Debris Engineered Fill Operation (IDEFO). No permanent electric utility infrastructure exists at the Project site, although on-site construction trailers receive power via temporary power poles and the operation of the motorized pump component of the existing on-site water supply well also utilizes electricity. The Project site is located within the service area of Southern California Edison (SCE). SCE provides electricity to a population of more than 14 million within a service area encompassing approximately 50,000 square miles. SCE generates 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. (Urban Crossroads, 2018c, p. 8)

B. Natural Gas Consumption

The Project site is currently undeveloped and does not contain any permanent natural gas utility lines and therefore does not directly consume natural gas under existing conditions. The Project site is located within the natural gas 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 and oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State of California. In 2012, California customers received 35% of their natural gas supply from basins located in the Southwest, 16% from Canada, 40% from the Rocky Mountains, and 9% from basins located within California. (Urban Crossroads, 2018c, pp. 10-12)

C. Transportation Energy / Fuel Consumption

Gasoline and other vehicle fuels are commercially-provided commodities. As of 2017, there were more than 27 million passenger and light truck vehicles and 8 million medium-duty and heavy-duty vehicles on the road in California. In 2017, California vehicles consumed nearly 15.1 billion gallons of gasoline (including ethanol) and 3.9 billion gallons of diesel fuel (including biodiesel and renewable diesel). In 2016, California vehicles also consumed 194 million therms of natural gas as a transportation fuel, or the equivalent of 155 million gallons of gasoline. The Project site currently operates as an IDEFO which involves the operation of vehicles and construction equipment that consume fuel. (Urban Crossroads, 2018c, pp. 12-13)



4.3.2 REGULATORY FRAMEWORK

A. *Federal Policies and Regulations*

1. *Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)*

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) 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. (Urban Crossroads, 2018c, p. 15)

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. (Urban Crossroads, 2018c, pp. 15-16)

B. *State Policies and Regulations*

1. *Integrated Energy Policy Report*

Senate Bill 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 California's electricity, natural gas, and transportation fuel sectors and provides policy recommendations. The 2016 Integrated Energy Policy Report Update (2016 IEPR Update), focuses on next steps for transforming transportation energy use in California. The 2016 IEPR Update addresses the role of transportation in meeting state climate, air quality, and energy goals; the Alternative and Renewable Fuel and Vehicle Technology Program; current and potential funding mechanisms to advance transportation policy; the status of statewide plug-in electric vehicle infrastructure; challenges and opportunities for electric vehicle infrastructure deployment; measuring success and defining metrics within the Alternative and Renewable Fuel and Vehicle Technology Program; market transformation benefits resulting from Alternative and Renewable Fuel and Vehicle Technology Program investments; the state of hydrogen, zero-emission vehicle, biofuels, and natural gas technologies over the next ten years; transportation linkages with natural gas infrastructure; evaluation of methane emissions from the natural gas system and implications for the transportation system; changing trends in California's sources of crude oil; the increasing use of crude-by-rail in California; the integration of environmental information in renewable energy planning processes; an update on electricity reliability planning for

Southern California energy infrastructure; and an update to the electricity demand forecast. (Urban Crossroads, 2018c, pp. 16-17)

2. *State of California Energy Plan*

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access. (Urban Crossroads, 2018c, p. 17)

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

California Code Title 24, Part 6 (also referred to as the California Energy Code), was promulgated by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption. To these ends, the California Energy Code provides energy efficiency standards for residential and nonresidential buildings. California's building efficiency standards are updated on an approximately three-year cycle. The newest 2016 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2017. The CEC indicates that the 2016 Title 24 standards will reduce energy consumption by 5% for nonresidential buildings above that achieved by the 2013 Title 24. (Urban Crossroads, 2018c, p. 17)

4. *California Solar Rights and Solar Shade Control Acts*

The Solar Rights Act sets parameters for establishing solar easements, prohibits ordinances and private covenants which restrict solar systems, and requires communities to consider passive solar and natural heating and cooling opportunities in new construction. This Act is applicable to all California cities and counties. California's solar access laws appear in the state's Civil, Government, Health and Safety, and Public Resources Codes. California Pub Res Code § 25980 sets forth the Solar Shade Control Act, which encourages the use of trees and other natural shading except in cases where the shading may interfere with the use of active and passive solar systems.

5. *Pavley Fuel Efficiency Standards (AB 1493)*

On September 24, 2009, the California Air Resources Board (CARB) adopted amendments to the "Pavley" regulations that reduce greenhouse gas (GHG) emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. CARB's September amendments will cement California's enforcement of the Pavley rule starting in 2009 while providing vehicle manufacturers with new compliance flexibility. The amendments will also prepare California to harmonize its rules with the federal rules for passenger vehicles. (CARB, 2017a)



The U.S. EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles On June 30, 2009. The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005, and was denied by the U.S. EPA in March 2008. That decision was based on a finding that California’s request to reduce GHG emissions from passenger vehicles did not meet the Clean Air Act requirement of showing that the waiver was needed to meet “compelling and extraordinary conditions.” (CARB, 2017a)

The CARB’s Board originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009. These regulations were authorized by the 2002 legislation Assembly Bill 1493 (Pavley). (CARB, 2017a)

The regulations had been threatened by automaker lawsuits and were stalled by the U.S. EPA’s delay in reviewing and then initially denying California’s waiver request. The parties involved entered a May 19, 2009 agreement to resolve these issues. With the granting of the waiver on June 30, 2009, it is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, all while improving fuel efficiency and reducing motorists’ costs. (CARB, 2017a)

The CARB has adopted a new approach to passenger vehicles – cars and light trucks – by combining the control of smog-causing pollutants and greenhouse gas emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California. (CARB, 2017a)

6. California Renewable Portfolio Standard (SB 1078 and SB 350)

SB 1078 requires electricity retailers to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020. Additionally, Governor Edmund G. Brown, Jr. signed into legislation Senate Bill 350 in October 2015, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. The California Energy Commission (CEC) and the CPUC work collaboratively to implement the RPS. The CPUC implements and administers Renewable Portfolio Standards (RPS) compliance rules for California’s retail sellers of electricity, which include investor-owned utilities (IOU), public owned utilities (POUs), electric service providers (ESP) and community choice aggregators (CCA). The CEC is responsible for the certification of electrical generation facilities as eligible renewable energy resources, and adopting regulations for the enforcement of RPS procurement requirements of POUs. In 2016, California's three large IOUs (Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric) collectively served 34.76% of their retail electricity sales with renewable power. The IOU's utilize a mix of RPS resources such a wind, solar PV, solar thermal, hydroelectricity, geothermal, and bioenergy to meet their renewable procurement targets. Southern California Edison (the IOU that provides electricity to the Project site) served 28% of their retail electricity sales with renewable power in 2016. (CEC, 2018; CPUC, 2018)



C. Local Policies and Regulations

1. City of Irwindale Green Building Standards Code

In addition to the aforementioned federal and state regulations related to energy, the City of Irwindale adopted the Los Angeles County Green Building Standards Code (2017 Edition) which incorporates and amends the 2016 California Green Building Standards Code. Accordingly, the City's Green Building Standards Code regulates and controls the design, construction, quality of materials, grading, use, occupancy, location, and maintenance of all buildings or structures within the City. (City of Irwindale, 2018, Chapter 15.10)

2. City of Irwindale General Plan Policies

Resource Management Element Policy 11 (RME Policy 11) of the City of Irwindale General Plan encourages the conservation of non-renewable resources, including efforts to reduce the use of energy, greenhouse gas emissions, and efforts to find more efficient methods for delivering services. RME Policy 11 also encourages the development of building standards that enable the community to design energy saving features such as solar energy systems, water efficient landscaping, and sustainable standards. There are no other policies within the General Plan directly related to energy use and/or efficiency. (City of Irwindale, 2008, p. 118)

4.3.3 METHODOLOGY FOR CALCULATING PROJECT ENERGY DEMANDS

Information from the CalEEMod 2016.3.2 outputs for the Project's Air Quality Impact Analysis (EIR *Technical Appendix B1*) was utilized in the Project's Energy Analysis (EIR *Technical Appendix C*) and the analysis presented herein, detailing Project-related construction equipment, transportation energy demands, and facility energy demands. These outputs are referenced in Appendix 3.1 of EIR *Technical Appendix C*. Additionally, the 2014 version of the Emissions FACtor model (EMFAC) developed by the Air Resources Board (ARB) was used to calculate emission rates, fuel consumption, and vehicle miles traveled (VMT) for light duty vehicles traveling to and from the Project site during the Project's construction and operational activities. Data from the EMFAC 2014 model outputs are included in Appendix 3.2 of the Project's Energy Analysis (EIR *Technical Appendix C*).

4.3.4 BASIS FOR DETERMINING SIGNIFICANCE

The proposed Project would result in a significant impact to energy if the Project or any Project-related component would:

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

The above-listed thresholds are derived directly from Section VI of Appendix G to the CEQA Guidelines and address typical adverse effects to biological resources (OPR, 2018).



Threshold a: *Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

A. Energy Use During Project Construction

The Project's construction process would consume electrical energy and fuel. Project construction would represent a "single-event" electric energy and fuel demand and would not require on-going or permanent commitment of energy or diesel fuel resources for this purpose. In summary, the Project's construction process is estimated to consume approximately 875,343 kilowatt-hours (kWh) of electricity and an estimated 95,658 gallons of diesel fuel (see detailed discussion below). (Urban Crossroads, 2018c, pp. 18-19)

Diesel fuel consumed by construction equipment would be supplied by commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved through the use of bulk purchases, transport, and use of construction materials. The 2016 IEPR published by the CEC shows that fuel efficiencies are improving for on and off-road vehicle engines due to more stringent government requirements. This amount of energy and fuel use anticipated by the Project's construction activities are typical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would be required to conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies. CCR Title 13, Motor Vehicles, Section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. As supported by the preceding discussion, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary. (Urban Crossroads, 2018c, p. 23)

1. Construction Equipment Fuel Use

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hours per gallon (hp-hr-gal.), obtained from CARB 2013 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines. For the purposes of the Energy Analysis (EIR *Technical Appendix C*) and the analysis presented herein, 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 Los Angeles County and the Southern California region. Project construction activities would consume an estimated 95,658 gallons of diesel fuel. 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. (Urban Crossroads, 2018c, p. 19)

2. Construction Worker Fuel Use

Urban Crossroads, Inc. applied a reasonable assumption in their Energy Analysis (*Technical Appendix C*) that all construction worker trips to and from the Project site would be in light duty autos (LDA)



along area roadways. With respect to estimated vehicle miles traveled (VMT), the construction worker trips would generate an estimated 2,851,874 VMT based on a 14.7-mile average trip length and the number of construction days reported in EIR Section 3.0, *Project Description*. (Urban Crossroads, 2018c, p. 21)

As generated by EMFAC 2014, an aggregated fuel economy of LDAs ranging from model year 1974 to model year 2020 have a fuel efficiency of 27.59 miles per gallon (mpg). Urban Crossroads, Inc. calculated that 103,366 gallons of fuel would be consumed related to construction worker trips for the proposed Project. Project construction worker trips would represent a “single-event” gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose (Urban Crossroads, 2018c, p. 21). Refer to Table 4-4 of *Technical Appendix C* for the construction worker fuel consumption calculations.

3. *Construction Vendor / Hauling Fuel Use*

With respect to estimated VMT, the Project’s construction vendor trips would generate an estimated 447,534 VMT along area roadways based on a 6.9-mile average trip length and the number of construction days reported in EIR Section 3.0, *Project Description*. In their analysis, Urban Crossroads applied a reasonable assumption that 50% of all vendor trips would be from medium-heavy duty trucks (MHD) and 50% would be from heavy-heavy duty trucks (HHD). These assumptions are consistent with the 2016.3.2 CalEEMod defaults utilized within the Project’s Air Quality Impact Analysis (*Technical Appendix B1*). Vehicle fuel efficiencies for MHD and HHD trucks were based on information generated within EMFAC 2014. For purposes of the Energy Analysis (*Technical Appendix C*) and herein, EMFAC 2014 was run for the MHD and HHD vehicle class within the California sub-area for a 2020 calendar year (consistent with the opening year of the Project). As generated by EMFAC 2014, an aggregated fuel economy of MHD trucks ranging from model year 1974 to model year 2020 are calculated to have a fuel efficiency of 8.34 MPG. Additionally, HHD trucks are estimated to have a fuel efficiency of 5.68 MPG (Urban Crossroads, 2018c, pp. 21-22). Data from EMFAC 2014 is shown in Appendix 3.2 of *Technical Appendix C*.

Fuel consumption from construction hauling and vendor trips (medium and heavy-duty trucks) would total approximately 66,266 gallons. 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 purposes of the energy analysis included herein (Urban Crossroads, 2018c, p. 22). Refer to Table 4-5 and 4-6 of *Technical Appendix C* for the construction vendor fuel consumption calculations.

B. Energy Use During Project Operation

1. Transportation Energy Demands

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. As summarized in Table 4.3-1, *Vehicle Fuel Consumption for Project Operation*, Urban Crossroads calculates that the operation of the Project



would result in 55,923,227 annual VMT and an estimated annual fuel consumption of 2,956,826 gallons of fuel. (Urban Crossroads, 2018c, p. 26)

Table 4.3-1 Vehicle Fuel Consumption for Project Operation

Vehicle Type	Annual Miles Traveled	Estimated Annual Fuel Consumption (gallons)
Light Duty Autos	46,878,154	1,699,099
LHD Trucks	2,388,579	170,857
MHD Trucks	1,514,596	181,606
HHD Trucks	5,141,898	905,264
Total (All Vehicles)	55,923,227	2,956,826

Source: (Urban Crossroads, 2018c, Table 4-11)

Fuel consumed by vehicles accessing the Project site during long-term operation of the Project would be provided by commercial vendors. Trip generation and VMT generated by the Project are consistent with other uses of similar scale and configuration, as reflected in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) and CalEEMod v2016.3.2. As such, compared to uses of similar scale and configuration, the Project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor does it propose uses that are associated with excess and wasteful vehicle energy consumption. (Urban Crossroads, 2018c, p. 28)

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of light-duty vehicles (LDVs) and heavy-duty vehicles (HDVs) to alternative energy sources (e.g., electricity, natural gas, bio fuels, hydrogen cells) would likely decrease the Project’s 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 also would construct sidewalks that would facilitate and encourage pedestrian access and subsequently reduce VMT and associated energy consumption. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary. (Urban Crossroads, 2018c, p. 28)

2. Facility Energy Demands

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building, such as in plug-in appliances. In California, the California Building Standards Code Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use or “plug-in” energy use can be further subdivided by specific end-use (refrigeration, cooking, appliances, etc.). (Urban Crossroads, 2018c, p. 26)

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. As part of the Project’s design, all on-site outdoor cargo handling



equipment (CHE) (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) would be powered by diesel-fueled engines that comply with the CARB/USEPA Tier IV Engine standards for off-road vehicles or better (defined as emitting less than or equal to 0.015 grams per brake horsepower-hour [g/bhp-hr] for PM₁₀) and all on-site indoor forklifts would be powered by electricity, compressed natural gas, or propane (Urban Crossroads, 2018b, p. 6). Natural gas would be supplied to the Project by SoCalGas and electricity would be supplied to the Project by SCE. Annual natural gas and electricity demands of the Project are summarized in Table 4.3-2, *Project Annual Operational Energy Demand Summary*. As shown on Table 4.3-2, Project facility operational energy demands are estimated at 11,223,098 kilo-British thermal units (kBTU)/year of natural gas and 14,079,827 Kilowatt-hour (kWh)/year of electricity. (Urban Crossroads, 2018c, p. 27)

The proposed The Park @ Live Oak Specific Plan species a range of permitted uses that include but are not limited to conventional warehouse, commercial, and industrial uses. All construction would be required to comply with the City of Irwindale Green Building Standards Code, which would result in buildings having contemporary energy efficient/energy conserving designs and operational programs. Uses permitted by The Park @ Live Oak Specific Plan are not inherently energy-intensive, and the Project energy demands in total would be comparable to, or less than, other projects of similar use and scale. Based on the preceding, Project facilities energy demands and energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

Table 4.3-2 Project Annual Operational Energy Demand Summary

Natural Gas Demand	kBTU/year	Electricity Demand	kWh/year
Other Asphalt Surfaces	0	Other Asphalt Surfaces	0
General Light Industry	988,260	General Light Industry	606,060
Manufacturing	1,850,000	Manufacturing	1,130,000
Refrigerated Warehouse-No Rail	399,125	Refrigerated Warehouse-No Rail	6,490,000
Unrefrigerated Warehouse-No Rail	789,351	Unrefrigerated Warehouse-No Rail	3,540,000
Convenience Market with Gas Pumps	1,852	Convenience Market with Gas Pumps	15,247
Fast Food Restaurant without Drive Thru	692,280	Fast Food Restaurant without Drive Thru	132,420
Fast Food Restaurant with Drive Thru	6,390,000	Fast Food Restaurant with Drive Thru	1,220,000
Regional Shopping Center	113,980	Regional Shopping Center	938,250
Total Project Natural Gas Demand	11,223,098	Total Project Natural Gas Demand	14,079,827

Source: (Urban Crossroads, 2018c, Table 4-12)

C. Energy Consumption Summary

Project design features, mandatory compliance with CalGreen and the City of Irwindale Green Building Standards Code, and the implementation of the mitigation measures contained in EIR Subsection 4.2, *Air Quality*, and Subsection 4.5, *Greenhouse Gas Emissions*, demonstrate evidence of the Project’s efficient use of energy. Energy consumed by the Project is calculated by Urban Crossroads to be comparable to, or less than, energy consumed by other industrial and commercial business park projects of similar scale and intensity that are currently constructed and operating in California. On this basis, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy. Furthermore, the Project would not cause or result in the need for additional energy facilities or energy delivery systems. Thus, the Project would result in a less-than-significant



energy impact and would not result in the wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources. (Urban Crossroads, 2018c, p. 1)

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

The following section analyzes the proposed Project's consistency with the applicable federal and State regulations previously described under Subsection 4.3.2, *Regulatory Framework*.

A. Project Consistency with Federal Energy Regulations

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

Transportation and access to the Project site is provided primarily by the local and regional roadway systems, which includes the Interstate 605 (I-605) Freeway, Interstate 210 (I-210) Freeway, Arrow Highway, and Live Oak Avenue. 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. (Urban Crossroads, 2018c, p. 15)

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

The Project site is located near major transportation corridors with proximate access to the interstate freeway system (i.e., I-605 Freeway and I-210 Freeway). The location of the Project site facilitates access, acts to reduce VMT, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of industrial and commercial business park uses. Accordingly, the Project supports the strong planning processes emphasized under TEA-21 and is therefore consistent with, and would not otherwise interfere with or obstruct implementation of TEA-21. (Urban Crossroads, 2018c, p. 15)

B. Project Consistency with State Energy Regulations

1. Integrated Energy Policy Report

The 2016 IEPR Update is a State Policy report. An individual development project such as the proposed Project has no ability to comply with or conflict with this report.

2. State of California Energy Plan

The Project site is located along major transportation corridors with proximate access to the I-605 Freeway and I-210 Freeway. The location of the Project site facilitates access, acts to reduce VMT, takes advantage of existing infrastructure systems, and promotes land use compatibilities through the development of commercial/industrial uses on a site that is designated as, and is being reclaimed for, commercial uses by the City of Irwindale. Therefore, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation of the applicable provisions of the State of California Energy Plan. (Urban Crossroads, 2018c, p. 17)



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

The Project is required by State law to be designed, constructed, and operated to meet or exceed Title 24 Energy Efficiency Standards. On this basis, the Project is determined to be consistent with, and would not interfere with, nor otherwise obstruct implementation of Title 24 Energy Efficiency Standards.

4. *Pavley Fuel Efficiency Standards (AB 1493)*

AB 1493 is applicable to the Project because model year 2009-2016 passenger cars and light duty truck vehicles traveling to and from the Project site are required by law to comply with the legislation's fuel efficiency requirements. On this basis, the Project is determined to be consistent, with, and would not interfere with, nor otherwise obstruct implementation of AB 1493.

5. *California Renewable Portfolio Standards (SB 1078)*

Energy directly or indirectly supplied to the Project by electric corporations is required by law to comply with SB 1078.

C. Project Consistency with Local Energy Regulations

1. *City of Irwindale Green Building Standards Code*

The Project would be required by the City of Irwindale to be designed, constructed, and operated to meet or exceed the City's Green Building Standards Code (Chapter 15.10). On this basis, the Project is determined to be consistent with, and would not interfere with, nor otherwise obstruct implementation of the City's Green Building Standards Code.

2. *City of Irwindale General Plan Policies*

RME Policy 11 of the City of Irwindale General Plan encourages the conservation of non-renewable resources, including efforts to reduce the use of energy, greenhouse gas emissions, and efforts to find more efficient methods for delivering services. There are no other policies within the General Plan directly related to energy use and/or efficiency. (City of Irwindale, 2008, p. 118)

The Project promotes non-vehicular transportation and has the potential to reduce vehicle miles traveled through its proximity to major transportation corridors, which would reduce tailpipe emissions – a major source of greenhouse gases. Additionally, implementing development within the proposed The Park @ Live Oak Specific Plan would be required to comply with the City of Irwindale Green Building Code which would ensure the use of numerous sustainable design features that minimize water use and maximize energy efficiency. As such, the Project would be consistent with the City's applicable General Plan policies.



D. Regulatory Consistency Summary

As supported by the preceding analysis, the Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency and a less-than-significant impact would occur.

4.3.5 CUMULATIVE IMPACT ANALYSIS

Although the proposed Project would incrementally increase energy consumption in Los Angeles County, the Project does not propose uses that are inherently wasteful, inefficient, or require an unnecessary consumption of energy. The Project's energy demands and fuel consumption during construction and operation would be comparable to, or less than, other industrial and commercial business park projects of similar scale and configuration, including but not limited to the projects listed in EIR Table 4.0-1, *List of Cumulative Development Projects*. The construction of any project is considered to have a "single-event" fuel demand during the course of construction and would not require ongoing or permanent commitment of energy resources for this purpose. As such, the Project's use of energy over the course of its construction is not regarded as having a cumulatively considerable impact on energy resources.

Regarding the Project's long-term operation, the proposed The Park @ Live Oak Specific Plan includes a list of permitted uses that would be required to occupy buildings constructed in accordance with the City of Irwindale Green Building Code. As such, the buildings would contain contemporary energy efficient/energy conserving design features and enable energy efficient building occupant operations. As shown on Table 4.3-2, Project facility operational electricity demands are estimated 14,079,827 kWh/year. In 2015 (the most recent year for which data was available), SCE delivered more than 87 billion kwh of electricity to its customers (SCE, 2018). Based on the Project's estimated net new electrical consumption of 14,079,827 kWh/ year, the Project would account for approximately 0.02 percent of SCE's typical energy sales ($14,079,827 \text{ kWh/year} \div 87,000,000,000 \text{ kWh/year} = 0.02$ percent). Although cumulative development in Los Angeles County and the SCE service area would result in the irreversible use of renewable and non-renewable electricity resources during Project construction and operation, the use of such resources would be on a relatively small scale and would be consistent with growth expectations for SCE's service area. Furthermore, like the Project, during construction and operation, other future development projects would be expected to incorporate energy conservation features and comply with applicable regulations including those aimed at conserving energy. Accordingly, the Project's contribution to cumulative impacts related to electricity consumption would not be cumulatively considerable and, thus, would be less than significant.

Similarly, for natural gas use, and as shown on Table 4.3-2, Project facility operational energy demands are estimated at 11,223,098 kBtu/year of natural gas. Buildout of the Project and related projects in SoCalGas' service area is expected to increase natural gas consumption during Project construction and operation and, thus, cumulatively increase the need for natural gas supplies. Based on the 2018 California Gas Report, the California Energy Commission estimates natural gas consumption within SoCalGas' planning area will be approximately 3,490 million cubic feet/day in 2020 (equivalent to 3.49 trillion BTU/day [$3,490 \text{ million cubic feet} \times 1,000 \text{ BTU/1 cubic foot} = 3.49 \text{ trillion BTU}$]) (CGEU, 2018, p. 96). The Project would account for approximately 0.0009 percent of the 2020



forecasted consumption in SoCalGas's planning area ($[11,223,098 \text{ kBTU/day} \div 365 \text{ days/year}] \div 3.49$ trillion kBTU/day = 0.0009 percent). SoCalGas' forecasts take into account projected population growth and development based on local and regional plans. Although future development projects would result in the irreversible use of natural gas resources, the use of such resources would be on a relatively small scale and would be consistent with regional and local growth expectations for SoCalGas' service area. Accordingly, the Project's contribution to cumulative impacts related to natural gas consumption would not be cumulatively considerable and, thus, would be less than significant.

Trip generation and VMT generated by the Project would cumulatively contribute to motor vehicle fuel consumption in Los Angeles County, but because the Project is located immediately adjacent to the I-605 Freeway, there would be no waste of energy expended to travel from the state highway system to the Project site. Buildout of the Project and cumulative projects (including but not limited to those listed in EIR Table 4.0-1, *List of Cumulative Development Projects*) will increase transportation energy consumption during Project construction and operation and, thus, cumulatively increase the need for energy for transportation-related uses. As described above, the State of California consumed nearly 15.1 billion gallons of gasoline and 3.9 billion gallons of diesel fuel in 2016. At buildout, and as summarized in Table 4.3-1, *Vehicle Fuel Consumption for Project Operation*, the Project is estimated to consume 2,956,826 gallons of fuel annually. Thus, the Project would account for approximately 0.0002 percent of the total transportation-related fuel use in the State of California. Further, the potential use of alternative-fueled, electric, and hybrid vehicles is expected to reduce the Project's consumption of gasoline and diesel in the future as these vehicles transition into more widespread use. Thus, while there would be an increase in consumption of petroleum-based fuels, the Project's contribution to cumulative impacts related to transportation energy consumption would not be cumulatively considerable and, thus, would be less than significant.

Accordingly, the Project would result in a less-than-cumulatively considerable impact related to the inefficient or wasteful consumption of energy.

Related to Threshold b, the Project and cumulative development projects including those listed in Table 4.0-1, *List of Cumulative Development Projects*, would be required to comply with all of the same applicable federal, State, and local regulatory measures aimed at reducing fossil fuel consumption and the conservation of energy. Accordingly, the Project would not cause or contribute to a significant cumulatively considerable impact related to conflicts with a State or local plan for renewable energy or energy efficiency.

4.3.6 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 cause or result in the need for additional energy production or transmission facilities. The Project would not engage in the wasteful or inefficient uses of energy and the Project would not obstruct the achievement of energy conservation goals within the State of California. Thus, the Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

4.3.7 MITIGATION

Impacts would be less than significant and mitigation is not required.

4.4 GEOLOGY AND SOILS

This Subsection assesses the existing surface and subsurface geologic conditions and features of the Project site and determines the potential for impacts associated with the geologic conditions and features of the property. The information presented in this Subsection is based in part on the technical study prepared by HD Geosolutions Inc. (hereafter, “HDG”), titled “Geotechnical Report for Environmental Impact Report, The Park at Live Oak [APN 8532-001-002 & -004] 1220-1270 Arrow Highway, Irwindale, California” dated April 17, 2018, and included as *Technical Appendix D* to this EIR (HD Geosolutions, Inc., 2018). As part of the ongoing monitoring of the IDEFO reclamation activities HDG has been conducting geotechnical monitoring. HDG has prepared quarterly and annual reports that detail the fill progress each year dating back to January 2017. These reports were consulted for documentation of the geotechnical conditions present at the Project site as summarized in the above-mentioned geotechnical report. Additionally, this Subsection relies in part on information contained in “Supplement No. 1 to Reclamation Plan for United Rock Products Corporation Pit No. 1” (hereafter referred to as “Reclamation Plan”) prepared by Dames & Moore and dated May 10, 1990 (Dames & Moore, 1990); the “Operations Plan for the Arrow – Live Oak Inert Debris Engineered Fill Operation, 1220 & 1270 Arrow Highway Irwindale, California 91706” prepared by Arcadia Reclamation Inc., Anacapa Geoservices, Inc., and HD Geosolutions Inc. and dated March 21, 2017 (Arcadia Reclamation Inc., 2017); and Subsection 3.5, *Earth and Geology Impacts*, of the City of Irwindale General Plan Update EIR (SCH No. 2005071047) (City of Irwindale, 2006).

4.4.1 EXISTING CONDITIONS

The Project site was previously used as a sand and gravel quarry from the 1940s to the late 1990s. During this period of mining operations, approximately 13.8 million cubic yards of material were removed from the quarry, which encompassed a 64-acre parcel owned by United Rock and a 12.1-acre parcel owned by the City of Irwindale. Filling of the depleted quarry pits on-site began in 2001 following issuance of Waste Discharge Requirement (WDR) No. 01-179. On November 8, 1991, the California State Mines and Geology Board approved a Reclamation Plan developed by United Rock to backfill the quarry also known as URP Pit No. 1 to a minimum of 328 feet above mean sea level (amsl). According to the Grading Permit 05061504220003, upon completion of the Inert Debris Engineered Fill Operation (IDEFO) activities, the Project site’s final grade will be approximately 400 feet amsl (Arcadia Reclamation Inc., 2017, p. 4; City of Irwindale, 2016). The IDEFO which is currently ongoing at the site commenced in 2002 to fill the depleted quarry pits with compacted inert materials and establish the site’s final grade in a manner that will facilitate future development of an end use. Inert debris landfill activities on portions of the site to be developed will be completed prior to commencement of construction activities for the proposed Project on the portions of the site proposed for development. The IDEFO is permitted by City of Irwindale Grading Permit No. 05061504220003, issued on November 16, 2016, which allows for reclamation of the site through the placement of approximately 2.5 million cubic yards of fill material (City of Irwindale, 2016). At the time the proposed Project commences, the Project site will be at final grade and suitable for development, with on-site elevations ranging from approximately 380 feet amsl on the southern portion of the Project site to 415 feet amsl on the northeast portion of the Project site, as called for by the Grading Permit No. 05061504220003. For purposes of evaluation in this Subsection, the Project site’s



topographic and geologic conditions are defined as those conditions that will exist upon completion of the grading permitted under Grading Permit No. 05061504220003; the grading under Grading Permit No. 05061504220003 and the ongoing IDEFO activities are not a part of the Project evaluated in this EIR. The IDEFO activities are an ongoing and permitted activity.

A. Scope and Methodology for Geotechnical Investigation

To analyze the characteristics of the inert debris fill, HDG acquired geotechnical data and analyzed the data in conjunction with HDG's documented settlement monitoring information. Because the ongoing fill activities are a dynamic operation with conditions that change daily as the quarry is filled, because the fill operation is not a part of the proposed Project, and because development associated with the proposed Project cannot commence until such time as the fill operation is complete in accordance with the approved Grading Permit No. 05061504220003 for the portion of the site proposed for development, the site conditions related to geology and soils are defined as those conditions that will exist at the time that IDEFO activities are completed. The construction and operation of the proposed Project cannot feasibly commence until such a time that the IDEFO activities are completed on the portions of the site proposed for development. The procedures and methodologies to ensure that the geologic and soil conditions of the site will be as called for by the Reclamation Plan and the approved Grading Permit No. 05061504220003 are discussed in Subsection 4.4.1C, below. To confirm the existing condition and the conditions that are expected at the site at the completion of IDEFO activities, HDG conducted performance-based monitoring on the site which included the following methodologies: field density testing; geotechnical field observation to evaluate the overall consistency of fill operations; laboratory testing; and field settlement monitoring. Refer to EIR *Technical Appendix D* for the complete scope and methodology used for the geotechnical investigation.

B. Regional Geology

The Project site is located in the City of Irwindale, which is located at the junction of the Peninsular Ranges and the Transverse Ranges (City of Irwindale, 2006, p. 1). Specifically, the Project site is located in the central San Gabriel Valley west of the San Gabriel River. The San Gabriel Valley is bordered by the San Gabriel Mountains on the north, the San Jose Hills to the east, the Puente Hills on the south, and the San Rafael and Repetto Hills on the west. The Valley sediment consists primarily of fans shed southward from the San Gabriel Mountains, and to a lesser degree from other nearby Ranges. Coarser materials are contained in broad fans below larger mountain drainage and in channels defined along the major drainages including the San Gabriel and Rio Hondo rivers. (HD Geosolutions, Inc., 2018, p. 11)

C. Geologic Conditions

The Project site was previously used as a sand and gravel quarry from the 1960s to 2002. Since 2002, the IDEFO has been filling the quarry with clean compacted inert materials, thereby establishing the site's final grade and providing suitable conditions for development of an end use.



The IDEFO reclamation process is a highly-sophisticated and strictly regulated procedure, with specific requirements and independent oversight conducted by the City of Irwindale and two firms appointed to conduct monitoring. As part of the ongoing monitoring of the IDEFO reclamation activities, HDG was hired to conduct geotechnical monitoring in January 2017. In addition, Anacapa Geoservices, an independent monitoring party, oversees the implementation of an approved Waste Load Checking Program and Detection Monitoring Program and ensures that no hazardous materials are introduced to the Project site as part of the reclamation activities. As trucks containing loads of inert material and soil are brought into the site, the loads are inspected to ensure that no contaminated materials are carried into the site. The materials containing reinforced steel are separated by a hydraulic processor, which removes the steel and sets it aside to be recycled. The remaining material is broken by a hydraulic hammer that disintegrates all pieces to less than the required maximum fill material size of 12-inches, with most pieces averaging at less than six-inches in size. This fully processed material is then placed into the former quarry site and is compacted by rubber-tire bulldozers.

An approved Operations Plan is in place for the IDEFO activities, which was most recently revised in March 2017. The Operations Plan is on file with the City of Irwindale and is herein incorporated by reference pursuant to CEQA Guidelines § 15150 and are available for public review at the City of Irwindale Planning Division, 5050 North Irwindale Avenue, Irwindale, CA 91706 (Arcadia Reclamation Inc., 2017). This process of materials inspection is monitored by Anacapa Geoservices, an independent monitor. Anacapa performs random and unannounced inspections on behalf of the Los Angeles Regional Water Quality Control Board (LARWQCB), prepares quarterly progress reports, and conducts both scheduled and unannounced inspections on behalf of the City of Irwindale to ensure compliance with the Operations Plan.

At the completion of the IDEFO, the Project site will be underlain by engineered fill ranging from approximately 0 to 170 feet thick and surrounded and underlain by alluvium to an unknown depth. (HD Geosolutions, Inc., 2018, p. 11). Provided below is a description of the geologic units that are expected on-site following completion of IDEFO activities based on the process described above.

1. *Non-Engineered Fill*

The geologic characteristics of areas of the Project site that were not previously quarried have not been investigated or characterized. However, according to the Project's Geotechnical Report (EIR *Technical Appendix D*), it is likely that shallow, variable depths of non-engineered, or artificial fill exist in these non-quarried areas of the Project site. The Geotechnical Report for the EIR recommends these undocumented fill soils, if present, be removed and replaced as engineered fill as a part of Project site development. (HD Geosolutions, Inc., 2018, p. 12)

2. *Talus*

The lower slopes of the westerly quarry pit are mantled by loose soils derived from the alluvium within the westerly quarry pit. The talus resulted from weathering and raveling of the upper slopes and thinly covers most of these lower slopes. The slopes include exposures of underlying alluvium in places. The talus is generally composed of gravel, cobbles and boulders, similar to the alluvium from which it

is derived. Removal of talus material from the westerly quarry pit is ongoing as the quarry pit is filled. (HD Geosolutions, Inc., 2018, p. 12)

3. *Engineered Fill*

Engineered fill consists of inert debris as allowed by the LARWQCB Waste Discharge requirements. The inert debris consists of soil, rock, gravel, broken concrete, glass, brick, broken asphalt (placed above the highest anticipated groundwater level) and ceramic. Rubble was processed and stripped of steel prior to placement as engineered fill. Asphalt- containing materials were placed above 318 feet amsl, which is the highest anticipated groundwater level. (HD Geosolutions, Inc., 2018, p. 12)

4. *Alluvium*

Most of the San Gabriel Valley is underlain by alluvial fans shed southward primarily from the San Gabriel Mountains and, to a lesser degree, from the other nearby ranges. The basement rock of the San Gabriel Mountains includes Cretaceous-aged quartz-diorite that has been intruded and faulted into older metamorphics. Materials shed from these “basement complex” igneous and metamorphic rocks tend to consist primarily of larger, erosion-resistant gravels and sands with relatively minor amounts of silt and clay. Mountains surrounding the San Gabriel Valley on the west, east and south are underlain by much younger (Miocene- to early Pleistocene-aged) sandstone, siltstone and mudstone sedimentary rock of the Fernando, Puente and Topanga Formations. These rocks tend to contribute finer sediments. Alluvial fan deposits outside of the immediate influence of the major drainage systems consist of sand and gravel with discontinuous lenses of silt and clay. (HD Geosolutions, Inc., 2018, p. 12)

The Project site was quarried to extract gravelly alluvial sediments deposited largely within the braided San Gabriel River. These materials consist primarily of coarse gravel and sand that grade laterally into the finer grained materials comprising the adjacent fan deposits. Alluvium in the San Gabriel Valley ranges in age from Holocene to Late Pleistocene. Holocene-aged alluvium tends to be lightly consolidated and is reported to depths of about 100 feet; whereas Pleistocene-aged alluvium tends to be slightly more consolidated and extends to much greater depths. With the exception of the margins of the Project site (above the areas of the former quarry slopes) the native younger alluvium that was previously present on the site was removed during quarrying activities. (HD Geosolutions, Inc., 2018, p. 12)

D. Site Topography

As IDEFO activities continue on the Project site, the topography will continually undergo changes as the former sand and gravel quarry is filled to final grade conditions. At final grade, the site is required by the approved remedial grading plan to be generally flat with on-site elevations ranging from approximately 378 feet amsl to 418 feet amsl.



E. Groundwater

Based on an analysis of groundwater as described in the Project's Geotechnical Report (EIR *Technical Appendix D*), recent groundwater levels in the Project area have been on the order of 180 to 183 amsl, while the historic high groundwater level is 318 feet amsl (HD Geosolutions, Inc., 2018, p. 13). Following completion of IDEFO activities on-site, with the final grade elevation ranging from approximately 378 feet amsl to 418 feet amsl, the high groundwater depths at the Project site are expected to range from approximately 60 to 70 feet below the finish grade (HD Geosolutions, Inc., 2018, p. 18).

F. Seismic Hazards

The numerous faults in Southern California are classified by the California Geological Survey (CGS) for the Alquist-Priolo Zone Act program into the following categories: active, potentially active, and inactive. By definition, an active fault has ruptured within Holocene geologic time (about the last 11,000 years). Active faults are not known to extend through or to project toward the Project site. Surface rupture from fault plane displacement propagating to the surface of the Project site is therefore considered remote. Faults that display latest movement during Quaternary but prior to Holocene are generally considered to be "potentially active." The Quaternary includes the Holocene and Pleistocene Ages and represents the last 1.6 to 2.0 million years of geologic time. Potentially active faults are not considered an imminent fault rupture hazard, but the potential cannot be completely dismissed. Inactive faults are those faults where the latest displacement is older than the Pleistocene. (HD Geosolutions, Inc., 2018, p. 14)

As illustrated on Figure 4.4-1, *Regional Fault Map*, the closest active faults to the Project site are the Duarte Fault and the Sierra Madre Fault located approximately 2.5 miles north of the Project site along the southern edge of the San Gabriel Mountains. These faults, along with others that occur within a narrow zone that extends along the southern edge of the San Gabriel Mountains, are north-dipping structures that accommodate active uplift of the San Gabriel Mountains. The Clamshell-Sawpit Canyon Fault that extends just north of the Duarte and Sierra Madre Faults is believed to be the source of the June 28, 1991 Sierra Madre Earthquake. The Project site is located approximately 3.5 miles southeast of the Raymond Fault, approximately 6.0 miles east of the East Montebello Fault, and approximately 9.0 miles north of the Whittier segment of the Whittier-Elsinore Fault zone. All of these faults are located within the Alquist-Priolo Fault Zone, although none occur on-site. (HD Geosolutions, Inc., 2018, pp. 14-15)

Additionally, the Project site is located approximately 5.0 miles northeast of the boundary of the Elysian Park Fold and Thrust Belt. The Elysian Park Fault is a blind fault (buried fault that does not extend to the surface) capped by a fold and thrust structure. The 1987 Whittier Narrows earthquake (magnitude 5.9) has been attributed to subsurface thrust faults, which are reflected at the earth's surface by a west-northwest trending anticline known as the Elysian Park Anticline, or the Elysian Park Fold and Thrust Belt. The subsurface faults that create the structure are not exposed at the surface and do not present a potential surface rupture hazard; however, as demonstrated by the 1987 earthquake and two smaller earthquakes on June 12, 1989, the faults are a source for future seismic activity. As such,



the Elysian Park Fold and Thrust Belt are considered an active feature capable of generating future earthquakes. A list of known active faults and their distances from the Project Site are listed in Table 3 of EIR *Technical Appendix D*. (HD Geosolutions, Inc., 2018, pp. 14-16)

The Project site is not exposed to a greater than normal seismic risk than other areas of southern California. However, the Project site could be subjected to substantial ground shaking in the event of an earthquake. This hazard is common to southern California. Specific seismic-related hazards are described below. (HD Geosolutions, Inc., 2018, p. 15)

1. Fault Rupture

Fault rupture can occur along pre-existing, known active fault traces; however, fault rupture also can splay or “step from” known active faults or rupture along unidentified fault traces. As shown on Figure 4.4-1, *Regional Fault Map*, active faults are not known to extend through or to project toward the Project site. Accordingly, the potential for surface rupture from fault plane displacement to the surface of the site is considered remote. (HD Geosolutions, Inc., 2018, p. 14).

2. Strong Seismic Ground Shaking

The Project site is not exposed to a greater than normal seismic risk than other areas of Southern California; however, based on the active and potentially active faults in the region, the Project site has the potential to be subject to substantial ground shaking in the event of an earthquake. (HD Geosolutions, Inc., 2018, p. 18)

3. Seismically-Induced Settlement

Seismically-induced settlement is often caused by the densification of dry to partially-saturated, loose to medium-dense granular soils during ground shaking. Based on the generally dense condition of the compacted inert landfill materials on the Project site, the potential for seismically-induced settlement at the Project site is considered low. However, the margins of the site (within the native materials and above the areas of the former quarry slopes), the westerly areas of the site, and the northeast corner of the Project site contain native materials; therefore, in these areas of the Project site, there is a potential for seismically-induced settlement. (HD Geosolutions, Inc., 2018, p. 19)

4. Liquefaction

Liquefaction is a process by loose sand and silt that is saturated with water can behave like a liquid when shaken by an earthquake (USGS, 2006). As shown on Figure 4.4-2, *Seismic Hazards Map*, the Project site is not located within a zone designated by the state geologist as being susceptible to soil liquefaction. Liquefaction potential is greatest where the groundwater level is shallow, and loose sands or silts occur within a depth of about 50 feet or less. Future groundwater levels are anticipated to be approximately 60 to 70 feet below finish grade. Based on the density of the engineered fill on-site, and the anticipated future high groundwater depths, the potential for liquefaction at the Project site within the IDEFO materials is considered to be low. Additionally, the Project site is not depicted as

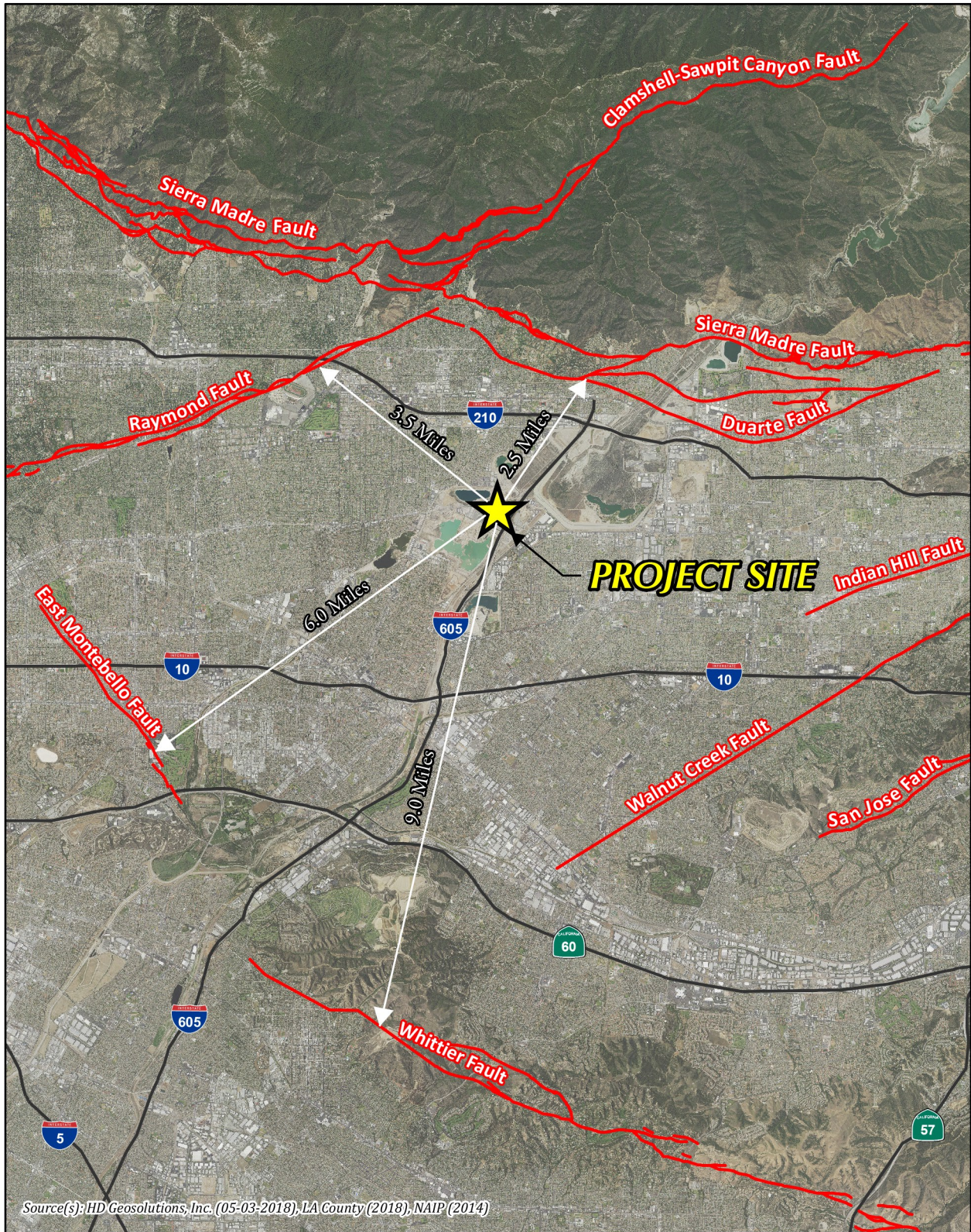
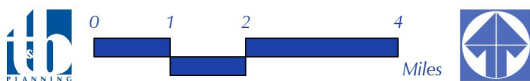


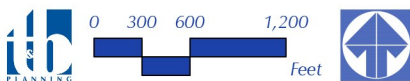
Figure 4.4-1



REGIONAL FAULT MAP



Figure 4.4-2



SEISMIC HAZARDS MAP



being located within a zone designated by the State geologist as being susceptible to soil liquefaction; therefore, the potential for liquefaction to occur along the margins of the Project site that contain native materials is also considered low. (HD Geosolutions, Inc., 2018, pp. 18-19)

5. *Slope Stability*

As shown on Figure 4.4-2, the Project site is not located in an area known for previous occurrence of landslide movement, and the Project site does not contain local topographic, geological, geotechnical, and subsurface water conditions that indicate a potential for permanent ground displacement. As IDEFO continues on the site, the topography will continually undergo changes as the former sand and gravel quarry is brought to final grade conditions. At final grade, the site will be relatively flat and sloped for drainage after the completion of the IDEFO, and there will be no open face slopes and hazards associated with slope stability present at the site.

G. *Soils Expansion Potential*

The materials being imported to the Project site consist of inert debris and soil. These materials are processed and mixed together during the filling process. The upper 15 feet of the Project site is required to be capped with clean, non-expansive materials with a plasticity index of less than 15%, maximum particle size of 6 inches, no more than 15% of material larger than 3 inches, and a minimum fines content of 15%. Therefore, the expansion potential of the final grade is anticipated to be low. (HD Geosolutions, Inc., 2018, p. 19)

H. *Subsidence*

The Project site is not located within an area of known subsidence (ground surface settlement) associated with fluid withdrawal (groundwater or petroleum), peat oxidation, or hydrocompaction. Therefore, subsidence is not considered a concern in the Project area. The Project site has been subject to IDEFO activities since 2002, and based on the generally dense condition of the compacted inert debris landfill materials at the site, the potential for seismically-induced settlements at the site following completion of IDEFO activities will be low. (HD Geosolutions, Inc., 2018, p. 20)

4.4.2 APPLICABLE ENVIRONMENTAL REGULATIONS

A. *State and Federal Regulation*

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. (CGS, 2017b)

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. (CGS, 2017b)

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). (CGS, 2017b)

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. (CGS, n.d.)

Staff geologists in the Seismic Hazard Zonation 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. (CGS, n.d.)

The SHMA requires site-specific geotechnical investigations be conducted within the Zones of Required Investigation to identify and evaluate seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy. (CGS, 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. (CGS, 2017a)

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. (CGS, 2017a)

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. (CGS, 2017a)

4. *Building Earthquake 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, 2018)

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, 2016, p. 6)

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, 2016, pp. 6-7)

6. *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:



- 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. (SWRCB, 2014)

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.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of National Pollutant Discharge Elimination System (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 Storm 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 located in the San Gabriel River Watershed, which is within the purview of the Los Angeles Regional Water Quality Control Board (LARWQCB). The LARWQCB Basin Plan is the governing water quality plan for the region.

B. Applicable Regional Regulations

There are no regional regulations pertaining to geology and soils.



C. Applicable Local Ordinances

1. City of Irwindale Building Code

The City of Irwindale, with minor exceptions, adopted the Los Angeles County Building Code (refer to Irwindale Municipal Code 15.04.010 - Adoption of code), which incorporates and amends the 2016 California Building Standards Code (CBSC). The Irwindale/Los Angeles County Building Code permits building officials to require engineering geology and/or soils engineering reports prepared by a certified engineering geologist licensed in the State of California.

2. City of Irwindale General Plan Safety Element

The Public Safety Element of the Irwindale General Plan pertains to the Project and includes Safety Element Policy 3 which requires liquefaction assessment studies as part of development proposals in areas identified by the California Geological Survey as susceptible to liquefaction. As discussed above and shown on Figure 4.4-2, *Seismic Hazards Map*, the Project's Geotechnical Report concluded the Project site is not located within a zone designated by the state geologist as being susceptible to soil liquefaction. Accordingly, the Project does not require a liquefaction assessment study pursuant to Safety Element Policy 3. (City of Irwindale, 2008, p. 143)

4.4.3 BASIS FOR DETERMINING SIGNIFICANCE

Section VII of Appendix G to the CEQA Guidelines addresses typical adverse effects to geology and soils, and includes the following threshold questions to evaluate a project's impacts on Geology and Soils (OPR, 2018). The proposed Project would result in a significant impact related to geology and soils if the Project or any Project-related component would:

- a. *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:*
 - i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;*
 - ii. *Strong seismic ground shaking;*
 - iii. *Seismic-related ground failure, including liquefaction; or*
 - iv. *Landslides.*
- b. *Result in substantial soil erosion or the loss of topsoil;*
- c. *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;*
- d. *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property; or*



- e. *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.*
- f. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

4.4.4 IMPACT ANALYSIS

Threshold a: *Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:*

- 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?*
- ii. *Strong seismic ground shaking?*
- iii. *Seismic-related ground failure, including liquefaction?*
- iv. *Landslides?*

The Project entails the development of the site with up to 1,550,000 square feet (s.f.) of building space, of which a minimum of 15,000 s.f. of commercial space is required and a maximum of 98,600 s.f. of commercial space is permitted, and up to 1,451,400 s.f. of industrial/business park building space is permitted. Associated improvements to the Project site would include, but are not limited to, paved parking areas, drive aisles, truck courts, utility infrastructure, landscaping, water quality basins, monument signage, lighting, and property walls, gates, and fencing. Future structures at the Project site are required to be constructed in accordance with City of Irwindale Building Code and CBSC (Title 24). All grading and earthwork activities are required to be in accordance with the City's Municipal Code Regulations.

A. Rupture of a Known Earthquake Fault

As shown on Figure 4.4-1, active faults are not known to extend through or to project toward the Project site (HD Geosolutions, Inc., 2018, pp. 14-15). The closest active Alquist-Priolo faults to the Project site are the Duarte Fault and the Sierra Madre Fault located approximately 2.5 miles north of the Project site along the southern edge of the San Gabriel Mountains. Because there are no active faults extending through or projecting toward the Project site that could rupture the property, there is no potential for the Project to directly or indirectly cause adverse effects due to rupture of a known earthquake fault. Accordingly, no impact would occur and no mitigation is required.

B. Strong Seismic Ground Shaking

The Project site is not subjected to a greater than normal seismic risk than other areas of Southern California; however, based on the active and potentially active faults in the region, the Project site has the potential to be subject to substantial ground shaking in the event of an earthquake. This hazard is common to Southern California and as considered adequately addressed to protect public health, safety,



and welfare if the buildings are designed and constructed in conformance with applicable building codes and sound engineering practices (HD Geosolutions, Inc., 2018, p. 18). As a mandatory condition of Project approval, the proposed structures are required to be constructed in accordance with the CBSC (Title 24), and the City of Irwindale Municipal Code, which is based on the CBSC with local amendments. The CBSC and City of Irwindale Municipal Code provide standards that must be met to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures, and have been specifically tailored for California earthquake conditions. In addition, the CBSC (Chapter 18) and the City of Irwindale Municipal Code Section 16.17.050 require development projects to prepare geologic engineering reports to identify site-specific geologic and seismic conditions and provide site-specific recommendations to preclude adverse effects involving unstable soils and strong seismic ground-shaking, including, but not limited to, recommendations related to ground stabilization, selection of appropriate foundation type and depths, and selection of appropriate structural systems. With mandatory compliance with the CBSC (Title 24), and the City of Irwindale Municipal Code, as well as the standard and Project-specific design and construction recommendations set forth in the Project's geotechnical report (EIR *Technical Appendix D*), buildings would be constructed to withstand seismic ground shaking. Thus, impacts involving strong seismic ground shaking would be less than significant.

C. Seismic-Related Ground Failure, Including Liquefaction

Based on the density of the engineered fill and the anticipated groundwater depths (greater than 50 feet below ground surface [bgs]), the potential for liquefaction in the Project area is considered low. Additionally, the Project site is not depicted as being located within a zone designated by the State Geologist as being susceptible to soil liquefaction; therefore, the potential for liquefaction to occur along the margins of the Project site that contain native materials is also considered low. As noted above, the Project's improvements are required by law to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CBSC and City of Irwindale Municipal Code. Furthermore, the Project would be required to comply with the site-specific grading and construction recommendations contained within the Project's geotechnical report (EIR *Technical Appendix D*), which the City would impose as conditions of Project approval, to further reduce the risk of seismic-related ground failure due to liquefaction. Based on the foregoing, impacts related to liquefaction would be less than significant.

Based on the generally dense condition of the compacted inert landfill materials on the Project site, the potential for seismically-induced settlement at the Project site is considered low. However, the margins of the site (within the native materials and above the areas of the former quarry slopes), the westerly areas of the site, and the northeast corner of the Project site contain native materials; therefore, in these areas of the Project site where native materials are present, there is a potential for seismically-induced settlement. Accordingly, implementation of the proposed Project would result in a potentially significant impact as a result of seismically-induced settlement on the site margins (within the native materials and above the areas of the former quarry slopes and westerly area) of the Project site. Mitigation for this impact is provided in Subsection 4.4.7 below. (HD Geosolutions, Inc., 2018, p. 19)



D. Landslides

Figure 6 of the Project's Geotechnical Report (EIR *Technical Appendix D*) depicts the slopes of the former quarries as subject to earthquake-induced landslides (HD Geosolutions, Inc., 2018, Figure 6). As IDEFO activities continue on the Project site, the topography will continually undergo changes as the former sand and gravel quarry is restored to final grade conditions. At final grade, the site is expected to be generally flat with an elevation range of 378 feet amsl to 418 feet amsl, with no major slopes that could pose landslide hazards. Accordingly, the current seismically-induced landslide hazards at the Project site will be eliminated once IDEFO activities are complete. Therefore, implementation of the proposed Project would not directly or indirectly cause substantial adverse effects involving landslides. No impact would occur with respect to landslides.

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

All development projects that expose soils to wind and water have the potential to result in soil erosion. The analysis below summarizes the likelihood of the Project to result in substantial soil erosion during temporary construction activities and/or long-term operation.

A. Temporary Construction-Related Activities

As previously noted, the Project site is undergoing reclamation as part of the on-going IDEFO activities. Under existing conditions soil erosion from the portions of the site conditions undergoing IDEFO landfill activity is minimal because the impervious condition of the Project site allows for infiltration to occur and runoff is collected on-site within the former mining pits. Additionally, in accordance with the SWRCB General Construction Permit (Order No. 2009-0009-DWQ / NPDES No. CAS000002) that is applicable to the Project site, a SWPPP is currently being implemented at the site which identifies erosion control and sediment control measures (i.e., Best Management Practices) to reduce or eliminate sediment discharge to surface water from storm water and non-storm water discharges during the ongoing IDEFO activities (DEA, 2017). Reclamation is continuing on the property and the Project cannot commence until such time as the fill operation is complete in accordance with the approved Grading Permit No. 05061504220003 for the portion of the site proposed for development. The existing SWPPP would be closed out upon completion of the grading activities under Grading Permit No. 05061504220003.

The proposed Project's fine grading and construction activities would continue to expose underlying soils, which would continue to be subject to erosion during rainfall events or high winds due to the absence of stabilizing vegetation and exposure of these erodible materials to wind and water.

Pursuant to the requirements of the State Water Resources Control Board, the Project Applicant is required to obtain a NPDES permit for construction activities, including proposed fine grading. The NPDES permit is required for all projects that include construction activities, such as clearing, grading, and/or excavation that disturb at least one (1) acre of total land area. The City's Municipal Separate Storm Sewer System (MS4) NPDES Permit requires the Project Applicant to prepare and submit to



the City for approval a Project-specific SWPPP. The SWPPP would identify a combination of erosion control and sediment control measures (i.e., Best Management Practices) to reduce or eliminate sediment discharge to surface water from storm water and non-storm water discharges during construction. In addition, the Project would be required to comply with SCAQMD Rule 403, which would reduce the amount of particulate matter in the air and minimize the potential for wind erosion. With mandatory compliance to the requirements noted in the Project's SWPPP, as well as other applicable regulatory requirements, including but not limited to SCAQMD Rule 403, the potential for substantial water and/or wind erosion impacts during Project construction would be less than significant and mitigation is not required.

B. Long-Term Operational Activities

Following construction, wind and water erosion on the Project site would be minimized, as the areas disturbed during construction would be landscaped or covered with impervious surfaces and drainage would be controlled through a storm drain system and water quality basins.

Additionally, as required under the County's Municipal Separate Storm Sewer System (MS4) Permit and Waste Discharge Requirements (Order No. R4-2012-0175; NPDES No. CAS004001), the City of Irwindale requires new development and major redevelopment to prepare a Standard Urban Stormwater Management Plan (SUSMP) as part of the development permit process. The SUSMP is required to identify post-construction treatment-control BMPs that would be implemented on the site for long-term storm water pollutant mitigation. The SUSMP also must be prepared pursuant to the guidelines prepared by the Los Angeles County Department of Public Works' SUSMP Manual, which includes, among other requirements, measures to preclude long-term soil erosion. The Project's LID is included as EIR *Technical Appendix G2*.

In addition to the SUSMP, the NDPEs program also requires certain land uses (e.g., industrial uses) to prepare a SWPPP for operational activities and to implement a long-term water quality sampling and monitoring program, unless an exemption has been granted. The California State Water Resources Control Board adopted an updated new NPDES permit for storm water discharge associated with industrial activities (referred to as the "Industrial General Permit") on April 1, 2014. The new Industrial General Permit, which is more stringent than the previous Industrial General Permit, became effective on July 1, 2015. Pursuant to the Industrial General Permit, the Project is required to prepare a SWPPP for operational activities and implement a long-term water quality sampling and monitoring program or receive an exemption if the end-use of the Project site can certify that a condition of "No Exposure" exists on the site. A condition of "No Exposure" means that a discharger's industrial activities and materials are not exposed to storm water. The Project's mandatory compliance with the pending Industrial General Permit would further reduce potential water quality impacts during long-term operation.

Accordingly, and based on the analysis prevented above, the Project would not result in substantial soil erosion or the loss of topsoil during construction or long-term operation, and 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?

Following completion of reclamation activities at the site, the final grade geologic conditions of the Project site will consist of engineered fill ranging from approximately 0 to 170 feet thick, surrounded by and underlain by alluvium to an unknown depth. At final grade, the site will be generally flat with an elevation range of 378 feet amsl to 418 feet amsl. No open face slopes will remain at the completion of site reclamation activities. (HD Geosolutions, Inc., 2018, p. 12)

No prominent slopes are proposed as part of the Project's grading plan. Additionally, there are no hillsides in the Project vicinity with a potential to expose the Project site to landslide hazards. Accordingly, impacts associated with on- or off-site landslides would not occur.

Lateral spreading and liquefaction result when near-surface soils are saturated with water and are subject to seismic events, thereby causing land to behave and/or move in a fluid-like manner. The Project site is not located within a zone designated by the State Geologist as being susceptible to soil liquefaction-related hazards (HD Geosolutions, Inc., 2018, p. 18). Additionally, the groundwater depths at the Project site are expected to range from approximately 60 to 70 feet below the finish grade (HD Geosolutions, Inc., 2018, p. 18). Accordingly, considering that the Project site is not located within a mapped liquefaction zone and future groundwater depths (which would exceed 50 feet below final grade), the potential for liquefaction and lateral spreading at the Project site is low. As such, impacts associated with liquefaction and lateral spreading would be less than significant.

Since 2002, the IDEFO has been filling the quarry with compacted inert materials thereby restoring the site to final grade and a condition suitable for development. Based on the dense condition of the compacted inert landfill materials, impacts associated with subsidence would be less than significant. Additionally, the Project site is not located within an area of known subsidence (ground surface settlement) associated with fluid withdrawal (groundwater or petroleum), peat oxidation, or hydro-compaction. Accordingly, subsidence hazards would be less than significant. (HD Geosolutions, Inc., 2018, p. 20)

The on-going IDEFO activities result in the placement of engineered fill within the previously-mined portions of the Project site. There is no potential for such engineering fill to pose safety issues associated with potential collapse. However, at the margins of the site (above the areas of the former quarry slopes and the western area of the Project site) is looser native materials potentially subject to seismically-induced settlement. This represents a potentially significant impact for which mitigation would be required. (HD Geosolutions, Inc., 2018, p. 19)



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?

[Note: Threshold 4 is based on Appendix G of the CEQA Guidelines and references Table 18-1-B of the 1994 Uniform Building Code (UBC) which has been superseded by the current building code, the 2016 CBSC. The 2016 CBSC references ASTM D-4829, a standard procedure for testing and evaluating the expansion index (or expansion potential) of soils established by ASTM International, which was formerly known as the American Society for Testing and Materials (ASTM). ASTM D-4829 was used as the standard for evaluating the Project's potential impact related to expansive soils in the analysis below.]

The materials being imported to the Project site as part of the IDEFO activities consist of clean inert debris and soil. As trucks containing loads of inert material and soil are brought into the site, the loads are inspected, materials containing reinforced steel are separated by a hydraulic processor, and remaining material is broken by a hydraulic hammer that disintegrates all pieces to less than the required maximum fill material size of 12-inches, with most pieces averaging at less than six-inches in size. This fully processed material is then mixed together and placed into the former quarry site and is compacted by rubber-tire bulldozers. The upper 15 feet of the site is required by the Reclamation Plan to be capped with clean, non-expansive materials with plasticity index of less than 15%, maximum particle size of six inches, no more than 15% of material larger than 3 inches, and a minimum fines content of 12%. Therefore, the expansion potential of the final grade is anticipated to be low. HDG is required to perform final soils testing upon completion of the IDEFO activities to confirm the anticipated conditions as called for by the Reclamation Plan, WDR No. 01-179, and approved Grading Permit No. 05061504220003 are present. Accordingly, the Project, which is the proposed end use of the quarry property, would not be located on expansive soils and as a result would not present substantial direct or indirect risks to life or property; impacts associated with placing development on expansive soil would be less than significant. (HD Geosolutions, Inc., 2018, p. 19)

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 does not propose the use of septic tanks or alternative wastewater disposal systems that make use of soils. All wastewater generated by the Project would be conveyed to the Sanitation Districts of Los Angeles County (LACSD)-maintained sanitary sewer system for transmission to larger collection system facilities and ultimately to wastewater treatment facilities operated by the LACSD, which manage wastewater and solid waste. Accordingly, no impact associated with the use of septic tanks or alternative wastewater systems that make use of soils would occur. The Project's proposed wastewater system has the potential to require a subsurface holding tank to temporarily store wastewater beneath the site and discharge it into the sanitary sewer system during off-peak hours, but such a tank would be a structural component not reliant on soil as part of the system. Because the Project does not propose the use of septic tanks or alternative waste water disposal systems reliant on soils, no impact would occur.



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

The Project site has been disturbed by a former surface mine and does not contain any unique geologic features or any known paleontological resources. Given the extensive level of surface and subsurface alterations that have occurred during the on-site mining operation and the ongoing reclamation process, there is no potential for discovery of paleontological resources during the fine grading and site preparation phases of the proposed Project. As such, the proposed Project has no potential to directly or indirectly impact a unique paleontological resource, site, or unique geologic features.

4.4.5 CUMULATIVE IMPACT ANALYSIS

With the exception of erosion hazards, potential geologic and soils effects associated with the proposed Project are inherently confined to the areas proposed for development and would have the potential to contribute to cumulative effects when constructed in association with other existing, planned, and proposed development. That is, issues including fault rupture, seismic ground shaking, liquefaction, lateral spreading, landslides, seismically induced settlement, and expansive soils would involve effects to (and not from) the proposed development and are specific to on-site conditions. Accordingly, addressing these potential hazards for the development proposed on the Project site have no relationship to, or impact on, off-site areas. Due to the site-specific nature of these potential hazards and the measures to address them, there would be no connection to similar potential issues or cumulative effects to or from other properties, and impacts would be less than significant.

As discussed under Threshold b, during both temporary construction activities and long-term operation of the Project, measures would be incorporated into the Project's design to ensure that substantial soil erosion hazards do not occur. Specifically, construction activities would be required to occur in a manner conforming to a Project-specific SWPPP pursuant to an NPDES permit, while long-term operation of the site would be subject to compliance with the site-specific LID and operational SWPPP. These measures would preclude significant soil erosion from the Project site. Other developments within the cumulative study area also would be required to comply with similar requirements, such as the need to obtain an NPDES permit and mandatory compliance with SWPPPs and LIDs, as appropriate. All projects in the cumulative study area also would be required to comply with SCAQMD Rule 403 and grading requirements of the local governing body. Project-level mitigation is intended to ensure compliance with these regulations; other development projects within the cumulative study area also would be required to comply with the applicable building codes of the local governing body. Therefore, because the Project would result in less-than-significant erosion impacts, and because other projects within the cumulative study area would be subject to similar requirements to control erosion hazards during construction activities and long-term operation, cumulative impacts associated with wind and water erosion hazards would be less than significant and the Project's contribution would be less-than-cumulatively considerable. In addition, all projects will be subject to the requirements outlined in the California Building Standards Code.

Because the Project site has been extensively disturbed by a former surface mine, it does not contain any unique geologic features or any known paleontological resources. Therefore, no impacts would



occur to such resources as a result of Project implementation. Accordingly, the Project would have no potential to result in cumulatively considerable impacts to unique geologic features or paleontological resources.

4.4.6 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Significant Direct Impact. The Project would have no impact or less-than-significant impacts due to the direct or indirect exposure of people or structures to earthquake faults, strong seismic ground shaking, liquefaction, and landslides. Implementation of the proposed Project would result in a potentially significant impact as a result of seismically-induced settlement on the Project site margins (within the native materials located above the areas of the former quarry slopes and on the westerly portion of the site).

Threshold b: Less-than-Significant Impact. With mandatory compliance to the Project-specific SWPPP, LID, Industrial General Permit, the City's MS4 NPDES Municipal Stormwater Permit, and SCAQMD Rule 403, impacts associated with substantial soil erosion or the loss of topsoil would be less than significant.

Threshold c: Significant Direct Impact. Impacts associated with on- or off-site landslide, subsidence, and collapse would be less than significant. However, the margins (within the native materials located above the areas of the former quarry slopes and the westerly portion of the Project site) of the Project site possess a potential for seismically-induced settlement, which is a potentially significant impact.

Threshold d: Less-than-Significant Impact. The Project would not be located on expansive soils, and impacts associated with expansive soils would be less than significant.

Threshold e: No Impact. The Project would not install septic tanks or alternative wastewater disposal systems. Accordingly, no impact would occur associated with soil compatibility for wastewater disposal systems.

Threshold f: No Impact. The Project site has been extensively disturbed by a former surface mine and does not contain any unique geologic features or any known paleontological resources. No impacts would occur to such resources as a result of Project implementation.

4.4.7 MITIGATION

MM 4.4-1 Prior to the issuance of the first grading or building permit within each of the construction phase areas, the City of Irwindale shall confirm that the activities authorized by approved Grading Permit No. 05061504220003 are complete in the each of the respective construction phase areas, and that the final geologic and soil conditions of the site, as called for by the approved Grading Permit No. 05061504220003, are documented in a final report prepared by a licensed geologist or civil engineer.



- MM 4.4-2 Project construction activities shall be required to comply with the recommendations contained in Section 8 of the Geotechnical Report prepared by HD Geosolutions Inc., dated April 17, 2018, and included as *Technical Appendix D* to The Park @ Live Oak Draft EIR. The recommendations contain specifications for grading, building foundations, building floor slabs, basement and retaining walls, and paving.
- MM 4.4-3 Prior to the issuance of the first grading or building permit associated with the Project, a licensed geotechnical engineer shall examine the perimeter of the property and the westerly area of the Project site that consists of native soils and/or fill materials that were not placed and compacted under engineering supervision as part of the IDEFO. These areas shall be examined by a licensed geotechnical engineer performing geotechnical explorations to determine if substantial differential settlement has the potential to occur as the result of seismic settlement based on the differences between the compacted materials within the IDEFO and the uncompacted materials outside of the IDEFO. If yes, flexible connections shall be used based on the recommendations of the geotechnical engineer for all utilities passing from the uncompacted materials outside the IDEFO to the soils within the IDEFO. Flexible connections shall be designed such that potential differential settlements calculated as a result of the geotechnical exploration and analysis can be safely accommodated within wet or dry utilities, thereby safeguarding utility lines against potential seismic hazards. The findings of the geological explorations and recommendations shall be documented in a report prepared by the licensed geotechnical engineer. The report shall be approved by the City of Irwindale and the recommendations contained in the report shall be implemented and required as building permit conditions of approval.
- MM 4.4-4 Building foundations shall be contained within the portions of the property that are underlain by fill that was placed and compacted under engineering supervision as part of the IDEFO. If a building foundation is proposed in an area that is not underlain by compacted fill, prior to issuance of a fine grading permit or building permit, a licensed geotechnical engineer shall examine the soil and geologic conditions, review detailed construction plans, and provide recommendations in a written report to address potential seismically-induced settlement hazards that may be associated with the building. Recommendations may include deepened foundations, removal of the uncompacted soil and replacement with fill material similar in nature to that which was placed and compacted as part of the IDEFO, the use of structural slabs, or comparable method to provide adequate foundation support and building performance. The report shall be approved by the City of Irwindale and the recommendations contained in the report shall be implemented and required as building permit conditions of approval. No building permit shall be issued for building foundation construction in an area of the property that was not compacted as part of the IDEFO until the licensed geotechnical engineer has either deemed the existing soil and geologic conditions suitable for the proposed development, or, if deemed unsuitable under existing conditions, until the recommendations for addressing potential seismically-induced



settlement are identified and indicated on construction plans and documents. As part of the City's final grading and/or building verification, the City shall ensure that all recommendations of the Project's geotechnical engineer have been constructed in conformance with the approved building and construction plans.

4.4.8 SIGNIFICANCE OF IMPACTS AFTER MITIGATION

Threshold a: Less-than-Significant Impact. Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-4 would ensure that impacts associated with seismically-induced settlement would be reduced to a level below significance.

Threshold c: Less-than-Significant Impact. Implementation of Mitigation Measures MM 4.4-1 through MM 4.4-4 would ensure that impacts associated with settlement potential would be reduced to a level below significance.



4.5 GREENHOUSE GAS EMISSIONS

The analysis in this Subsection is based on a report prepared by Urban Crossroads, Inc. titled “The Park @ Live Oak Greenhouse Gas Analysis” dated July 5, 2018 and is included as *Technical Appendix E* to this EIR (Urban Crossroads, Inc., 2018d). The analysis provided in this Subsection assess the Project’s potential to generate greenhouse gas (GHG) emissions that could contribute to Global Climate Change (GCC) and its associated environmental effects.

4.5.1 EXISTING CONDITIONS

A. Introduction to Global Climate Change (GCC)

GCC is defined as the change in average meteorological conditions on Earth with respect to temperature, precipitation, and storms. GCC is one of the most controversial environmental issues in the United States and much more debate exists within the scientific community about the degree to which GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred over the course of thousands or millions of years, and that these historical changes to Earth’s climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in planet Earth’s atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases (Urban Crossroads, Inc., 2018d, p. 10).

An individual land development project is not capable of generating the magnitude of GHG emissions necessary to cause a discernible effect on global climate. However, individual projects may contribute to GCC by generating GHGs that combine with other regional and global sources of GHGs (Urban Crossroads, Inc., 2018d, p. 10).

B. Greenhouse Gases

Carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions are the focus of evaluation in this Subsection because these gases are the primary contributors to GCC resulting from land development projects. Although other substances, such as fluorinated gases, also contribute to GCC, sources of fluorinated gases are not well-defined and no accepted emissions factors or methodology exist to accurately calculate the emissions of these gases (Urban Crossroads, Inc., 2018d, p. 12).

GHGs have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. CO₂ is used as the base reference unit for GWP and, therefore, has a GWP of 1. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4.5-1, *Global Warming Potential and Atmospheric Lifetime of Select GHGs*.



Table 4.5-1 Global Warming Potential and Atmospheric Lifetime of Select GHGs

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)	
		Second Assessment Report (SAR)	4 th Assessment Report (AR4)
Carbon Dioxide	50-200	1	1
Methane	12 ± 3	21	25
Nitrous Oxide	120	310	298
HFC-23	264	11,700	14,800
HFC-134a	14.6	1,300	1,430
HFC-152a	1.5	140	124
Sulfur Hexafluoride (SF6)	3,200	23,900	22,800

Source: (Urban Crossroads, Inc., 2018d, p. 15, Table 2-2)

Provided below is a description of the various gases that contribute to GCC. For more information about these gases and their associated human health effects, refer to Section 2.4, *Greenhouse Gases*, of the Project’s GHG Impact Analysis (EIR *Technical Appendix E*) and the reference sources cited therein.

- Water Vapor (H₂O) is the most abundant and variable GHG in the atmosphere. Changes in the concentration of water vapor in the atmosphere are considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity rises (in essence, the air is able to ‘hold’ more water when it is warmer), leading to more water vapor in the atmosphere. The higher concentration of water vapor in the atmosphere is then able to absorb more indirect thermal energy radiated from the Earth, further warming the atmosphere, and causing the evaporation cycle to perpetuate. This is referred to as a “positive feedback loop.” The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are able to reflect incoming solar radiation and thereby allow less energy to reach the Earth’s surface and heat it up. There are no human health effects from water vapor itself; however, certain pollutants can dissolve in water vapor and the water vapor can then act as a pollutant-carrying agent. (Urban Crossroads, Inc., 2018d, p. 12)
- Carbon Dioxide (CO₂) is an odorless and colorless GHG that is emitted from natural and man-made sources. Natural CO₂ sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Man-made CO₂ sources include: the burning of coal, oil, natural gas, and wood.



Since the industrial revolution began in the mid-1700s, human activities that produce CO₂ have increased dramatically. As an example, prior to the industrial revolution, CO₂ concentrations in the atmosphere were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Exposure to CO₂ in high concentrations can cause adverse human health effects, but outdoor (atmospheric) levels are not high enough to be detrimental to human health. (Urban Crossroads, Inc., 2018d, pp. 12-13)

- Methane (CH₄) absorbs thermal radiation extremely effectively (i.e., retains heat). Over the last 50 years, human activities such as rice cultivation, cattle ranching, natural gas combustion, and coal mining have increased the concentration of methane in the atmosphere. Other man-made 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. (Urban Crossroads, Inc., 2018d, p. 13)
- Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH₄ or ethane (C₂H₆) with chlorine and/or fluorine atoms. CFCs are non-toxic, non-flammable, 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. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and has been extremely successful, so much so that levels of 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. (Urban Crossroads, Inc., 2018d, p. 13)
- Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs and have one of the highest global warming potential ratings. The HFCs with the largest measured atmospheric abundances are (in order largest to smallest), HFC-23 (CHF₃), HFC-134a (CF₃CH₂F), and HFC-152a (CH₃CHF₂). No human health effects are known to result from exposure to HFCs, which are man-made and used for applications such as automobile air conditioners and refrigerants. (Urban Crossroads, Inc., 2018d, p. 14)
- 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 (CF₄) and hexafluoroethane (C₂F₆). No human health effects are known to result from exposure to PFCs. (Urban Crossroads, Inc., 2018d, p. 14)
- Sulfur Hexafluoride (SF₆) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. 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. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing. (Urban Crossroads, Inc., 2018d, p. 14)



C. Greenhouse Gas Emission Inventories

1. *Global and National*

Worldwide man-made GHG emissions are tracked by the Intergovernmental Panel on Climate Change and man-made GHG emissions data is available through 2015. In 2015, total GHG emissions was approximately 28,872,564 gigagrams (Gg) of carbon dioxide equivalent (CO₂e). As shown on Table 4.5-2, *Top GHG Producer Countries and the European Union*, the United States is reported as the second-largest emitter of GHGs in the world in 2015 (Urban Crossroads, Inc., 2018d, p. 10). The primary man-made GHG emitted in the United States was CO₂, representing approximately 83 percent of the United States’ total GHG emissions. CO₂ emissions from fossil fuel combustion is the largest source of GHG emission in the United States, accounting for 78 percent of the United States’ total GHG emissions. (Urban Crossroads, Inc., 2018d, pp. 10-11)

Table 4.5-2 Top GHG Producer Countries and the European Union

Emitting Countries	GHG Emissions (Gg CO₂e)
China	11,895,765
United States	6,586,655
European Union (28 member countries)	4,315,773
India	2,650,954
Russian Federation	2,100,849
Japan	1,322,568
Total	28,872,564

Source: (Urban Crossroads, Inc., 2018d, p. 10, Table 2-1)

2. *State of California*

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on 2017 GHG inventory data, California emitted approximately 440.4 million metric tons (MMT) of CO₂e. California is the second-largest emitter of GHGs in the United States. (Urban Crossroads, Inc., 2018d, p. 11)

3. *Project Site*

Under existing conditions, Inert Debris Engineered Fill Operation (IDEFO) activities are ongoing at the Project site as part of an approved Operations Plan and City of Irwindale Grading Permit No. 05061504220003, issued on November 16, 2016, which allows for reclamation of the site through the placement of approximately 2.5 million cubic yards of fill material (City of Irwindale, 2016). The IDEFO activities that are ongoing at the Project site generate GHG emissions primarily through the operation of construction equipment and tailpipe emissions from vehicles accessing the Project site as part of IDEFO activities. To present a conservative analysis, the GHG impact analysis contained in this Subsection and the Project’s GHG Impact Analysis (EIR *Technical Appendix E*) do not take credit for the elimination of IDEFO-related GHG emissions when the IDEFO activities at the site cease. Therefore, the impacts from Project-related GHG emissions identified herein are likely overstated.

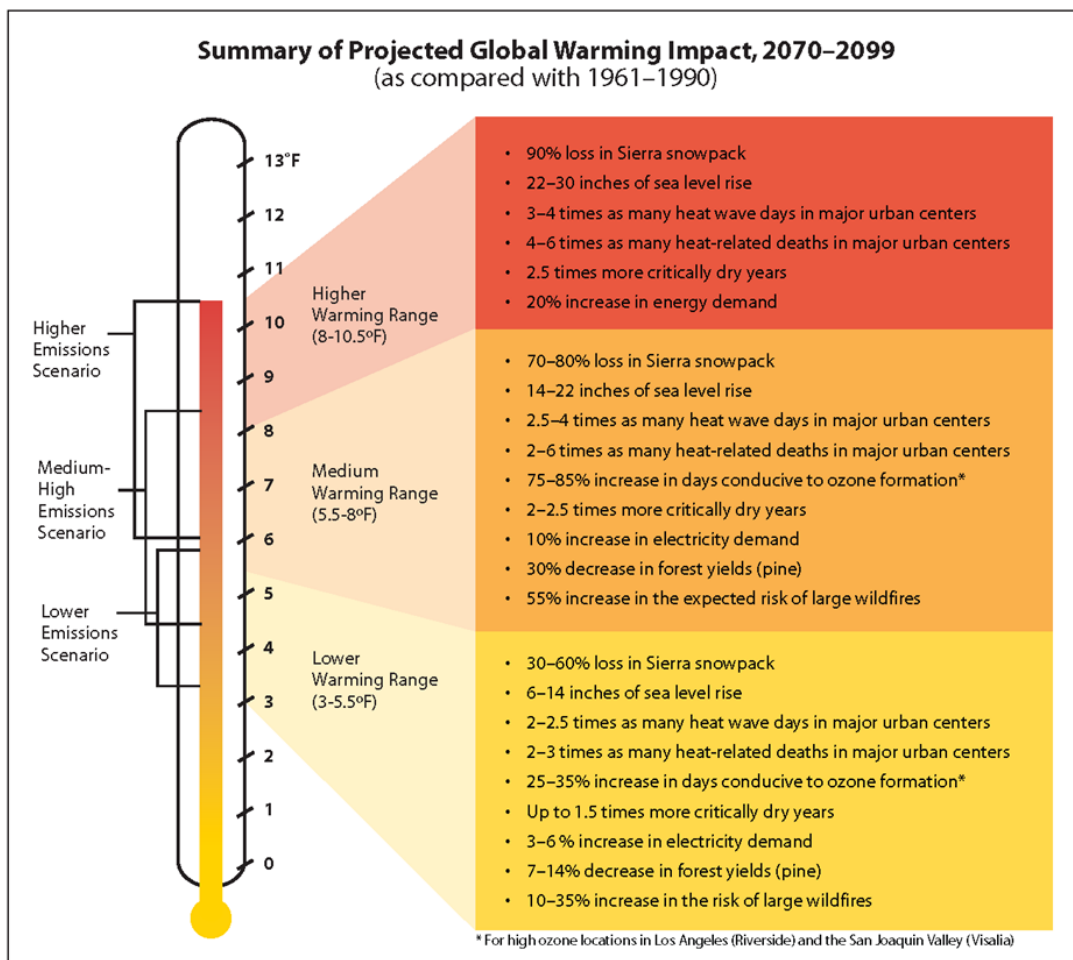


D. Potential Effects of Climate Change in California

In February 2006, the California Climate Change Center (CCCC) published a report titled “Scenarios of Climate Change in California: An Overview” (the “Climate Scenarios report”) that is generally instructive about effects of climate change in California. The Climate Scenarios report used a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century: lower warming range (3.0-5.4°F); medium warming range (5.5-7.8°F); and higher warming range (8.0-10.4°F). (CCCC, 2006, p. 7)

Based on the estimated scenarios presented in the Climate Scenario and California Climate Adaption Strategy reports Table 4.5-3, *Summary of Projected Global Warming Impact, 2070-2099*, presents potential impacts of global warming within California. The potential effects of climate change in California are summarized in more detail below and include, but are not limited to, the following:

Table 4.5-3 Summary of Projected Global Warming Impact, 2070-2099





- Human Health Effects: Higher temperatures can affect the health of Californians by increasing the frequency, duration, and intensity of conditions conducive to the formation of air pollutants, excessive heat, and wildfires. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress. In addition, if global background ozone levels increase, it may be impossible to meet local air quality standards. (Urban Crossroads, Inc., 2018d, p. 15)
- Water Resources/Supply Effects: Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, which would increase the risk of summer water shortages. In addition, California's fresh water supplies are also at risk to saltwater intrusion due to rising sea levels. Saltwater intrusion is a major threat to the quality and reliability of fresh water within the southern edge of the Sacramento/San Joaquin River Delta. (Urban Crossroads, Inc., 2018d, pp. 15-16)
- Agricultural Effects: Increased temperatures could cause widespread changes to the agricultural industry by reducing the quantity and quality of agricultural products. Rising temperatures could aggregate ozone (O₃) pollution, which makes plants more susceptible to diseases and pests and interferes with plant growth. Although higher temperatures lead to faster plant growth rates, faster growth can result in less-than-optimal development for crops which could worsen the quantity and quality of crop yield. Climate change affects agriculture directly through increasing temperatures and rising CO₂ concentrations and indirectly through changes in water availability and pests. (Urban Crossroads, Inc., 2018d, p. 16)
- Forests and Landscape Effects: Climate change has the potential to alter natural ecosystems and biological diversity within the State. As temperatures rise, the risk of wildfires and altering the distribution and character of natural vegetation intensifies. Productivity of the State's forests has the potential to decrease as a result of climate change. (Urban Crossroads, Inc., 2018d, p. 17)
- Rising Sea Level Effects: Climate change has the potential to raise sea levels, cause more intense coastal storms, and increase seawater temperatures. Under the CCCC's higher warming range scenario, sea level is anticipated to rise between 22 and 35 inches by 2100 and under the CCCC's lower warming range scenario, sea level is anticipated to rise between 12 and 14 inches by 2100. (Urban Crossroads, Inc., 2018d, p. 17)

4.5.2 APPLICABLE ENVIRONMENTAL PLANS, POLICIES, AND REGULATIONS

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



A. International Plans, Policies, and Regulations

1. Kyoto Protocol

The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which commits its Parties by setting internationally binding emission reduction targets. Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities." (UNFCCC, 1998)

The Kyoto Protocol was adopted in Kyoto, Japan, on December 11, 1997 and entered into force on February 16, 2005. The detailed rules for the implementation of the Protocol were adopted at Conference of the Parties (COP) 7 in Marrakesh, Morocco, in 2001, and are referred to as the "Marrakesh Accords." Its first commitment period started in 2008 and ended in 2012. (UNFCCC, 1998)

On December 8, 2012, in Doha, Qatar, the "Doha Amendment to the Kyoto Protocol" was adopted. The amendment includes:

- New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from January 1, 2013 to December 31, 2020;
- A revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and
- Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period. (UNFCCC, 1998)

On December 21, 2012, the amendment was circulated by the Secretary-General of the United Nations, acting in his capacity as Depositary, to all Parties to the Kyoto Protocol in accordance with Articles 20 and 21 of the Protocol. (UNFCCC, 1998)

During the first commitment period, 37 industrialized countries and the European Community committed to reduce GHG emissions to an average of five (5) percent against 1990 levels. During the second commitment period, Parties committed to reduce GHG emissions by at least 18 percent below 1990 levels in the eight-year period from 2013 to 2020; however, the composition of Parties in the second commitment period is different from the first. (UNFCCC, 1998)

2. The Paris Agreement

The Paris Agreement builds upon the United Nations Framework Convention on Climate Change and – for the first time – brought all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort. (UNFCCC, 2015)



The Paris Agreement’s central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise the 21st century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework. (UNFCCC, 2015)

The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts. (UNFCCC, 2015)

In 2018, Parties will take stock of the collective efforts in relation to progress towards the goal set in the Paris Agreement and to inform the preparation of NDCs. There also will be global stock-taking every five years to assess the collective progress towards achieving the purpose of the Agreement and to inform further individual actions by Parties. (UNFCCC, 2015)

The Paris Agreement entered into force on November 4, 2016, 30 days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55% of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval, or accession with the Depositary. (UNFCCC, 2015)

On June 1, 2017, President Donald Trump announced he would begin the process of withdrawing the United States from the Paris Agreement. In accordance with articles within the Paris Agreement, the earliest effective date for the United States’ withdrawal from the Agreement is November 4, 2020.

B. Federal Plans, Policies, and Regulations

1. Clean Air Act

Coinciding with the 2009 meeting of international leaders in Copenhagen, on December 7, 2009, the EPA issued an Endangerment Finding under § 202(a) of the Clean Air Act (CAA), opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the CAA. To date, the EPA has not promulgated regulations on GHG emissions, but it has begun to develop them.

Previously the EPA had not regulated GHGs under the CAA because it asserted that the Act did not authorize it to issue mandatory regulations to address GCC and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In *Massachusetts v. Environmental Protection Agency et al.* (127 S. Ct. 1438 [2007]); however, the U.S. Supreme Court held that GHGs are pollutants under the CAA and directed the EPA to decide whether the gases endangered public health or welfare. The EPA had also not moved



aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before the U.S. Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress.

C. State Plans, Policies, and Regulations

1. Title 24 Building Energy Standards

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The latest revisions (2016 Building Energy Efficiency Standards) became effective on January 1, 2017. The 2016 Building Energy Efficiency Standards are 28 percent more efficient than the previous (2013) Building Energy Efficiency Standards for residential construction and 5 percent more efficient than the previous Standards for non-residential construction. (The 2013 Building Energy Efficiency Standards already were 25 percent more efficient for residential construction and 30 percent more efficient for nonresidential construction than the 2008 Building Energy Efficiency Standards they replaced.)

Part 11 of Title 24 is referred to as the California Green Building Standards Code (CalGreen Code). The purpose of the CalGreen Code is to “improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality.” The CalGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CalGreen Code.

2. California Assembly Bill No. 1493 (AB 1493)

AB 1493 required CARB to adopt the nation's first GHG emission standards for automobiles. On September 24, 2009, CARB adopted amendments to the “Pavley” regulations that reduce GHG emissions in new passenger vehicles from model year 2009 through 2016. These amendments were part of California's commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. CARB's September amendments cement California's enforcement of the Pavley rule starting in 2009 while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to harmonize its rules with the federal rules for passenger vehicles. (CARB, 2017a)



The U.S. EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles On June 30, 2009. The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005, and was denied by the EPA in March 2008. That decision was based on a finding that California’s request to reduce GHG emissions from passenger vehicles did not meet the CAA requirement of showing that the waiver was needed to meet “compelling and extraordinary conditions.” (CARB, 2017a)

CARB’s Board originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009. These regulations were authorized by the 2002 legislation Assembly Bill 1493 (Pavley). (CARB, 2017a)

The regulations had been threatened by automaker lawsuits and were stalled by the EPA’s delay in reviewing and then initially denying California’s waiver request. The parties involved entered a May 19, 2009 agreement to resolve these issues. With the granting of the waiver on June 30, 2009, it is expected that the Pavley regulations reduced GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, all while improving fuel efficiency and reducing motorists’ costs. (CARB, 2017a)

The CARB has adopted a new approach to passenger vehicles – cars and light trucks – by combining the control of smog-causing pollutants and greenhouse gas emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California. (CARB, 2017a)

3. *Executive Order S-3-05*

Executive Order (EO) S-3-05 documents GHG emission reduction goals, creates the Climate Action Team and directs the Secretary of the California EPA to coordinate efforts with meeting the GHG reduction targets with the heads of other state agencies. The EO requires the Secretary to report back to the Governor and Legislature biannually to report: progress toward meeting the GHG goals; GHG impacts to California; and applicable Mitigation and Adaptation Plans. EO S-3-05 goals for GHG emissions reductions include: reducing GHG emissions to 2000 levels by the year 2010; reducing GHG emissions to 1990 levels by the year 2020; and reducing GHG emissions to 80 percent below 1990 levels by 2050. (CCC, 2018a)

4. *California Assembly Bill 32- Global Warming Solutions Act of 2006*

In September 2006, Governor Schwarzenegger signed Assembly Bill 32 (AB 32), the California Climate Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020, which represents a reduction of approximately 15 percent below emissions expected under a “business as usual” scenario. Pursuant to AB 32, the CARB must adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. The full implementation of AB 32 will help mitigate risks associated with climate change, while improving



energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste. (CARB, 2014) AB 32 specifically required that CARB do the following:

- Prepare and approve a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHGs by 2020, and update the Scoping Plan every five years.
- Maintain and continue reductions in emissions of GHG beyond 2020.
- Identify the statewide level of GHG emissions in 1990 to serve as the emissions limit to be achieved by 2020.
- Identify and adopt regulations for discrete early actions that could be enforceable on or before January 1, 2010.
- Adopt a regulation that establishes a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit GHG emissions.
- Convene an Environmental Justice Advisory Committee to advise the Board in developing and updating the Scoping Plan and any other pertinent matter in implementing AB 32.
- Appoint an Economic and Technology Advancement Advisory Committee to provide recommendations for technologies, research, and GHG emission reduction measures. (CARB, 2014)

In November 2007, CARB completed its estimated calculations of Statewide 1990 GHG levels. Net emission 1990 levels were estimated at 427 million metric tons (MMTs) (emission sources by sector were: transportation – 35 percent; electricity generation – 26 percent; industrial – 24 percent; residential – 7 percent; agriculture – 5 percent; and commercial – 3 percent). Accordingly, 427 million metric tons of carbon dioxide equivalent (MMTCO_{2e}) was established as the emissions limit for 2020. For comparison, CARB’s estimate for baseline GHG emissions was 473 MMTCO_{2e} for 2000 and without emissions reduction measures 2010 emissions were projected to be 532 MMTCO_{2e}. “Business as usual” conditions (without the reductions to be implemented by CARB regulations) for 2020 were projected to be 596 MMTCO_{2e}. (CARB, 2007)

AB 32 required CARB to develop a Scoping Plan which lays out California’s strategy for meeting the goals. The Scoping Plan must be updated every five years. In December 2008, CARB approved the initial Scoping Plan, which included a suite of measures to sharply cut GHG emissions. Table 4.5-4, *CARB Scoping Plan GHG Reduction Measures Towards 2020 Target*, shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the Year 2020 emissions reduction, local land use changes are estimated to result in a reduction of 5 MMTCO_{2e}, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments will play in successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of 2006 levels by 2020 to ensure that municipal and community-wide emissions match the State’s reduction target. According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 MMTCO_{2e} (or approximately 1.2 percent of the GHG reduction target). (CARB, 2014)



Table 4.5-4 CARB Scoping Plan GHG Reduction Measures Towards 2020 Target

<i>Recommended Reduction Measures</i>	<i>Reductions Counted toward 2020 Target of 169 MMT CO₂e</i>	<i>Percentage of Statewide 2020 Target</i>
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets ¹	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	146.7	87%
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	27.3	16%
Total Reductions Counted toward 2020 Target	174	100%
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined ²	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	42.8	NA

Source: CARB. 2008, MMTons CO₂e: million metric tons of CO₂e

¹Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.

²According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO₂e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 Target

Overall, CARB determined that achieving the 1990 emission level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent in the absence of new laws and regulations (referred to as "Business-As-Usual" [BAU]). The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team (CAT) early actions and additional GHG



reduction measures, identifies additional measures to be pursued as regulations, and outlines the role of the cap-and-trade program.

When the 2020 emissions level projection also was updated to account for implemented regulatory measures, including Pavley (vehicle model-years 2009 - 2016) and the renewable portfolio standard (12% - 20%), the 2020 projection in the BAU condition was reduced further to 507 MTCO_{2e}. As a result, based on the updated economic and regulatory data, CARB determined that achieving the 1990 emissions level in 2020 would now only require a reduction of GHG emissions of 80 MTCO_{2e}, or approximately 16 percent (down from 28.5 percent), from the BAU condition.

In May 2014, CARB approved the First Update to the Climate Change Scoping Plan (Update), which builds upon the initial Scoping Plan with new strategies and recommendations. The Update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals, highlights the latest climate change science and provides direction on how to achieve long-term emission reduction goal described in Executive Order S-3-05. The Update recalculates 1990 GHG emissions using new global warming potentials identified in the IPCC Fourth Assessment Report released in 2007. Using those GWPs, the 427 MTCO_{2e} 1990 emissions level and 2020 GHG emissions limit identified in the 2008 Scoping Plan would be slightly higher, at 431 MTCO_{2e}. Based on the revised 2020 emissions level projection identified in the 2011 Final Supplement and the updated 1990 emissions levels identified in the discussion draft of the First Update, achieving the 1990 emissions level in 2020 would require a reduction of 78 MTCO_{2e} (down from 509 MTCO_{2e}), or approximately 15.3 percent (down from 28.5 percent), from the BAU condition. (CARB, 2014)

In January 2017, CARB released the draft Second Update to the Scoping Plan, which identifies the State's post-2020 reduction strategy. The Second Update would reflect the 2030 target of a 40 percent reduction below 1990 levels, set by Senate Bill (SB) 32. Key GHG emissions reductions programs that the draft Second Update proposes to build upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and much cleaner cars, trucks, and freight movement, utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes. It should be noted the proposed Second Update was under consideration by CARB and was not adopted at the time the NOP for this EIR was published.

5. California Senate Bill No. 1368 (SB 1368)

In 2006, the State Legislature adopted Senate Bill (SB) 1368 (Perata, Chapter 598, Statutes of 2006), which directs the California Public Utilities Commission (CPUC) to adopt a GHG emission performance standard (EPS) for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed specified emissions criteria. Accordingly, SB 1368 effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. SB 1368 will lead to dramatically lower GHG emissions associated with California energy demand. (CEC, n.d.)



6. Executive Order S-01-07

Executive Order (EO) S-01-07 is effectively known as the Low Carbon Fuel Standard (LCFS). The Executive Order seeks to reduce the carbon intensity of California's passenger vehicle fuels by at least 10 percent by 2020. The LCFS requires fuel providers in California to ensure that the mix of fuel they sell into the California market meet, on average, a declining standard for GHG emissions measured in CO_{2e} grams per unit of fuel energy sold. (CCC, 2018a)

7. Senate Bill 1078

Senate Bill (SB) 1078 establishes the California Renewables Portfolio Standard Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20% of their renewable power by December 31, 2017 for the purposes of increasing the diversity, reliability, public health, and environmental benefits of the energy mix. (CCC, 2018b)

8. Senate Bill 107

SB 107 directed California Public Utilities Commission's Renewable Energy Resources Program to increase the amount of renewable electricity (Renewable Portfolio Standard) generated per year, from 17% to an amount that equals at least 20% of the total electricity sold to retail customers in California per year by December 31, 2010. (CCC, 2018b)

9. Executive Order S-14-08

On November 17, 2008, Governor Schwarzenegger signed Executive Order S-14-08, revising California's existing Renewable Portfolio Standard (RPS) upward to require all retail sellers of electricity to serve 33% of their load from renewable energy sources by 2020. In order to meet this new goal, a substantial increase in the development of wind, solar, geothermal, and other "RPS eligible" energy projects will be needed. Executive Order S-14-08 seeks to accelerate such development by streamlining the siting, permitting, and procurement processes for renewable energy generation facilities.

10. Senate Bill 97

By enacting SB 97 in 2007, California's lawmakers expressly recognized the need to analyze GHGs as a part of the CEQA process. SB 97 required the Governor's Office of Planning and Research (OPR) to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of greenhouse gas emissions. (OPR, n.d.) Those CEQA Guidelines amendments clarified several points, including the following:

- Lead agencies must analyze the GHG emissions of proposed projects and must reach a conclusion regarding the significance of those emissions. (See CEQA Guidelines § 15064.4.)
- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions. (See CEQA Guidelines § 15126.4(c).)



- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change. (See CEQA Guidelines § 15126.2(a).)
- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria. (See CEQA Guidelines § 15183.5(b).)
- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives. (See CEQA Guidelines, Appendix F.) (OPR, n.d.)

The CEQA Guideline amendments do not identify a quantitative threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, they call for a “good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project.” The amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies’ discretion to make their own determinations based upon substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

11. Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008) supports the State's climate action goals to reduce greenhouse gas (GHG) emissions through coordinated transportation and land use planning with the goal of more sustainable communities. (CARB, 2017b)

Under the Sustainable Communities Act, CARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, CARB established these targets for 2020 and 2035 for each region covered by one of the State's metropolitan planning organizations (MPO). CARB will periodically review and update the targets, as needed. (CARB, 2017b)

Each of California’s MPOs must prepare a "sustainable communities strategy" (SCS) as an integral part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. CARB must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional GHG targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate “alternative planning strategy” (APS) to meet the targets. The APS is not a part of the RTP. (CARB, 2017b)

The Sustainable Communities Act also establishes incentives to encourage local governments and developers to implement the SCS or the APS. Developers can get relief from certain environmental



review requirements under CEQA if their new residential and mixed-use projects are consistent with a region's SCS (or APS) that meets the targets (see Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28.). (CARB, 2017b)

12. *Executive Order B-30-15*

On April 29, 2015, Governor Brown issued Executive Order B-30-15, which sets a goal to reduce GHG emissions in California to 40 percent below 1990 levels by 2030. The 2030 target serves as a benchmark goal on the way to achieving the GHG reductions goal set by former Governor Schwarzenegger via Executive Order S-3-05 (i.e., 80 percent below 1990 greenhouse gas emissions levels by 2050). (CCC, 2018a)

13. *Senate Bill 32*

On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, Assembly 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. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide greenhouse gas reduction target of 80% below 1990 levels by 2050.

At this time, no further analysis is necessary or required by CEQA as it pertains to Executive Order B-30-15 and SB 32 because the Project's horizon (buildout) year would occur in 2019. Pursuant to guidance from the Association of Environmental Professionals (AEP), GHG emissions "...should be identified for the project horizon year and lead agencies should consider the project horizon year when applying a threshold of significance" (AEP, 2016, p. 32). Because the Project's opening year would be 2019, the Project's GHG emissions are instead evaluated against California Assembly Bill 32 (AB 32), which identifies a target to reduce GHG emissions statewide to 1990 levels by 2020. Demonstrating compliance with AB 32's target for 2020 also would show that the Project would not inhibit the State's ability to achieve the 2030 target established by SB 32, as the bulk of the GHG reductions needed by 2030 would occur at the state and regional levels and compliance with the AB 32 threshold would demonstrate that the Project is on trajectory to meet the year 2030 SB 32 emissions target.

D. Local Plans, Policies, and Regulations

1. *City of Irwindale*

The City of Irwindale does not have an adopted Climate Action Plan (CAP). The City uses the thresholds established by the CARB Scoping Plan for evaluating GHG emissions from proposed projects. The CARB Scoping Plan identifies strategies to reduce California's GHG emissions in support of AB 32 and SB 32. (Urban Crossroads, Inc., 2018d, p. 49)



4.5.3 METHODOLOGY FOR CALCULATING GREENHOUSE GAS EMISSIONS

CEQA Guidelines § 15064.4(a)(1) states that a CEQA lead agency may use a model or methodology to quantify GHG emissions associated with a project. The California Emission Estimator Model (CalEEMod), developed by the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, was used to quantify GHG emissions from Project-related construction and operational activities. The most recent version (v2016.3.2) of CalEEMod was released on October 17, 2017 and was available at the time the Notice of Preparation (NOP) for this EIR was published (April 2, 2018) and used in the Project analysis (Urban Crossroads, Inc., 2018d, p. 44). Output from CalEEMod for both construction and operational activity are provided in Appendix 3.1 through 3.3 of *Technical Appendix E*.

A life-cycle analysis (LCA) for construction and operational activity was not included in the GHG Analysis (EIR *Technical Appendix E*) due to the lack of consensus guidance on LCA methodology at the time the Project's GHG Analysis report was prepared. An LCA depends on emission factors or economic factors that are not well established for all processes as the date of the NOP for this EIR was published. Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emission generated within California and not life-cycle emissions because life-cycle effects from a project could occur from outside California, might not be very well understood or documented, and would be infeasible to mitigate. (Urban Crossroads, Inc., 2018d, p. 44)

A. Methodology for Calculating Project-Related Construction Emissions

The Project's construction-related GHG emissions were calculated using the same methodology, construction schedule information, and equipment fleet information that were used to calculate construction-related criteria air pollutant emissions, as previously described in EIR Subsection 4.2, *Air Quality* (Urban Crossroads, Inc., 2018d, pp. 44-45). Refer to EIR Subsection 4.2, *Air Quality*, and EIR *Technical Appendix E* for a detailed description of the methodology used to calculate the Project's construction-related GHG emissions.

In accordance with the SCAQMD recommendations, the Project's construction-related GHG emissions were quantified and amortized over a 30-year period and added to the Project's annual operational phase GHG emissions. (Urban Crossroads, Inc., 2018d, p. 45)

B. Methodology for Estimating Project-Related Operational Emissions

The Project's operational GHG emissions were calculated using the same methodology that was used to calculate operational criteria air pollutant emissions, and as previously described in detail in EIR Subsection 4.2, *Air Quality*, and EIR *Technical Appendix E* for a detailed description of the methodology used to calculate the Project's operational GHG emissions.

4.5.4 BASIS FOR DETERMINING SIGNIFICANCE

In order to assess the significance of a proposed Project's environmental impacts, it is necessary to identify quantitative or qualitative thresholds that, if exceeded, would constitute a finding of



significance. As discussed above in Subsection 4.5.1, while estimated Project-related GHG emissions can be calculated, because of the small quantity in proportion to worldwide sources of GHG, the direct impacts of the Project-related emissions of GCC and global warming cannot be determined on the basis of available science. There is no evidence at this time that would indicate that the emissions from a project the size of the Project would directly or indirectly contribute to GCC in a cumulatively considerable manner.

The CEQA Guidelines indicate that a project would result in a significant impact on climate change if a project were to:

- a. *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
- b. *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases*

The above listed thresholds are derived directly from Appendix G to the CEQA Guidelines and address a development project's potential contribution to GCC. Neither the CEQA Statute nor the CEQA Guidelines prescribe specific methodologies and significance criteria for determining the significance of GHG emission impacts. The CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate thresholds consistent with the manner in which other impact categories are handled in CEQA. CEQA case law has upheld local agencies' discretion to determine the significance of GHG emissions impacts.

The City of Irwindale has not adopted a numerical threshold for determining the significance of GHG emissions; however, the City has discretion to select an appropriate significance criterion used by other agencies, or by using other criteria based on substantial evidence. An EIR may also use a standard of significance developed by the experts preparing the EIR, and the lead agency has discretion to accept the experts' opinion regarding the appropriateness of the significance standard or exercise its own independent judgment in determining an appropriate standard of significance. The SCAQMD adopted a numerical GHG emissions threshold for mixed-use projects for which SCAQMD is the lead agency. The threshold adopted by SCAQMD, 3,000 metric tons of carbon dioxide equivalent (MTCO_{2e}) per year, is a widely accepted threshold used by numerous lead agencies in the South Coast Air Basin (SCAB) and was established based on the recommendations of the CAPCOA in a report titled "CEQA and Climate Change" (dated January 2008), which serves as a resource for public agencies as they establish agency procedures for reviewing GHG emissions from projects under CEQA. The CAPCOA report provides three recommendations for evaluating a development project's GHG emissions. When establishing their significance threshold, SCAQMD selected the CAPCOA non-zero approach which establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development (Approach 2, Threshold 2.5) (CAPCOA, 2008, pp. 46-47). A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified projects would be subject to evaluation under CEQA. Based on SCAQMD's research of residential/commercial and stationary source (industrial) sectors, SCAQMD found that 3,000 MTCO_{2e} are emitted per year between residential/commercial uses and stationary sources (SCAQMD, 2008, p. 8). As such, SCAQMD



established their significance criterion at 3,000 MTCO_{2e} as that threshold would capture 90 percent of total emission from future mixed-used development in accordance with CAPCOA recommendations.

Based on the foregoing, Urban Crossroads, Inc. recommended use of 3,000 MTCO_{2e} as the threshold of significance because of the Project's mixed-use nature of proposing both industrial/business park and commercial uses. The SCAQMD's threshold of 10,000 MTCO_{2e} for industrial was considered as a reasonable threshold, but was not applied herein because the Project is not solely an industrial project. The Park @ Live Oak Specific Plan's range of permitted uses include but are not limited to industrial/business park and commercial retail which can include such uses as fast food restaurants, gas station, and goods and service retail sales. As such, the City of Irwindale selects the threshold of 3,000 MTCO_{2e}, which was recommended by the Project's GHG technical expert and which is used by the SCAQMD for their mixed-use projects, as the threshold of significance for the Project's GHG emissions. If the Project would emit less than 3,000 MTCO_{2e} of GHGs per year, the Project would not be considered a substantial GHG emitter. On the contrary, if the Project's GHG emissions would exceed 3,000 MTCO_{2e} per year, the Project would be considered a substantial source of GHG emissions. Furthermore, evaluating the Project's GHG emissions against the same significance threshold used by the SCAQMD for mixed-use projects will provide a conservative analysis, as SCAQMD only intended their threshold be used to evaluate stationary source GHG emissions, while the analysis presented in this Subsection and *Technical Appendix E* applies the threshold to all of the GHG emissions sources related to the Project (stationary source, mobile source, area source, or other). (Urban Crossroads, Inc., 2018d)

4.5.5 IMPACT ANALYSIS

Threshold a: *Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

The Project's annual GHG emissions are summarized in Table 4.5-5, *Annual Project GHG Emissions*. As shown in Table 4.5-5, based on the reasonably foreseeable maximum operating capacity of the Project, based on a traffic-intensive mix of uses permitted by The Park @ Live Oak Specific Plan as determined in the Project's Traffic Impact Analysis (EIR *Technical Appendix II*), the Project has the potential to generate approximately 46,531.47 MTCO_{2e} per year. Of the Project's total annual GHG emissions (46,531.47 MTCO_{2e}), approximately 38,462.51 MTCO_{2e} (83%) would be from mobile sources (passenger cars, trucks, and commercial vehicles). The remaining approximately 8,068.96 MTCO_{2e} (17%) of the Project's total annual GHG emissions would be from all other Project sources combined (construction, area, energy, waste, and water usage). The Project's total annual GHG emissions would far exceed the SCAQMD threshold of 3,000 MTCO_{2e} and would generate substantial GHG emissions— either directly or indirectly – that would have a significant impact on the environment. Thus, the Project would result in significant and unavoidable cumulatively considerable impacts with respect to GHG emissions.



Table 4.5-5 Annual Project GHG Emissions

Emission Source	Emissions (metric tons per year)			
	CO ₂	CH ₄	N ₂ O	Total CO ₂ E ⁸
Annual construction-related emissions amortized over 30 years	91.48	0.01	0.00	91.79
Area	0.04	1.10E-04	0.00	0.04
Energy	5,085.04	0.20	0.05	5,104.65
Mobile (Passenger Cars)	7,963.42	0.17	0.00	7,967.67
Mobile (Trucks)	20,517.30	0.99	0.00	20,541.93
Mobile (Commercial Uses)	9,680.77	0.64	0.00	9,696.69
On-Site Equipment	254.16	0.08	0.00	256.22
Waste	372.08	22.05	0.00	924.28
Water Usage	1,577.40	11.47	0.28	1,948.21
Total CO₂E (All Sources)	46,531.47			

8. The Total CO₂E represents the total carbon dioxide equivalent values of the individual CO₂, CH₄, and N₂O values. CalEEMod automatically factors the CH₄ and N₂O values in terms of CO₂E. Additionally, any values reported as “0” should be considered negligible as they are not quantified by CalEEMod.

Source: (Urban Crossroads, Inc., 2018d , p. 48, Table 3-2)

Threshold b: Would the Project conflict with a plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City of Irwindale does not have an adopted CAP; however, the Project would comply with a number of regulations, policies, plans, and policy goals including the CARB Scoping Plan for GHG emission reductions across California, Title 24 California Building Standards Code (CBSC), Assembly Bill 32 (AB 32), and Senate Bill 32 (SB 32), which are regulations that are applicable to the Project. As demonstrated in the analysis below, the Project would be consistent with and would not conflict with or measurably impede the implementation of the goals and objectives established by AB 32, SB 32, or the CARB Scoping Plan.

The Project entails the development of end uses on the Project site as described in the proposed The Park @ Live Oak Specific Plan which would allow the Project site to be developed with up to 1,550,000 square feet (s.f.) of building space, including a range of 15,000 s.f. to 98,600 s.f. of commercial building space and up to 1,451,400 s.f. of industrial/business park building space, as well as associated landscaping, backbone roadways and utility infrastructure. The buildings that would be constructed within The Park @ Live Oak Specific Plan would be required to adhere to the provisions of the CBSC California Energy Code, or Title 26, Part 6 of the California Code of Regulations (also titled the Energy Efficiency Standards for Residential and Nonresidential Buildings). The California Energy Code was established in 1978 in response to a legislative mandate to reduce California’s energy consumption. The standards are updated approximately every three years to improve energy efficiency by allowing the incorporation of new energy efficiency technologies and methods. Compliance with the energy efficiency requirements of the CBSC would ensure the Project’s GHG emissions resulting from energy



consumption are minimized. The Project has no potential to be inconsistent with the mandatory energy efficiency regulations of the CBSC.

As previously discussed, CARB identified measures in its Scoping Plan that would reduce statewide GHG emissions and achieve the emissions reduction goals of AB 32. Thus, projects that are consistent with the CARB Scoping Plan would not conflict with AB 32's mandate to reduce statewide GHG emissions. Table 4.5-6, *CARB Scoping Plan Consistency*, summarizes the Project's consistency with the CARB Scoping Plan. As demonstrated in Table 4.5-6, the Project would not conflict with any of the provisions of the CARB Scoping Plan and would support six of the action categories through energy efficiency, water conservation, recycling, and landscaping. Accordingly, the Project has no potential to be inconsistent with the GHG emission reduction goals of AB 32.

In April 2015, Governor Edmund Brown Jr. signed EO B-30-15, which advocated for a statewide GHG-reduction target of 40 percent below year 1990 levels by 2030 and 80 percent below 1990 levels by 2050. In September 2016, Governor Brown signed SB 32 which formally established a statewide goal to reduce GHG emissions to 40 percent below year 1990 levels by 2030. To date, no statutes or regulations have been adopted to translate the year 2050 GHG reduction goal into comparable, scientifically-based statewide emission reduction targets.

Recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030 (Urban Crossroads, Inc., 2018d, p. 54). As described above and demonstrated in Table 4.5-6, the Project would not conflict with or obstruct the implementation of the CARB Scoping Plan; therefore, the Project would not interfere with the State's ability to achieve the year 2030 GHG reduction target established by SB 32.

Rendering a significance determination for year 2050 GHG emissions relative to EO B-30-15 would be speculative because EO B-30-15 establishes a goal too far into the future; no agency with GHG subject matter expertise has adopted regulations to achieve these statewide goals at the project-level; and, available analytical models cannot presently quantify all project-related emissions in those future years. Further, due to the technological shifts anticipated and the unknown parameters of the regulatory framework in 2050, available GHG models and the corresponding technical analyses are subject to limitations for purposes of quantitatively estimating the Project's emissions in 2050. (Urban Crossroads, Inc., 2018d, p. 53)

Based on the preceding analysis, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. Regardless, because the Project is calculated to emit annual GHG emissions that exceed the SCAQMD threshold of 3,000 MTCO_{2e} by a considerable margin, and the City of Irwindale does not have an adopted CAP that would provide substantial evidence tying incremental GHG emissions produced by development projects in the City to the State's long-term climate goals, it is conservatively concluded that the Project could incrementally contribute to the State's potential inability to meet its climate change goals, which is regarded as a significant cumulatively considerable impact.



Table 4.5-6 CARB Scoping Plan Consistency

Action	Supporting Measures ¹¹	Consistency
Cap-and-Trade Program	--	Not Applicable. These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect manufacturing projects.
Light-Duty Vehicle Standards	T-1	Not Applicable. This is a statewide measure establishing vehicle emissions standards.
Energy Efficiency	E-1	Consistent. The Project is required by the California Building Standards Code to include a variety of building, water, and solid waste efficiencies consistent with 2016 CALGREEN requirements.
	E-2	
	CR-1	
	CR-2	
Renewables Portfolio Standard	E-3	Not Applicable. Establishes the minimum statewide renewable energy mix.
Low Carbon Fuel Standard	T-2	Not Applicable. Establishes reduced carbon intensity of transportation fuels.
Regional Transportation-Related Greenhouse Gas Targets	T-3	Not Applicable. This is a statewide measure and is not within the purview of this Project.
Vehicle Efficiency Measures	T-4	Not Applicable. Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use.
Goods Movement	T-5	Not applicable. Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are yet to be implemented and will be voluntary, the proposed Project would not interfere with their implementation.
	T-6	
Million Solar Roofs (MSR) Program	E-4	Consistent. The MSR program sets a goal for use of solar systems throughout the state as a whole. While the Project currently does not include solar energy generation, building roof structures will be designed to support solar panels in the future.
Medium- & Heavy-Duty Vehicles	T-7	Not applicable. MD and HD trucks and trailers working from the proposed warehouses and other on-site uses will be subject to aerodynamic and hybridization



Action	Supporting Measures ¹¹	Consistency
	T-8	requirements as established by ARB; no feature of the project would interfere with implementation of these requirements and programs.
Industrial Emissions	I-1	Not Applicable. These measures are applicable to large industrial facilities (> 500,000 MTCO ₂ E/YR) and other intensive uses such as refineries.
	I-2	
	I-3	
	I-4	
	I-5	
High Speed Rail	T-9	Not Applicable. Supports increased mobility choice.
Green Building Strategy	GB-1	Consistent. The Project is required by the California Building Standards Code to include a variety of building, water, and solid waste efficiencies consistent with 2016 CALGREEN requirements.
High Global Warming Potential Gases	H-1	Not Applicable. The proposed warehouses and other on-site permitted uses are not substantial sources of high GWP emissions and will comply with any future changes in air conditioning, fire protection suppressant, and other requirements.
	H-2	
	H-3	
	H-4	
	H-5	
	H-6	
	H-7	
Recycling and Waste	RW-1	Consistent. The Project will be required to recycle a minimum of 50 percent from construction activities and warehouse operations per State and City requirements.
	RW-2	
	RW-3	
Sustainable Forests	F-1	Consistent. The Project will increase carbon sequestration by increasing on-site trees per the landscaping standards included in the proposed Specific Plan.
Water	W-1	Consistent. The Project will include use of low-flow fixtures and efficient landscaping per State requirements.
	W-2	
	W-3	
	W-4	
	W-5	
	W-6	
Agriculture	A-1	Not Applicable. The Project is not an agricultural use.

11. Supporting measures can be found at the following link: http://www.arb.ca.gov/cc/scopingplan/2013_update/appendix_b.pdf
Source: (Urban Crossroads, Inc., 2018d, pp. 51-52, Table 3-3)

4.5.6 CUMULATIVE IMPACT ANALYSIS

GCC occurs as the result of global emissions of GHGs. An individual project such as the proposed Project does not have the potential to result in direct and significant GCC-related effects in the absence of cumulative sources of GHGs. The CEQA Guidelines also emphasize that the effects of GHG



emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (See CEQA Guidelines §15130[f]).

Accordingly, the Project-specific impact analysis provided within this Subsection reflects a cumulative impact analysis of the Project's GHG emissions and concludes that because the Project would produce 46,531.47 MTCO_{2e} per year, the Project's emissions would exceed SCAQMD's threshold of 3,000 MTCO_{2e} per year. Therefore, the Project would result in a cumulatively-considerable impact with respect to its GHG emissions. As described above in the response to Threshold b, the Project also would result in cumulatively considerable impact with respect to a potential conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing Statewide emissions of GHGs.

4.5.7 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Cumulatively Considerable Impact. The Project's total annual GHG emissions are calculated to be approximately 46,531.47 MTCO_{2e} per year, which exceeds SCAQMD's annual mixed-use GHG emissions threshold of 3,000 MTCO_{2e}. Because the Project's annual GHG emissions would exceed the 3,000 MTCO_{2e} per year threshold, the Project would result in cumulatively considerable impacts with respect to this threshold.

Threshold b: Cumulatively Considerable Impact. The Project would not conflict with applicable regulations, policies, plans, and policy goals adopted for the purpose of reducing GHG emissions. Regardless, there is a lack of substantial evidence to definitively conclude that the Project's incremental GHG emissions would not incrementally contribute to the State's potential inability to meet its climate change goals. Thus, this is regarded as a significant cumulatively considerable impact.

4.5.8 MITIGATION

Refer to the mitigation measures presented in EIR Subsection 4.2, *Air Quality*, which are all applicable to the reduction of GHG emissions. In addition, the following mitigation measures are recommended to reduce the heat island effect, which reduces GHG emissions by lowering energy use required for the climate control (air conditioning) of building interiors.

MM 4.5-1 All truck courts of industrial, warehouse, and manufacturing facilities that will receive direct sunlight shall be composed of light-colored concrete instead of asphalt. Concrete has a higher heat reflectance value than asphalt. Prior to the issuance of building permits, the City of Irwindale shall review building plans to ensure that light-colored concrete is specified as the surface material in these truck court areas.

MM 4.5-2 All air-conditioned building spaces shall have a primary roofing material that is light colored and has a solar reflective index (SRI) value of at least 39 on a scale of 0 (most absorptive) to 100 (most reflective). Prior to the issuance of building permits, the City of Irwindale shall review building plans to ensure these roof material specifications.



There are no additional feasible mitigation measures available to the Project to reduce GHG emissions to below a level of significance. Regulatory requirements are not required to be repeated as mitigation measures. The Project's construction activities are required to comply with mandatory provisions of California Code of Regulations Title 24 (California Building Standards Code) and Title 20 (Appliance Energy Efficiency Standards). These regulations establish energy efficiency requirements for new (and altered) buildings and appliances, which assist in reducing GHG emissions associated with building operation. In addition, the Project is required to comply with City of Irwindale Municipal Code Chapter 15.30, which is known as the Water Efficient Landscape Standards and Guidelines Ordinance. Chapter 15.30 mandates requirements for ensuring landscapes are planned, designed, installed, and managed in a manner that uses water efficiently, encourages water conservation, and prevents water waste for new and existing development. Water efficiency aids in reducing GHG emissions by preventing the wasteful use of energy associated with water distribution.

4.5.9 SIGNIFICANCE OF IMPACTS AFTER MITIGATION

Thresholds a and b: Significant and Unavoidable Cumulatively Considerable Impact. The Project's total annual GHG emissions per year would exceed the SCAQMD's threshold of 3,000 MTCO_{2e} per year. Conformance with the energy efficiency requirements of the CSBC (Title 24), Title 20 California Code of Regulations (Appliance Energy Efficiency Standards), and the City's Water Efficient Landscape Standards and Guidelines Ordinance (Chapter 15.30 of the Irwindale Municipal Code) would generally act to reduce area-source and energy-source GHG emissions, but would not have a substantial effect on mobile-source GHG emissions which are the primary contributor to the Project's GHG emissions impacts. Neither the Project Applicant nor the City of Irwindale can affect or mandate substantive reductions in mobile-source GHG emissions above and beyond the mitigation measures presented in EIR Section 4.2, *Air Quality*. As such, no other feasible mitigation measures are available to reduce the Project's GHG emissions to below a level of significance, and the cumulatively considerable impacts associated with the Project's GHG emissions would remain significant and unavoidable and incrementally contribute to the State's potential inability to meet its climate change goals.



4.6 HAZARDS AND HAZARDOUS MATERIALS

The information and analysis presented in this Subsection is based in part on a technical study that was prepared for the Project by Anacapa Geoservices, Inc. (hereafter, “AGI”), titled “Phase I Environmental Site Assessment, Arrow – Live Oak Site, 78.3 ± Acres of APN # 8532-001-002, -006, & -900) 1200-1270A East Arrow Highway, Irwindale, California 91706” (dated January 15, 2018) and appended to this EIR as *Technical Appendix F*. The Project-specific Phase I Environmental Site Assessment (ESA) was performed in accordance with American Society of Testing and Materials (ASTM) Practice E1527-13. This Subsection also is based on information contained in Project’s Mobile Source Health Risk Assessment (EIR *Technical Appendix B2*), the City of Irwindale General Plan (City of Irwindale, 2008), City of Irwindale General Plan EIR (City of Irwindale, 2006), and Google Earth Pro (Google Earth Pro, 2018).

For the purposes of this EIR, the term “toxic substance” is defined as a substance which, 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.

For purposes of this EIR, the term “hazardous material” is defined as a substance which, 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, § 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 United States Environmental Protection Agency (USEPA) 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, §§ 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).

4.6.1 EXISTING CONDITIONS

A. Historical Review, Archival Review, Regulatory Records Review, and Field Reconnaissance

As part of the Phase I ESA (EIR *Technical Appendix F*), AGI assessed the conditions on the entire 78.3-acre Project site and surrounding properties through the review of historical aerial photographs and topographic maps; review of regulatory records and previous environmental reports; and conducting a field reconnaissance. The existing conditions at the Project site as they are described in the Project-specific Phase I ESA are summarized in the subsections below.



1. *Historical Review*

As part of the Project-specific Phase I ESA (EIR *Technical Appendix F*), AGI conducted a review of various sources of information regarding the historical use of the Project site, including a review of historical aerial photographs, historical USGS topographic maps, and city directories. Please refer to EIR *Technical Appendix F* for a detailed description of the historical research methodology and results of this research.

Based on a review of the historical records included in EIR *Technical Appendix F*, the Project site appears to have been an undeveloped piece of land within the San Gabriel River floodplain up until the early 1950s when it was developed as a sand and gravel quarry. As stated throughout this EIR, the Project site is currently under an active reclamation process to fill a depleted sand and gravel quarry site, which ceased operations in 2004. No environmental concerns were identified through AGI's review of the historical records included in EIR *Technical Appendix F*. (AGI, 2018, pp. 17-18)

2. *Regulatory Records Review*

As part of the Phase I ESA (EIR *Technical Appendix F*), AGI obtained and reviewed a regulatory agency database report provided by Environmental Data Resources (EDR) for information regarding reported releases of hazardous substances and petroleum products on or near the Project site. The Project site was listed on one (1) of the regulatory databases searched by EDR ("Landfill or Solid Waste Disposal sites"), which is due to the active reclamation process involving an IDEFO that is ongoing at the Project site. The IDEFO activities are governed by an Operations Plan and Grading Permit No. 05061504220003 which will remain in effect until reclamation activities and rough grading at the Project site are complete. One (1) regulatory agency database listing ("NPL Equivalent") was identified within the minimum search distances used in the Phase I ESA pursuant to ASTM Practice E1527-13. The NPL Equivalent listing was identified at a property located approximately 1.5 miles southeast of the Project site and is associated with The San Gabriel Valley (Area 1) Superfund site that is identified as having volatile organic compound (VOC) contamination in soil and groundwater. According to EIR *Technical Appendix F*, the results of groundwater sampling at the two (2) groundwater monitoring wells located on the Project site indicates that groundwater beneath the Project site is not impacted with VOCs, and therefore the Project site is not impacted by the off-site NPL Equivalent listing (The San Gabriel Valley [Area 1] Superfund site). (AGI, 2018, pp. 11-12)

Additionally, AGI contacted the City of Irwindale, the County of Los Angeles, and the Los Angeles Regional Water Quality Control Board (RWQCB) for records pertaining to the Project site. The County of Los Angeles records indicated that the Project site was listed in their database as an IDEFO, but did not identify any other environmental records for the Project site. The RWQCB records indicated the agency issued an order (#01-179) and Waste Discharge Requirements for the Project site associated with the IDEFO at the site. No additional environmental records were identified by the City of Irwindale beyond those related to the IDEFO at the Project site. (AGI, 2018, p. 12)

The Phase I ESA concluded that the review of regulatory agency records (as described in the preceding paragraphs) did not identify any environmental concerns affecting the Project site.



3. *Review of Previous Environmental Reports*

The Project-specific Phase I ESA (EIR *Technical Appendix F*) included a review of previous environmental reports related to the Project site. The previous reports for the Project site include the approved Report of Waste Discharge (including periodic update reports) and Waste Discharge Requirements (WDRs) issued by the Los Angeles RWQCB on a quarterly, semiannual and annual basis. The review of the previous environmental reports in the Phase I ESA did not identify any violations of the WDRs or any other issues of environmental concern. (AGI, 2018, p. 17)

4. *Site Reconnaissance*

Representatives of AGI conducted a site reconnaissance at the Project site on January 4, 2018 as part of Phase I ESA (EIR *Technical Appendix F*) preparation. At the time of the Phase I ESA site reconnaissance, the Project site was gated and fenced and observed to consist of vacant land being utilized as an IDEFO. AGI observed water storage tower(s) staged at the northerly portion of the Project site, as well as temporary and mobile crew rest areas, lunch areas, and restrooms. AGI observed heavy construction equipment (i.e., trucks, bulldozer, water trucks, rubber-tired loaders, and excavators) being used in the active fill areas of the Project site. During the site reconnaissance, the northeastern portion of the Project site was observed being used by Cal-Blend Soils to create topsoil, compost, mulch and various soil mixes. The westernmost portion of the Project site was observed to be vacant and undisturbed by the previous quarry activities or ongoing reclamation activities. A large surcharge fill was observed on the northeasterly portion of the Project site to assist with compaction of previously placed import materials. (AGI, 2018, pp. 8-10)

No storage of hazardous and non-hazardous substances was observed at the Project site by AGI during the Phase I ESA site reconnaissance. According to the Phase I ESA, fuels and other lubricants are supplied to the on-site construction equipment by a fuel truck and mechanics truck. AGI observed one (1) water supply well and two (2) groundwater monitoring wells at the Project site during the site reconnaissance. No environmental concerns were identified as a result of the Phase I ESA site reconnaissance. (AGI, 2018, pp. 8-10)

B. Airport Hazards

As noted in the General Plan and General Plan EIR, no airports are located in the City of Irwindale (City of Irwindale, 2006, pp. 62-63). The nearest airport is the El Monte Municipal Airport, approximately 2.8 miles southwest of the Project site (Google Earth Pro, 2018). The Runway Protection Zones (RPZs) for the El Monte Municipal Airport are entirely within the City of El Monte and extend from the end of the runway to Lower Azusa Road on the north of the Airport to the railroad tracks to the south of the Airport (City of Irwindale, 2006, pp. 62-63). The RPZs prohibit tall buildings, uses that have the potential for explosion, that generate electric interference, distracting lights, glare, dust or smoke, that attract birds or accommodate/ promote public assembly. The Project site is not located within the RPZs of El Monte Municipal Airport or the airport influence area (AIA) for the El Monte Municipal Airport (LACDRP, 2009).



C. Wildland Fire Hazards

The Project site is located in an urbanized portion of the City of Irwindale and is not located within or immediately adjacent to any wildlands. Additionally, the Fire Hazard Severity Zone (FHSZ) map for the City of Irwindale that was prepared by CAL FIRE does not depict the Project site as being located within a “Very High Fire Hazard Severity Zone” (VHFHSZ). The CAL FIRE FHSZ Map for Irwindale depicts the nearest VHFHSZ approximately 875 feet to the northeast of the Project site in the approximate location of the open space area that is associated with San Gabriel River flood control operations. (CAL FIRE, 2011)

D. Applicable Environmental Regulations

The following is a brief description of the federal, State, and local environmental laws and related regulations related to hazards and hazardous materials.

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, 2017d)

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, 2017d)

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, 2017d)

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, 2017d)



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, 2016b)

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, 2016b)

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.)



Healthy Forests Restoration Act of 2003

On August 22, 2002, President Bush established the Healthy Forests Initiative, directing the Departments of Agriculture and the Interior, and the Council on Environmental Quality, to improve regulatory processes to ensure more timely decisions, greater efficiency, and better results in reducing the risk of catastrophic wildland fires. On June 5, 2003, the Departments of Agriculture and the Interior adopted two new categorical exclusions from documentation in an environmental assessment or environmental impact statement (EIS): an exclusion for hazardous-fuel reduction and another for rehabilitation of resources and infrastructure damaged by wildfire (68 FR 33814).

This act also defines “communities at risk” as those “wildland urban interface communities within the vicinity of federal lands that are at high risk from wildfire.” For California, CalFire has expanded this definition to include all communities (regardless of distance from federal lands) for which a significant threat to human life or property exists as a result of a wildland fire event. According to the 2010 California Strategic Fire Plan (page E-1), factors used to determine at-risk communities include: high fuel hazard, probability of a fire and proximity of intermingles wildland fuels, and urban environments near fire threats.

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, 2016a)

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, 2016a)

Toxic Substances Control Act

The Toxic Substances Control Act 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, 2016c)

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, 2016c)

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.

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.



California Hazardous Waste Control Law

The Hazardous Waste Control Law (HWCL) (Health and Safety Code [HSC], Division 20, Chapter 6.5, Article 2, 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).

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.”

Public Resources Code (PRC) Sections 4290-4299

These sections establish minimum statewide fire safety provisions pertaining to: roads for fire equipment access; signs identifying streets, roads, and buildings; minimum private water supply reserves for emergency fire use; and fire fuel breaks and greenbelts. With certain exceptions, all new construction after July 1, 1991, in potential wildland fire areas, is required to meet these statewide standards. The state requirements, however, do not supersede more restrictive local regulations.

As defined by CalFire, wildland areas defined as State Responsibility Areas (SRAs) may contain substantial wildfire risks and hazards. They consist of lands exclusive of cities, and federal lands regardless of ownership. The primary financial responsibility for preventing and suppressing fires within wildlands belongs to the State of California. However, it is not the State of California’s responsibility to provide fire protection services to buildings or structures located within the wildlands unless CalFire has entered into a cooperative agreement with a local agency for those purposes pursuant to PRC Section 4142. As such, wildland areas require disclosure of these fire hazards in real estate transactions, and owners of properties in wildland areas are subject to PRC Section 4291 maintenance



requirements. The law requires CalFire every five years (1991, 1996, 2001, etc.) to provide maps identifying the boundaries of lands classified as SRAs to the Los Angeles County Assessor.

California Government Code (CGC) Section 51178

This section specifies that the Director of CalFire, in cooperation with local fire authorities, shall identify areas that are Very High Fire Hazard Severity Zones (VHFHSZ) in Local Responsibility Areas (LRAs), based on consistent statewide criteria, and the expected severity of fire hazard. Per CGC § 51178, a local agency may, at its discretion, exclude from the requirements of § 51182 an area within its jurisdiction that has been identified as a VHFHSZ, if it provides substantial evidence in the record that the requirements of § 51182 are not necessary for effective fire protection within the area. Alternatively, local agencies may include areas not identified as VHFHSZ by CalFire, following a finding supported by substantial evidence in the record that the requirements of § 51182 are necessary for effective fire protection within the new area. According to § 51182, such changes made by a local agency shall be final, and shall not be rebuttable by CalFire.

CCR Title 24, Parts 2 and 9 – Fire Codes

Part 2 of Title 24 of the CCR refers to the California Building Code, which contains complete regulations and general construction building standards of state adopting agencies, including administrative, fire and life safety, and field inspection provisions. Part 2 was updated in 2008 to reflect changes in the base document from the Uniform Building Code to the International Building Code. Part 9 refers to the California Fire Code, which contains other fire safety-related building standards. In particular, Chapter 7A, “Materials and Construction Methods for Exterior Wildfire Exposure,” in the 2010 California Building Code addresses fire safety standards for new construction. In addition, Section 701A.3.2, “New Buildings Located in Any Fire Hazard Severity Zone,” states:

“New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, any Local Agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.”

State Aeronautics Act

The State Aeronautics Commission Act of 1947 created the Division of Aeronautics (“Division”), and was later amended by statute to read the State Aeronautics Act (Aeronautics Act) in 1961. As a result of this legislation, the Division’s first priorities are those mandated by the Aeronautics Act, then Caltrans guidance, then Division guidance as expressed through its Policy Element. As directed by the Aeronautics Act, the Division is a steward and advocate of aviation in California. To that end, its efforts are focused on activities that “protect the public interest in aeronautics and aeronautical progress.” (§ 21002) (Caltrans, 2016, p. 1-2)



The Aeronautics Act itself is divided into six chapters, the first five of which have not received significant cleanup legislation since its enabling in 1947. The first chapter begins with general provisions and definitions and explains the Legislature's intent for a State aviation program. Chapter two explains Caltrans' role in administering the Division, and explains the role of the California Transportation Commission (CTC). Chapter three includes many of the safety considerations from Federal Aviation Administration (FAA) regulations that help keep airports and the surrounding communities safe and compatible with flight operations. Chapter four deals with airport and heliport permitting, air navigation facilities, noise guidelines, funding, and importantly, the formation and authority of Airport Land Use Commissions (ALUC). Chapter five covers the investigations and hearings on matters covered in the Aeronautics Act. Finally, Chapter six introduces airport planning and specifically introduces the intent of the CASP and how it can be used to support California aviation. (Caltrans, 2016, p. 1-2)

3. *Local Regulations*

Los Angeles County Fire Department

The Los Angeles County Fire Department (LACoFD) Health Hazardous Materials Division (HHMD) is the Certified Unified Program Agency (CUPA) for most of Los Angeles County, including the City of Irwindale, the local agency certified by the CalEPA to implement the local Unified Program. Accordingly, in addition to providing emergency response to hazardous materials releases, the LACoFD HHMD also oversees Hazardous Materials Business Plans, the underground and aboveground storage tank programs, the California Accidental Release Prevention Program.

City of Irwindale

The Public Safety Element of the City of Irwindale General Plan identifies policies focusing on issues related to hazards, such as emergency preparedness. An analysis of the Project's consistency with the applicable policies of the City's General Plan is included in EIR Subsection 4.7, *Land Use and Planning*. Additionally, § 16.03.020 of the City of Irwindale Municipal Code contains requirements for reviewing vesting tentative maps, which includes verifying that a vesting tentative map depicts adequate fire access (City of Irwindale, 2018, § 16.03.020). Furthermore, the City of Irwindale Municipal Code § 8.20.060 regulates proper disposal of hazardous materials, which prohibits the collection or transport of hazardous waste without a permit for such collection or transport issued by the City (City of Irwindale, 2018, § 8.20.060).

4.6.2 BASIS FOR DETERMINING SIGNIFICANCE

Section IX of Appendix G to the CEQA Guidelines addresses typical adverse effects to hazards and hazardous materials, and includes the following thresholds to evaluate the Project's impacts on hazards and hazardous materials (OPR, 2018). The Project would be considered to have a significant impact associated with hazards and hazardous materials if the Project or any Project-related components would:



- a. *Create significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials;*
- b. *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous material into the environment;*
- c. *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;*
- d. *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or environment;*
- e. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;*
- f. *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or*
- g. *Expose people or structures, either directly or indirectly, to significant risk of loss, injury or death involving wildland fires..*

4.6.3 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?*

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?*

A. Impacts Associated with Existing Site Conditions

Based on the Project-specific Phase I ESA (EIR *Technical Appendix F*), the Project site does not contain any hazardous materials associated with historical or present/ongoing operations at the Project site. Through a review of historical records, a regulatory database search, a site reconnaissance, and interviews with knowledgeable parties, the Project-specific Phase I ESA (EIR *Technical Appendix F*) did not identify any evidence of recognized environmental conditions (RECs) or other environmental concerns in connection with the Project site. The Phase I ESA identified the presence of two (2) groundwater monitoring wells on the southerly portion of the Project site which are monitored and/or sampled on a semi-annual basis pursuant to the RWQCB-mandated Detection Monitoring Program associated with the ongoing solid waste disposal operations (IDEFO) at the Project site (AGI, 2018, p. 10). Given the ongoing IDEFO at the Project site, the Phase I ESA recommended the continued monitoring of incoming loads for compliance with the fill specifications; however, the ongoing IDEFO is not the subject of evaluation in this EIR. The Phase I ESA is summarized in further detail above in



EIR Subsection 4.6.1A and is appended to this EIR as EIR *Technical Appendix F*. Based on the foregoing, Project-related impacts associated with existing site conditions would be less than significant.

B. Temporary Construction-Related Activities

Heavy equipment (e.g., dozers, excavators, tractors, cranes) would be operated on the Project site during construction of the Project. This heavy equipment may be fueled and maintained by petroleum-based substances such as diesel fuel, gasoline, oil, and hydraulic fluid, which are considered hazardous if improperly stored or handled. In addition, 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 what would occur on any other similar construction site. Construction contractors shall 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 to requirements imposed by the EPA, DTSC, Los Angeles RWQCB, LACoFD, and the City of Irwindale. With mandatory compliance with applicable hazardous materials regulations, the Project would not create significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials during the construction phase. A less-than-significant impact would occur.

C. Long-Term Operational Activities

The number of buildings that will be located on the Project site and the future users of those buildings are not yet known. Future uses on-site are assumed to be any of those uses permitted by The Park @ Live Oak Specific Plan's permitted uses (refer to Specific Plan Table 3-1, *Permitted Uses*), which include but are not limited to: general light industrial, manufacturing, warehouse/distribution, e-commerce fulfillment center, retail services, professional offices, drive-thru restaurant, and gas station. Based on the list of permitted uses contained in The Park @ Live Oak Specific Plan, it is possible that hazardous materials could be used during the course of a future building user's daily operations. Further information is provided below to characterize some activities that would be permitted under the proposed Project and that could involve handling of substantial quantities of hazardous materials and wastes.

Proposed on-site manufacturing activities at the Project site could involve a variety of hazardous substances, including solids, liquids, and gases that might be necessary for manufacturing or assembling various products or product components. There may also be some hazardous wastes generated by these processes that would require special disposal.

The Park @ Live Oak Specific Plan allows for uses which could involve storage of hazardous materials that are shipped out for use in industrial processes elsewhere. Additionally, this use could involve



storage of a variety of chemical products that may be sold elsewhere at retail or delivered in quantities to other businesses that utilize these chemicals for various purposes.

Other permitted miscellaneous/ancillary activities permitted at the site under The Park @ Live Oak Specific Plan could entail a variety of ancillary maintenance and fueling activities for freight handling/moving machines used inside the proposed buildings and in the truck loading areas. These activities could involve storage and application of liquid fuels such as gasoline and diesel, propane or other gases, petroleum lubricants and solvents, etc. It is also possible that a tenant could have a fuel dispensing island to support a fleet of maintenance/cargo handling vehicles or trucks. Large HVAC units also could fall under the definition of a hazardous material depending on the chemical composition of the unit's cooling process.

Additionally, potentially hazardous materials such as fuel, paint products, lubricants, solvents, and cleaning products may be used and/or stored on-site during the operation of future commercial facilities located in The Park @ Live Oak Specific Plan area. A gas station accessible to the general public also has the potential to be located in the Commercial/Industrial area of The Park @ Live Oak Specific Plan along Arrow Highway.

Any businesses that occupy the Project site which use or store hazardous materials would be required to comply with all applicable federal, State, and local regulations to ensure the proper transport, use, or disposal of hazardous substances (as described above in EIR Subsection 4.6.1D). As stated in Chapter 2, *Development Plan*, of The Park @ Live Oak Specific Plan, fueling station is a permitted use within Planning Areas 1A, 2A, and 3A. Storage and dispensation of petroleum products at the fueling station would be conducted in accordance with all applicable local, State, and federal regulations. Additionally, construction and operation of the fuel tanks and dispensers would be required to comply with all applicable federal, State, and local laws. With mandatory regulatory compliance, potential hazardous materials impacts associated with the Project are not expected to pose a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials, nor would the Project increase the potential for accident operations which could result in the release of hazardous materials into the environment.

Federal and state Community-Right-to-Know laws allow the public access to information about the amounts and types of chemicals that may be used by businesses on the Project site. Laws also are in place that require businesses to plan and prepare for possible chemical emergencies. Any business that occupies a building on the Project site and that handles/stores substantial quantities of hazardous materials (as defined in §25500 of California Health and Safety Code, Division 20, Chapter 6.95) would require a permit from the Los Angeles County Fire Department, Health Hazardous Materials Division to register the business as a hazardous materials handler. Such businesses also are required to comply with California's Hazardous Materials Release Response Plans and Inventory Law, which requires immediate reporting to the Los Angeles County Fire Department and the State Office of Emergency Services regarding any release or threatened release of a hazardous material, regardless of the amount handled by the business, and to prepare a Hazardous Materials Business Emergency Plan or "HMBEP." A HMBEP is a written set of procedures and information created to help minimize the



effects and extent of a release or threatened release of a hazardous material. Each project is unique and triggers a different combination of requirements and reviews. When plans are submitted to the City of Irwindale for plan review and approval, the City is required to route them to all appropriate departments/divisions. The future tenants of the proposed Project would be required to submit a plan to the Los Angeles County Fire Department that provides an inventory of hazardous materials to be kept on premises, and which identifies locations and design of storage areas and methods of accident prevention and containment. Compliance with this existing and mandatory plan check and permitting process would reduce potential impacts to less than significant.

As explained above, 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. With mandatory regulatory compliance assured through the oversight of the Los Angeles County Fire Department, 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, nor would the Project increase the potential for accident conditions which could result in the release of hazardous materials into the environment. With mandatory regulatory compliance, potential hazardous materials impacts associated with long-term operation of the Project are regarded would be less than significant and mitigation is not required.

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 Project site is not located within one-quarter mile of an existing or proposed school (Google Earth Pro, 2018). The nearest existing school, Pearl Preparatory School, is located approximately 0.8 mile west of the Project site (Google Earth Pro, 2018). Furthermore, as previously shown on Figure 2-5, *Existing General Plan Land Use Designations*, and Figure 2-6, *Existing Zoning Designations*, the City's General Plan and zoning ordinance designate the surrounding areas for commercial, industrial, and quarry land uses, none of which would accommodate a proposed school. The Project's proposed industrial and commercial business operations would be conducted mainly inside of enclosed buildings, with the exception of truck deliveries that would occur in the loading dock areas. No combustion processes or other industrial processes would be involved that could produce emissions that would be released to the atmosphere.

Exhaust emissions from the regular truck traffic would include diesel particulate matter, which is a known carcinogen for sensitive receptors exposed on a regular and long-term basis. However, due to the Project site's immediate proximity to the I-605 Freeway, truck traffic associated with the proposed Project would be highly unlikely to travel through nearby residential areas (nearest residential neighborhood is located approximately 0.4 mile to the north), where the closest public schools are located (i.e., Pearl Preparatory School, which is located approximately 0.8 mile west of the Project site; Rio Hondo Preparatory School, which is located approximately 2.0 miles to the southwest of the Project site; and North Park High School, which is located approximately 1.7 miles southeast of the



Project site). Trucks are only permitted on posted truck routes, and no truck routes that Project-related trucks would be able to utilize are located adjacent to these existing schools. As such, the proposed Project would have no potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school. Diesel emissions from truck traffic associated with the Project are evaluated as part of a health risk assessment, as discussed in Subsection 4.2, *Air Quality*, of this EIR. This assessment considers potential health risks to the nearby sensitive receptors (i.e., residents and students), and concludes that the Project's cancer and non-cancer risks to sensitive receptors would be less than significant.

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 create a significant hazard to the public or environment

A review of online hazardous waste and substances site lists compiled and maintained by the State of California pursuant to Government Code Section 65962.5 determined that the Project site is not found on any of these lists (*Cal. EPA, n.d.; Cal. EPA, 2011; DTSC, 2018; SWRCB, n.d.; SWRCB, 2015*). Accordingly, no impact would occur.

Threshold e: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the project area?

As noted in the Irwindale General Plan (City of Irwindale, 2008, p. 138), there are no airports in the City of Irwindale. The nearest airport is the El Monte Airport, located approximately 2.8 miles southwest of the Project site (Google Earth Pro, 2018). The Runway Protection Zones (RPZs) for the El Monte Airport are entirely within the City of El Monte and extend from the end of the runway to Lower Azusa Road on the north to the railroad tracks on the north (City of Irwindale, 2006, pp. 62-63). The Project site is not located within the RPZs of El Monte Municipal Airport. Furthermore, the Project site is not located within the airport influence area (AIA) for the El Monte Municipal Airport (LACDRP, 2009). Therefore, the proposed Project would not result in hazards that could occur from development located within an airport land use plan or within 2.0 miles of a public airport or public use airport. The proposed Project has no potential to create an airport safety hazard, and no impact would occur. Additionally, there are no conditions associated with the proposed Project that would contribute to airport noise or exposure of people working or residing in the Project area to excessive levels of airport noise.

Threshold f: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Future development on the Project site would have direct roadway access to Arrow Highway and Live Oak Avenue and would not interfere with emergency response or evacuation of adjacent sites. The I-605 Freeway abuts the easterly Project site boundary and would be accessible to vehicles from Arrow Highway and Live Oak Avenue. Accordingly, the proposed Project would rely on the same routes of



emergency evacuation as the surrounding community. Traffic management during emergencies is a complex operation depending on several factors, including congestion levels, and requires exercise of judgment by the public safety agencies responsible for directing emergency evacuation efforts. The proposed Project would not interfere with such oversight efforts and would not impair implementation of an adopted emergency response plan or emergency evacuation plan. Furthermore, the Project would be designed, constructed, and maintained in accordance with applicable standards associated with vehicular access, ensuring that adequate emergency access and evacuation would be provided during operation of the Project.

During construction and long-term operation, the Project would be required to maintain adequate emergency access for emergency vehicles. A Traffic Control Plan which conforms to the applicable City of Irwindale requirements would be required to be prepared by the Project Applicant and approved by the City of Irwindale prior to issuance of building permits for the Project which would be assured through mandatory compliance with Mitigation Measure MM 4.11-8. The Traffic Control Plan would identify whether restriping of lanes would be required (in order to avoid lane closures) and other specific measures intended to minimize safety hazards and traffic disruptions along public roadways during any temporary roadway lane closures that may be necessary in order to accommodate the installation of utilities or other improvements associated with the Project. Traffic control during lane closures would be coordinated with the City of Irwindale Public Works Department. As part of the City's discretionary review process, the City of Irwindale is required by its Municipal Code to review future Project development to ensure that appropriate emergency ingress and egress would be available to-and-from the Project site (City of Irwindale, 2018, § 16.03.020). With mandatory implementation of the Traffic Control Plan, construction of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or an emergency evacuation plan, and a less-than-significant impact would occur.

Threshold g: Would the Project expose people or structures, either directly or indirectly, to significant risk of loss, injury or death involving wildland fires?

As described above in EIR Subsection 4.6.1C, the Project site is located in an urbanized portion of the City of Irwindale and is not located within or immediately adjacent to any wildlands. Additionally, the FHSZ map for the City of Irwindale that was prepared by CAL FIRE does not depict the Project site as being located within a "Very High Fire Hazard Severity Zone." The CAL FIRE FHSZ Map for Irwindale depicts the nearest VHFHSZ approximately 875 feet to the northeast of the Project site in the approximate location of the open space area that is associated with San Gabriel River flood control operations. (CAL FIRE, 2011)

Accordingly, the proposed Project has no potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Additionally, given that the Project site is not located within a VHFHSZ and is separated from the nearest VHFHSZ by the I-605 Freeway, the Project would not exacerbate wildfire risks and would not have any reasonable potential to result in a significant risk of loss, injury or death involving wildland fires. No impact would occur.



4.6.4 CUMULATIVE IMPACT ANALYSIS

As discussed above under Thresholds a and b, implementation of the proposed Project would involve the construction of uses in conformance with the proposed The Park @ Live Oak Specific Plan. Although the end users of the buildings are not presently known, 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 Los Angeles County Fire Department, Health Hazardous Materials Division. Similarly, any other developments in the area or proposed in the area 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 applicable fire department. Furthermore, the Project-specific Phase I ESA (EIR *Technical Appendix F*) did not identify any existing RECs or other environmental concerns at the site that would create a hazard to the public during construction or operation of the Project. Therefore, the cumulative 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 level. Also, the Project's cumulative impacts do not exceed the level of significance for any of the other thresholds. Accordingly, the Project would result in less-than-cumulatively considerable impacts related to hazardous materials.

The Project site is not located within one-quarter mile of any existing or proposed schools, and therefore has no potential to have a cumulatively considerable effect associated with the emission or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school. The construction and operation of the proposed Project does not have any components that would contribute to or result in an increase in the likelihood that hazardous materials would be handled or emitted within the vicinity of a school. No cumulatively considerable impacts would occur.

The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Due to the site-specific nature of the threshold, the Project does not have the potential to affect any surrounding areas for purposes of being listed on a hazardous materials site and no cumulatively considerable impacts would occur.

The Project would not conflict with an airport land use plan, nor would the Project pose a safety hazard for aircraft. The Project site is not located within the AIA or RPZs for the El Monte Municipal Airport. Thus, the Project has no potential to create a cumulatively considerable impact associated with airport safety.

The proposed Project would not interfere with or impair implementation of any adopted emergency response plans or emergency evacuation plans. Any future development projects in the surrounding area would be subject to review by applicable governing agencies, which would ensure the adequate provision of emergency response. The Project is proposed on a former sand and gravel quarry site on a property that has never been part of an emergency evacuation route and is not planned to serve as an



emergency route. Thus, the Project has no potential to result in a cumulatively considerable impact to an adopted emergency response or evacuation plan.

The Project site and surrounding areas are not subject to wildland fire hazards because the property is located in an urban environment that has a low risk of wildfire. The Project proposes buildings that would be equipped with fire suppression systems approved by the County of Los Angeles Fire Department. Development on the Project site must comply with the California Fire Code and California Building Standards Code, which include standards for building construction, fire flows and pressures, hydrant placement and other requirements that would reduce the creation of fire hazards. Compliance with the California Fire Code and the City's local building and safety standards, along with review by the Los Angeles County Fire Department, will ensure that the Project is designed to meet all applicable design standards for fire suppression. For these reasons, the Project would result in less-than-cumulatively considerable wildfire hazard risks.

4.6.5 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Thresholds a and b: Less-than-Significant Impact. The Project-specific Phase I ESA (EIR *Technical Appendix F*) did not identify any existing RECs or other environmental concerns at the site that would create a hazard to the public during construction or operation of the Project. The Project would involve the construction of uses in conformance with the proposed The Park @ Live Oak Specific Plan. Future operators at the Project site 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 Los Angeles County Fire Department, Health Hazardous Materials Division. Accordingly, the Project would result in less-than-significant impacts with respect to hazardous materials.

Threshold c: Less-than-Significant Impact. The Project site is not located within one-quarter mile of any existing or proposed schools, and therefore has no potential to have a cumulatively considerable effect associated with the emission or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school. The construction and operation of the proposed Project does not have any components that would contribute to or result in an increase in the likelihood that hazardous materials would be handled or emitted within the vicinity of a school. Impacts would be less than significant absent mitigation.

Threshold d: No Impact. The Project site is not listed on any of the hazardous waste and substances site lists compiled and maintained by the State of California pursuant to Government Code Section 65962.5. Accordingly, no impact would occur.

Threshold e: No Impact. The nearest airport is the El Monte Municipal Airport, located approximately 2.8 miles southwest of the Project site (Google Earth Pro, 2018). The Project site is not located within the RPZs or AIA for the El Monte Municipal Airport. Therefore, the proposed Project would not result in hazards that could occur from development located within an airport land use plan or within 2.0



miles of a public airport or public use airport. The proposed Project has no potential to create an airport safety hazard, and no impact would occur.

Threshold f: Less-than-Significant Impact. The Project would be designed, constructed, and maintained in accordance with applicable standards associated with vehicular access, ensuring that adequate emergency access and evacuation would be provided during operation of the Project. Accordingly, no impacts would occur with respect to operation of the Project. With mandatory implementation of the Traffic Control Plan, construction of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or an emergency evacuation plan, and a less-than-significant impact would occur.

Threshold g: No Impact. The Project site and surrounding areas are not subject to wildland fire hazards because the property is located in an urban environment that has a low risk of wildfire. Additionally, the Project proposes buildings that would be equipped with fire suppression systems approved by the County of Los Angeles Fire Department and development on the Project site would comply with the California Fire Code and California Building Standards Code, which include standards for building construction, fire flows and pressures, hydrant placement and other requirements that would reduce the creation of fire hazards. Accordingly, no impact related to wildland fire hazards would occur.

4.6.6 MITIGATION

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



4.7 HYDROLOGY AND WATER QUALITY

Information and analyses presented in this Subsection are based, in part, on the information provided in the Project's Preliminary Hydrology Report, *Technical Appendix G1*, dated January 29, 2019 (D&D Engineering, 2019); the Project's Low Impact Development (LID) Report, *Technical Appendix G2*, dated May 23, 2018 (D&D Engineering, 2018a); the Project's Water Supply Assessment, *Technical Appendix J1*, dated June 5, 2018 (WSC, 2018a); the Project's water supply well technical memorandum, *Technical Appendix J2*, dated June 28, 2018 (WSC, 2018b); and the Project's Geotechnical Report, *Technical Appendix D*, dated April 17, 2018 (HD Geosolutions, Inc., 2018). The City of Irwindale 2010 General Plan Update EIR Section 3.6, *Water & Hydrology Impacts*, also provided important background information (City of Irwindale, 2006).

4.7.1 EXISTING CONDITIONS

A. Regional Hydrology

The Project site is located within the Los Angeles River Watershed and approximately 0.7-mile southeast of the nearest stretch of the Los Angeles River (Google Earth Pro, 2018). According to the Los Angeles Regional Water Quality Control Board (LARWQCB), the Los Angeles River Watershed covers a land area of 834 square miles. The watershed encompasses and is shaped by the Los Angeles River, which flows from its headwaters in the Santa Monica, Santa Susana, and San Gabriel Mountains and terminates at the Pacific Ocean. This watershed includes portions of 43 cities in Los Angeles and Orange Counties, as well as communities in unincorporated areas of Los Angeles County. Approximately 324 square miles of the watershed is located within forested or open space lands and the remaining approximately 510 square miles of the watershed is located within urbanized areas. (LARWQCB, 2014, p. 1-39)

B. Project Site Hydrology

Under existing conditions, the Project site operates as an inert debris engineered fill operation (IDEFO) and the ground surface of the site is undergoing constant alteration as fill material is imported, stockpiled, processed, and placed into the former quarry areas. There are no permanent buildings or paved areas on-site and the Project site generates nominal quantities of storm water runoff. There are no on-site structural drainage systems or storm water management facilities associated with the IDEFO, with the exception of the best management practices (BMPs) currently being implemented in accordance with the SWPPP associated with the IDEFO occurring at the Project site (DEA, 2017). Rainfall infiltrates into the mostly bare ground surfaces and sometimes ponding occurs where there are deeper depressions and in the remaining unfilled quarry pit areas. The Project site is generally lower in elevation than the adjacent off-site areas and generates nominal positive drainage outside of the Project site boundaries. The existing public storm drain system (MTD # 1595) to which the Project site is tributary is located immediately north and south of the Project site within Arrow Highway and Live Oak Avenue, respectively. The existing public storm drain system (MTD # 1595) conveys storm water runoff westward from the Project area where it ultimately discharges to the Los Angeles Flood Control District (LAFCD)-owned Sawpit Wash channel, located approximately 0.7 mile to the west of the Project site. (D&D Engineering, 2019, p. 3)



The ongoing IDEFO consists of filling the quarry with clean compacted inert materials in accordance with the requirements of the Operations Plan and Grading Permit No. 05061504220003 and will thereby establish the site's final grade and provide suitable conditions for development of an end use. Fill materials have been comprised of chemically inactive and non-hazardous substances allowed by the LARWQCB, including inert mining waste, clean rock and soil, concrete, bricks, cured asphalt, and clay products (Arcadia Reclamation, Inc., 2017, p. 5). HD Geosolutions, Inc., an independent monitoring party, oversees the implementation of an approved Waste Load Checking Program and Detection Monitoring Program and ensures that no hazardous materials are introduced to the Project site as part of the reclamation activities (refer to Subsection 4.4, *Geology and Soils*, for a more detailed discussion of the fill procedures). In compliance with the Waste Discharge Requirements for the site issued by LARWQCB, no asphalt material has been placed into standing water or below the highest anticipated groundwater elevation (HD Geosolutions, Inc., 2018, pp. 3-4). Because there are no roads, permanent buildings or impervious surfaces other than a small paved area on the northern portion of the site adjacent to the IDEFO's Arrow Highway driveway on the Project site, and implementation of the BMPs from the SWPPP applicable to the ongoing IDEFO ensure water quality control from the IDEFO activity, no urban runoff is generated (DEA, 2017). There are no known water quality issues associated with the Project site and there are two (2) LARWQCB groundwater monitoring wells associated with the IDEFO located on the Project site, which would be capped and abandoned following completion of the IDEFO and following construction of the proposed Project.

C. Flooding and Dam Inundation

According to mapping information available from the Federal Emergency Management Agency (FEMA), the Project site is located within flood "Zone X," which is defined as "areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile and areas protected by levees from 1% annual chance of flood." The Project site is not located in a 100-year floodplain (FEMA, 2008). Additionally, the Project site is located outside of the area subject to inundation hazards associated with the Santa Fe Dam (City of Irwindale, 2008, Exhibit 6-3).

D. Water Quality

The California Porter-Cologne Water Quality Control Act (Section 13000 ["Water Quality"] et seq., of the California Water Code), and the Federal Water Pollution Control Act Amendment of 1972 (also referred to as the Clean Water Act [CWA]) require that comprehensive water quality control plans be developed for all waters in the State of California. In order to accomplish this, the California State Water Resources Control Board divided the state into planning regions and the present system of nine Regional Water Quality Control Boards (RWQCBs). The Project site and vicinity are located in the Los Angeles River watershed, which is within the purview of the LARWQCB. The LARWQCB Basin Plan is the governing water quality plan for the region, which sets forth goals and objectives for protecting water quality within the region (LARWQCB, 2014).

As indicated above, the Project site operates as an IDEFO under existing conditions and does not contain any impervious surfaces with the exception of a small paved area on the northern portion of



the site adjacent to the Arrow Highway driveway. Additionally, BMPs are currently being implemented in accordance with the SWPPP associated with the ongoing IDEFO activities at the Project site. Therefore, the Project site contributes nominal amounts of runoff onto adjacent properties, as the vast majority of storm water runoff is retained on-site or infiltrates into the groundwater basin. The Project site is located approximately 0.7-mile to the east of the Los Angeles River, which ultimately discharges into the Pacific Ocean near the City of Long Beach, approximately 26.9 miles southwest of the Project site. Segments of the Los Angeles River are classified as impaired water bodies and appear on the CWA's Section 303(d) list of impaired waters. Provided below is a summary of the impairments for several of the Project site's downstream receiving waters, based on the CWA's Section 303(d) list of impaired waters:

- Sawpit Creek: Organic Contaminants (DEHP) and Pathogens (Fecal Coliform)
- Peak Road Park Lake: Chlordane, DDT, Lead, Odor, Low Dissolve Oxygen, Trash
- Rio Hondo River (Reach 1): Pathogens, Copper, Lead, Toxicity, Trash, Zinc, pH
- Rio Hondo River (Reach 2): Pathogens, Cyanide

(SWRCB, 2010)

E. Groundwater and Groundwater Wells

As shown on Figure 4.7-1, *San Gabriel Groundwater Basin*, the Project site is underlain by the Main San Gabriel Basin (MSGB). Specifically, the Project site is located within the California-American Water (CAW) Duarte Service Area, which relies on the MSGB as its primary water source. The MSGB is a groundwater basin that contains a total of approximately 2.8 trillion gallons of groundwater and provides up to 90 billion gallons of groundwater annually to San Gabriel Valley's 1.4 million residents (WSC, 2018a, p. 21). The major sources of replenishment to the MSGB are rainfall percolation from the San Gabriel Valley, percolation from mountain runoff, percolation of imported water, and return flow from applied water (USGVMWD, 2016, p. 6-9).

CAW's Duarte Service Area has an adjudicated right to approximately 1.8% of the annually determined Operating Safe Yield (OSY) of the MSGB. If the CAW extracts water in excess of its portion of the annual OSY, the CAW is required to pay a Replacement Water Assessment, which would be used by the MSGB Watermaster to purchase imported water from the following agencies: Upper District, San Gabriel Valley Municipal Water District, and Three Valleys Municipal Water District. (WSC, 2018a, p. 21)

Under existing conditions, there is one groundwater supply well (ARI Well #1) located on the north-central portion of the Project site. The existing supply well has a pumping capacity of 600 gallons per minute (gpm) and is used to support the IDEFO mine reclamation activities. (WSC, 2018b, p. 5)

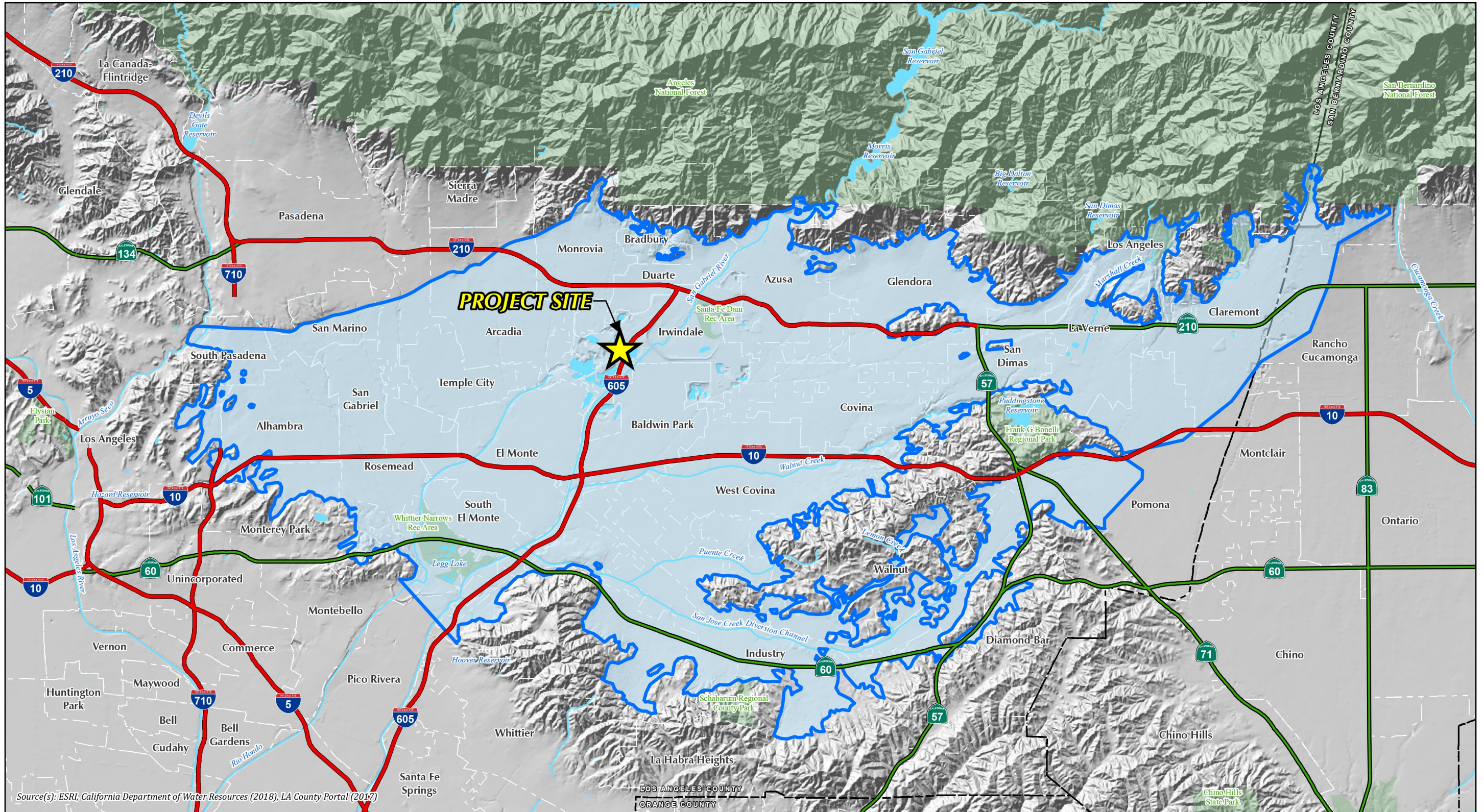
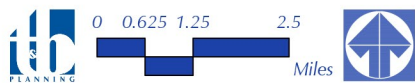


Figure 4.7-1



SAN GABRIEL GROUNDWATER BASIN



F. Regulatory Framework

Federal Policies and Regulations

1. Clean Water Act

The Federal Water Pollution Control Act (also known as the Clean Water Act (CWA)) is the principal federal statute that addresses water resources. The statute employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The broad goal is to restore and maintain the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." In 1972, the CWA was amended to require National Pollutant Discharge Elimination System (NPDES) permits for the discharge of pollutants from any point source into "Waters of the U.S." In 1987, the CWA was amended to establish regulations for NPDES permits to cover discharges from municipal and industrial storm systems. The municipal system permit system is known as "MS4" and applies to a system of conveyances (including roadway with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that are owned or operated by a public agency with jurisdiction over the disposal of sewage, industrial wastes, storm water, or other wastes. MS4 permits apply only to systems that collect or convey storm water discharges, and not for systems involving wastewater or stormwater combined with sewage.

2. National Pollutant Discharge Elimination System (NPDES) General Construction Permit

Pursuant to the CWA, in 2001, the State Water Resources Control Board (SWRCB) issued a statewide general NPDES Permit for storm water discharges from construction sites (NPDES No. CAS000002). Under this Statewide General Construction Activity permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or to be covered by the General Permit. Coverage by the General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB and developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). Each applicant under the General Construction Activity Permit must ensure that a SWPPP is prepared prior to grading and is implemented during construction. The SWPPP must list the BMPs implemented on the construction site to protect stormwater runoff and must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of the BMPs; and a monitoring plan if the site discharges directly to a water body listed on the State's 303(d) list of impaired waters.

Section 303(d) of the CWA requires all states to conduct water quality assessments of their water resources and identify water bodies that do not meet water quality standards alone, and to prioritize such waters for the purposes of developing Total Maximum Daily Loads. The U.S. Environmental Protection Agency (EPA) publishes recommended water quality criteria. States are not required to adopt the exact criteria, but state standards must be approved by the EPA and provide the same level of protection as EPA's standards.



3. *National Pollutant Discharge Elimination System (NPDES) Industrial General Permit*

Additionally, the NPDES program also requires certain land uses (e.g., industrial uses) to prepare a SWPPP for operational activities and to implement a long-term water quality sampling and monitoring program, unless an exemption has been granted. On April 1, 2014, the SWRCB adopted an updated NPDES permit for storm water discharge associated with industrial activities (referred to as the “Industrial General Permit”). The Industrial General Permit requires industrial projects to prepare a SWPPP for operational activities and implement a long-term water quality sampling and monitoring program or receive an exemption.

State Policies and Regulations

1. *California Water Code*

The California Water Code (including the Porter-Cologne Water Quality Control Act (Division 7)) is the principal state law regulating water quality in California. The Porter-Cologne Water Quality Control Act establishes a comprehensive program to protect water quality and the beneficial uses of water, and applies to both surface and groundwater. In order to accomplish this, the SWRCB divided the state into planning regions and the present system of nine RWQCBs. The Project site and vicinity are located in the Los Angeles River watershed, which is within the purview of the LARWQCB. The LARWQCB’s Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. The Plan designates beneficial uses for surface and ground waters; sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State’s anti-degradation policy; and describes implementation programs to protect all waters in the region. (LARWQCB, 2014)

Although the Project site does not currently drain into the Los Angeles River or a tributary thereto, the local storm drain systems maintained by the Los Angeles County Department of Public Works (LACDPW) discharges stormwater into the Los Angeles River, and this is the primary body of water of concern in this area. The nearest portion of the Los Angeles River system to the Project site is the Sawpit Creek Channel. Runoff from the developed areas adjacent to the Project site that is captured by local storm drainage systems is discharged into the next downstream segment of the River, identified as Peck Road Lake, which discharges downstream into the Rio Hondo River, then the main Los Angeles River, and ultimately into the Pacific Ocean (Google Earth Pro, 2018).

Local Policies and Regulations

1. *Los Angeles County MS4 Permit*

In 2001, the LARWQCB issued an NPDES Permit and Waste Discharge Requirements (Order No. 01-182; NPDES No. CAS0041) (Los Angeles County MS4 Permit) under the CWA and the Porter-Cologne Act for discharges of urban runoff in Los Angeles County public storm drains. The Los Angeles County MS4 Permit has been amended several times, most recently on June 16, 2015, by the State Water Board (Order No. WQ 2015-0075). The Los Angeles County MS4 Permit regulates storm water discharges from areas within the City of Irwindale, which is within the jurisdiction of the



LARWQCB. The Los Angeles County MS4 Permit details requirements for new development and significant redevelopment, including specific sizing criteria for treatment BMPs and flow-control requirements. This program regulates municipal storm water and urban runoff discharges for development projects within the County of Los Angeles and requires that all co-permittees (such as the City of Irwindale) prohibit non-storm water discharges into the MS4 and watercourses.

To implement the requirements of the NPDES permit, the Los Angeles County co-permittees have created development planning guidance and control measures that control and mitigate storm water quality and quantity impacts to receiving waters as a result of new development activity. The Los Angeles County co-permittees are also required to implement other municipal source detection and elimination programs and maintenance measures. The MS4 Permit requires the co-permittees to implement a Storm Water Quality Management Program that includes the components that will be implemented to comply with the MS4 Permit and to reduce discharges of pollutants in storm water to the maximum extent practicable.

For new development, the co-permittees implement their obligations under the MS4 Permit through adoption of ordinances to protect water quality and through implementation of plans to impose water quality control measures on new development projects. These ordinances allow programs such as the Standard Urban Stormwater Mitigation Plan (SUSMP) (which encompasses LIDs) to be developed and require that storm water and urban runoff to storm drain systems and waterways in the County comply with these MS4 Permit-related programs.

A standardized SUSMP was approved by the LARWQCB as part of the MS4 program to prevent storm water pollution from new development throughout Los Angeles County, including sites within the City of Irwindale. The SUSMP contains a list of minimum BMPs that must be employed to infiltrate or treat storm water runoff, control peak flow discharge, and reduce the post-development discharge of pollutants from storm water conveyance systems. The SUSMP defines, based upon land use characteristics, the types of BMPs that must be included and tailored to the specific water quality issues appropriate to the development type and size. Compliance with SUSMP requirements (which includes the preparation of LID reports) is required by the City of Irwindale to ensure that new development projects do not generate significant water quality impacts associated with stormwater discharges.

2. *City of Irwindale Municipal Code*

The City of Irwindale has adopted local MS4 implementation standards, which are codified in the Irwindale Municipal Code, Chapter 8.28, *Storm Water and Urban Runoff Pollution*. The City of Irwindale Municipal Code prohibits the illicit discharge of pollutants into the storm water system and provides best management practices to reduce pollutants to the storm water system (City of Irwindale, 2018, Chapter 8.28).

4.7.2 BASIS FOR DETERMINING SIGNIFICANCE

Section X of Appendix G to the CEQA Guidelines addresses typical adverse effects to Hydrology and Water Quality, and includes the following significance thresholds to evaluate a project's impacts on



Hydrology and Water Quality (OPR, 2018). The proposed Project would result in a significant impact to hydrology or water quality impact if the Project or any Project-related component would:

- a. *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;*
- b. *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin;*
- c. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*
 - i. *Result in substantial erosion or siltation on- or off-site;*
 - ii. *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*
 - iii. *Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or*
 - iv. *Impede or redirect flood flows.*
- d. *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or*
- e. *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.*

4.7.3 IMPACT ANALYSIS

Threshold a: *Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

A. Construction-Related Water Quality Impacts

The Park @ Live Oak Specific Plan would allow for the Project site to be developed with up to 1,550,000 square feet (s.f.) of industrial/commercial business park building space and associated circulation improvements, utility infrastructure, and landscaping, as described in detail EIR Section 3.0, *Project Description*. Construction of these improvements would involve grading, paving, utility installation, building construction, and landscaping installation, which would result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other pollutants with the potential to affect water quality. 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.

Pursuant to the requirements of the LARWQCB and the Irwindale Municipal Code (Chapter 8.28), the Project would be required to obtain a NPDES Municipal Stormwater Permit for construction activities. The NPDES 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. In addition, the Project would be required to comply with the LARWQCB Water Quality Control Plan. Compliance with the NPDES permit and the LARWQCB Water Quality Control Plan involves the preparation and implementation of a SWPPP for construction-related activities. The SWPPP will specify the Best Management Practices (BMPs) that the Project's construction contractors would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. Examples of BMPs that may be utilized during construction include, but are not limited to, sandbag barriers, geotextiles, storm drain inlet protection, sediment traps, rip rap soil stabilizers, and hydroseeding. Mandatory compliance with the SWPPP would ensure that the proposed Project does not violate any water quality standards or waste discharge requirements during construction activities. Therefore, water quality impacts associated with construction activities would be less than significant and no mitigation measures would be required.

B. Operational Water Quality Impacts

At buildout of The Park @ Live Oak Specific Plan, a majority of the Project site would be covered by impervious surfaces such as rooftops and paved surfaces, which would measurably increase the rate and amount of runoff compared to the current unpaved and undeveloped conditions of the site. The Park @ Live Oak Specific Plan requires that a minimum of 10% of the site be landscaped, and thus pervious. The water runoff from impervious surfaces would carry pollutants that may have built up on these surfaces. As described and shown in the proposed The Park @ Live Oak Specific Plan, Chapter 2.C.3, *Storm Water Drainage*, the Specific Plan proposes an on-site storm water drainage plan to capture and detain runoff prior to its discharge into the existing public storm drain system (MTD # 1595) which ultimately discharges to the Sawpit Wash Channel. Potential water pollutants that could be generated at the Project site in its post-development condition include the following (per the California Stormwater Quality Association Redevelopment Handbook) (CASQA, n.d.):

- Heavy metals (parking lots and loading docks)
- Nutrients (landscaping)
- Pesticides (parking lots and loading docks)
- Sediments (landscaping)
- Trash and Debris (waste containers and parking lots)
- Oxygen Demanding Substances (parking lots and loading docks)
- Oil and Grease (parking lots and loading docks)

A “pollutant of concern” is a water pollutant that is also an impairment to the receiving water body. Based on water quality objectives set forth in the Los Angeles River Basin Plan, the primary pollutant of concern for the adjacent and immediate downstream reaches of the Los Angeles River is heavy metals (LARWQCB, 2014, p. 4-61).

All development in the City of Irwindale also is required to comply with Chapter 8.28 of the Irwindale Municipal Code, *Storm Water and Urban Runoff Pollution*, which supplements the LARWQCB



NPDES permit and prohibits the discharge of specific pollutants into storm water and requires development projects to provide BMPs to reduce pollutants in the storm water. As required under the MS4 Permit and Waste Discharge Requirements for Los Angeles County, the City of Irwindale requires new developments and major redevelopment projects to comply with Standard Urban Stormwater Mitigation Program (SUSMP) conditions, which require projects to provide LID structural and non-structural BMPs. Accordingly, a LID report (EIR *Technical Appendix G2*) was prepared for the Project, which includes required BMPs for the development of the Project.

The Park @ Live Oak Specific Plan's Conceptual Drainage Plan indicates that three (3) detention basins are contemplated to be installed along the Project site's frontage with Live Oak Avenue. The basins, regardless of the ultimate configuration and location on the Project site, would be designed to take advantage of the natural filtering ability of the soil to remove pollutants from runoff, thereby providing first-flush capture, detention, and filtration of storm water runoff before it is discharged from the site. According to the Project's LID report (EIR *Technical Appendix G2*), the detention basins would detain up to 50-year storm water flows on-site and would discharge peak runoff flows into the existing storm drain network beneath Live Oak Avenue (D&D Engineering, 2018a, p. 3). The geotechnical investigations conducted on the Project site determined that the inert fill materials, that have been placed in the quarry reclamation areas of the Project site as part of the ongoing IDEFO activities, do not pose a threat to groundwater quality, and that these materials provide suitable infiltration rates for application as detention basins (HD Geosolutions, Inc., 2018, pp. 3-4). The Park @ Live Oak Specific Plan indicates that subsurface chambers could be installed in lieu of the detention basins provided that the requirements of the Project's LID are achieved.

Whether discharged from surface detention basins or underground chambers, the Project site's off-site downstream discharges into the Sawpit Wash Channel could affect water quality within downstream portions of the Los Angeles River. As noted above, the Project's primary pollutants of concern are heavy metals and the proposed surface basins would be designed to achieve the level of filtering necessary to remove these pollutants from the water prior to conveyance to the existing off-site storm drain system within Live Oak Avenue.

As demonstrated in the Project's LID report (EIR *Technical Appendix G2*), the Project's proposed storm water drainage collection and conveyance system is designed to capture and treat the primary storm water pollutants of concern that would be generated at the Project site in its post-development condition. With regular maintenance to ensure full and proper functioning of the proposed drainage and water quality treatment mechanisms, runoff from the impervious portions of the Project site would result in less-than-significant water quality impacts and would not violate any water quality standards established by the LARWQCB for the Los Angeles River.

The Project also would be required to demonstrate compliance with the NPDES program, which requires certain land uses (e.g., industrial uses) to prepare a SWPPP for operational activities and to implement a long-term water quality sampling and monitoring program, unless an exemption has been granted. On April 1, 2014, the California State Water Resources Control Board adopted an updated new NPDES permit for storm water discharge associated with industrial activities (referred to as the



“Industrial General Permit”). The new Industrial General Permit, which is more stringent than the prior Industrial General Permit, became effective on July 1, 2015. The new NPDES Industrial General Permit requires the preparation of a SWPPP for operational activities and the implementation of a long-term water quality sampling and monitoring program unless an exemption is granted. Mandatory compliance with the NPDES Industrial General Permit would further reduce water quality impacts during long-term operation of the Project to below a level of significance.

As noted above, the Project’s primary pollutants of concern are heavy metals. The Project is designed to install detention basins that are highly effective in treating heavy metals. The basins would filter water to meet the water quality standards of the LARWQCB. The Park @ Live Oak Specific Plan also specifies that underground chambers could be used for water quality purposes in lieu of surface basins to meet LARWQCB standards. Furthermore, the LARWQCB may require the preparation of an operational SWPPP to address long-term water quality sampling and monitoring. Accordingly, operation of the Project would not contribute runoff that would violate water quality standards or waste discharge requirements, and water quality impacts would be less than significant.

Aside from the Project’s potential water quality impacts as discussed above, there are no other sources of water pollution that could be generated by this Project that could degrade water quality. Accordingly, based on the foregoing, a less-than-significant impact would occur with respect to Threshold a.

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?

The Project would be supplied with potable water to serve its water needs from CAW, which relies on the groundwater extracted from the MSGB as its primary water source. All water to be used in the construction and long-term operation of the Project would be provided by CAW’s entitled water supply from the MSGB and CAW’s water distribution system (refer to *Technical Appendix J1*). Under existing conditions, one groundwater supply well is located on-site which supports the site’s on-going IDEFO reclamation activities. According to the Project’s water supply well technical memorandum (EIR *Technical Appendix J2*), the existing on-site water supply well was not originally constructed to meet the standards of a functional municipal supply well, so the well is proposed to be converted to a monitoring well as part of the proposed Project. In order to meet the future water demand of the Project and the City of Hope expansion project that was previously approved by the City of Duarte, one groundwater supply well is proposed to be installed on the Project site at one of three possible locations along the north-central portion of the Project site (as previously depicted in EIR Figure 3-3, *Conceptual Water Plan*). According to the water supply well technical memorandum prepared by WSC, the proposed on-site well is anticipated to have a pumping capacity of up to 1,500 gallons per minute (gpm), with the ultimate well capacity to be determined by the CAW. The on-site water well would accommodate both the Project’s future water demand and the water demand of the City of Hope expansion project as well as allow the CAW to meet their existing water demands with more reliability in the event that any other wells are out of service. (WSC, 2018b, p. 6).



The CAW has an adjudicated right to 1.84634% of the annual OSY of the MSGB. If the CAW extracts water in excess of its portion of the annual OSY, the CAW must pay a Replacement Water Assessment fee, which would be used by the MSGB Watermaster to purchase imported water from the following agencies: Upper District, San Gabriel Valley Municipal Water District, and Three Valleys Municipal Water District (WSC, 2018a, p. 21). Based on correspondence received from the Upper District, and as concluded in the Project's WSA (EIR *Technical Appendix J1*) and the water supply well technical memorandum (EIR *Technical Appendix J2*), the Upper District has reviewed the updated MSGB Replacement Water demands presented in the Project's WSA and has confirmed it has sufficient replacement water supplies to meet the Project's water demand (WSC, 2018b, Appendix B). Based on the CAW's existing groundwater pumping entitlements (1.84634% of the annual OSY of the MSGB) and the replacement water available through the Upper District, the Project's potable water demand could be accommodated without substantially decreasing groundwater supplies or lowering the groundwater table relied upon by other wells (WSC, 2018b). Accordingly, the Project's impact to groundwater supplies would be less than significant.

The Project site has operated as an active IDEFO facility for many years and has not been part of any efforts to conserve or manage groundwater resources. Regardless, water falling on the property by rainfall infiltrates into the ground under existing conditions. The construction of new impervious surfaces, including roadways, building foundations, parking lots, and other concrete or asphalt surfaces, would prevent or delay rainwater from infiltrating the soils, potentially reducing groundwater recharge. Groundwater recharge throughout the City of Irwindale and surrounding areas is accomplished through the infiltration of rainwater and storm water runoff into pervious soils, whether through an engineered spreading ground facility, through creeks and drainages, and/or through vacant and vegetated (including landscaped) areas. The majority of groundwater recharge within the area occurs within designated, Los Angeles County-owned recharge basins, none of which occur on the Project site (City of Irwindale, 2008, p. 112).

Water falling on impervious surfaces of the Project site would be conveyed to the Project's proposed storm water drainage system (see discussion under Threshold c below), which consists of a series of detention basins designed to outlet into the existing drainage line beneath Live Oak Avenue, and then into the Sawpit Wash Channel of the Los Angeles River. The on-site detention basins will take advantage of the percolation rates of the native fill soils, which would be designed to detain a portion of water during a 50-year storm event (D&D Engineering, 2018a, p. 3). Intermittent groundwater recharge is identified as a beneficial use of the River by the LARWQCB's Basin Plan (LARWQCB, 2014, p. 2-1).

Because the Project would not adversely affect any existing groundwater extraction wells, install a well which would extract water in excess of available groundwater supplies, interfere with primary groundwater recharge facility, or prohibit water falling on the site from potentially reaching the groundwater table, the Project's impact on groundwater supplies and recharge would be less than significant. Accordingly, the proposed Project would not substantially decrease groundwater supplies, substantially interfere with groundwater recharge, result in substantial changes in the rate or amount



of surface runoff, or interfere with sustainable groundwater management of the MSGB, and a less-than-significant impact would occur.

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:*

- i. Result in substantial erosion or siltation on- or off-site?*
- ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- iii. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?*
- iv. Impede or redirect flood flows?*

Under existing conditions, the Project site is undergoing reclamation as part of an IDEFO, and the vast majority of runoff generated on-site is retained within the lower elevations of the Project site where it infiltrates into the ground. Only nominal amounts of runoff to off-site areas are contributed from the on-site areas that were not subject to mining or reclamation activities which include the fringes of the Project site and the westerly areas of the Project site. Construction of each phase of the proposed Project would not commence until the IDEFO reclamation activities within each respective construction phase area are completed. Following completion of reclamation activities, the site's final grade would generally be suitable for development and would require only fine grading to accommodate the Project. As such, the Project would not substantially alter the drainage pattern of the Project site as ensured by the site's approved Reclamation Plan and Grading Permit No. 05061504220003.

A. *Erosion and Siltation Impacts*

As calculated by the City of Irwindale Public Works Division, upon completion of the IDEFO reclamation activities, the allowable storm water flow rate for the Project site that could be discharged into the existing storm drain within Live Oak Avenue (MTD #1595) is 1.2 cubic feet per second per acre (cfs/acre) from the approximately 78.3-acre Project site (D&D Engineering, 2019, Appendix A). Therefore, the drainage design of the proposed Project is required to discharge no more than 94 cfs of storm water to existing MTD #1595 (D&D Engineering, 2019, Table 1). As proposed by the Project, a series of detention basins and/or subsurface chambers would be installed on the Project site to handle runoff generated at the Project site under post-development conditions. The detention basins and/or chambers would detain water on-site when 50-year flows would be expected to exceed the allowable peak flow rate for MTD #1595 (94 cfs).

The Project's proposed drainage design would generally maintain the Project site's pre-development drainage pattern (as ensured through completion of the Reclamation Plan) and provide first-flush capture and detention of water runoff before storm water is discharged from the Project site. Storm



water discharge from the Project site is proposed to be directed into the existing public storm drain system in Live Oak Avenue (MTD #1595) which conveys water to the Sawpit Wash channel under existing conditions (D&D Engineering, 2019, p. 3). Storm water discharge from the Project site would be required to be controlled to the appropriate energy dissipation to prevent scouring or erosion at the Sawpit Wash channel outlet structure. Final grading and site development would have no direct impact on the existing configuration of any stream or river, because none exist within the Project site.

According to the Project's Preliminary Hydrology Report (EIR *Technical Appendix G1*), the City of Irwindale requires the 50-year peak flow reaching MTD #1595 from the Project site to be no more than 94 cfs (equivalent to 1.2 cfs/acre). During a 50-year peak event, the Project would introduce up to 84.9 cfs into MTD #1595, which is within the existing allowable limits of MTD #1595 (D&D Engineering, 2019, p. 6). Therefore, the existing public storm drain system (MTD #1595) within Live Oak Avenue has adequate capacity to accommodate the proposed storm water discharge from the Project and there is no potential that the Project's drainage outfall could directly or indirectly alter the course of a stream or river and cause substantial erosion or siltation. The proposed Project would thus have a less-than-significant impact.

B. On- and Off-Site Impacts due to Flood Hazards and Flood Flows

The Project site is not located within a 100-year floodplain, as mapped on Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (FEMA, 2008). As such, the Project has no potential to place structures within a 100-year floodplain, as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. Additionally, as noted in the discussion above, the Project's proposed drainage plan would generally maintain the Project site's drainage pattern as it will exist following the completion of reclamation activities. The Project's proposed storm drain infrastructure would capture and treat storm water runoff from the Project site prior to discharging on-site flows to the existing public storm drain within Live Oak Avenue (MTD #1595). The proposed on-site storm water drainage system is designed to meet the LACDPW design standards for 50-year peak flows as well as low-flow storm events. As detailed in the Project's hydrology study (*Technical Appendix G1*), all flows from the Project site would be discharged into MTD #1595, which ultimately discharges downstream into the Sawpit Wash channel. According to the City of Irwindale, the allowable 50-year peak flow reaching MTD #1595 from the Project site can be no more than 94 cfs (equivalent to 1.2 cfs/acre) (D&D Engineering, 2019, Table 1).

Under existing conditions, during a 50-year peak event, the Project site conveys up to 197.9 cfs into MTD #1595, which exceeds the existing allowable limits of MTD #1595. Upon build-out of the Project and with the incorporation of detention basins and/or underground chambers, during a 50-year peak event, the Project would introduce up to 84.9 cfs into MTD #1595, which is within the existing allowable limits of MTD #1595 (D&D Engineering, 2019, p. 6). Therefore, because the 50-year peak storm water flows from the Project site would be less than the flows under existing conditions and would not exceed the 50-year peak flow storm water discharge capacity for the existing public storm drain system, there is no potential for the Project to cause flooding that would directly or indirectly alter the course of a stream or river. The Project's proposed drainage system would adequately capture,



detain, and discharge site runoff in a manner that prevents flooding on or off-site, and impacts would be less than significant.

C. Impacts due to Polluted Runoff and Storm Water Capacity

Implementation of The Park @ Live Oak Specific Plan would increase the extent of impervious surfaces across the property, including but not limited to areas to be covered by buildings, parking lots, truck courts, walkways, and internal driveways. Notwithstanding, the 50-year peak storm water flows from the Project site would be less than the flows under existing conditions and would not exceed the 50-year peak flow storm water discharge capacity for the existing public storm drain system.

According to the Project's Preliminary Hydrology Report (EIR *Technical Appendix G1*), the City of Irwindale requires that the Project discharge no more than 94 cfs of storm water to the existing storm drain system in Live Oak Avenue (MTD #1595) (D&D Engineering, 2019, Table 1). As proposed by the Project, a series of detention basins and/or underground chambers are proposed on-site to detain water on-site when 50-year flows would be expected to exceed the allowable peak flow rate for MTD #1595. MTD #1595 would convey runoff from the Project site westerly and ultimately discharge flows in to the Sawpit Wash channel, located approximately 0.7 mile to the west of the Project site. During a 50-year peak event, the Project would introduce up to 84.9 cfs into MTD #1595, which is within the allowable discharge limits of the existing storm drain system (MTD #1595). Accordingly, the Project would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems, and impacts would be less than significant. (D&D Engineering, 2019, pp. 3, 6)

As required under the MS4 Permit and Waste Discharge Requirements for Los Angeles County, the City of Irwindale requires new developments and major redevelopment projects to comply with standard urban storm water mitigation program (SUSMP) conditions, which requires projects to provide LID structural and non-structural BMPs. Accordingly, the Project's LID report (*Technical Appendix G2*) provides water quality BMPs in the form of water conveyance features and detention basins. According to the Project's LID report, either drywells would be placed within the proposed surface basins (outside of the limits of underlying fill) or detained storm water would be infiltrated into the native soils, below the compacted fill (D&D Engineering, 2018a, p. 3). Additional treatment through the basin soils and ongoing maintenance practices throughout the Project site would ensure that storm water runoff pollutants do not result in substantial adverse water quality impacts. Accordingly, impacts would be less than significant. Accordingly, the Project would not create or contribute runoff water which would provide substantial additional sources of polluted runoff, and impacts would be less than significant.

D. Impacts due to Impediment or Redirection of Flood Flows

The Project site is not located within a 100-year floodplain, as mapped on Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (FEMA, 2008). As such, the Project has no potential to place structures within a 100-year floodplain, as mapped on a



Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. Accordingly, buildout of the Project would not impede or redirect flood flows. No impact would occur.

Threshold d: In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to Project inundation?

The Project site is not located within a 100-year floodplain, as mapped on Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (FEMA, 2008). As such, the proposed Project has no potential to place structures within a 100-year floodplain, as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. A seiche is the formation of large waves in landlocked bodies of water due to seismic activity. The Project site is not located within or adjacent to a body of water; therefore, it would not be subject to potential seiche conditions. The Project site is approximately 26.9 miles northeast of the coastal areas and shoreline of the Pacific Ocean and due to this distance would not be exposed to the threat of tsunami. As shown on Exhibit 6-3 of the City of Irwindale General Plan, the Project site is located outside of the area subject to inundation hazards associated with the Santa Fe Dam (City of Irwindale, 2008, Exhibit 6-3). There are no other levees or dams within the vicinity of the Project site that could expose the Project to flooding as a result of inundation. Based on the foregoing, the Project has no potential to release pollutants due to Project inundation, and no impact would occur.

Threshold e: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Project site is located within the Los Angeles River Watershed, which is regulated by the Los Angeles Regional Water Quality Control Board (RWQCB). The RWQCB has developed a “Water Quality Control Plan” for the Los Angeles River Basin (herein, “Basin Plan”), which was most recently updated in September 2014. The Basin Plan establishes water quality standards for the ground and surface waters of the region. The Basin Plan describes the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards. The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region’s groundwater and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. The RWQCB ensures compliance with the Basin Plan through its issuance of National Pollutant Discharge Elimination System (NPDES) Permits, issuance of Waste Discharge Requirements (WDR), and Water Quality Certifications pursuant to Section 401 of the Clean Water Act (CWA). In conformance with these requirements, the Project Applicant has prepared a Low Impact Development (LID) and hydrology study, which are included as *Technical Appendices G2* and *G1*, respectively, which demonstrate that the Project’s proposed drainage plan would meet all applicable requirements of the Basin Plan, including requirements and conditions of approval associated with NPDES permits, issuance of WDRs, and Water Quality Certifications. As such, the Project would not conflict with the Basin Plan, and impacts would be less than significant.



The 2014 Sustainable Groundwater Management Act (SGMA) 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 (DWR, 2019). GSPs are detailed road maps for how groundwater basins will reach long term sustainability. The California Department of Water Resources (DWR) currently categorizes the San Gabriel Valley Groundwater Basin (includes the MSGB) as a “low-priority” basin; therefore, the MSGB is not subject to the requirements of the SGMA (DWR, 2018). Furthermore, §10720.8(a) of the SGMA exempts adjudicated basins (including the MSGB specifically) from the SGMA’s requirement to prepare a GSP (DWR, 2016b). Accordingly, the Project has no potential to conflict with or obstruct implementation of a sustainable groundwater management plan.

Furthermore, with implementation of the Project’s LID and SWPPPs during construction activities, the Project would not contribute substantial amounts of polluted runoff that could adversely affect the underlying groundwater basin. Additionally, as previously discussed in the response to Threshold b, the Project would not interfere substantially with groundwater recharge. As such, the Project would not conflict with any water quality control plans or sustainable groundwater management plans, and impacts would be less than significant.

4.7.4 CUMULATIVE IMPACT ANALYSIS

The cumulative impact analysis considers construction and operation of the proposed Project in conjunction with other development projects in the vicinity of the Project site, as previously shown in EIR Table 4.0-1, *List of Cumulative Development Projects*. The following analysis of potential cumulative impacts to hydrology and water quality is divided into general topics as defined by the Thresholds of Significance.

A. Storm Water Management and Flooding

None of the other planned and pending development projects identified in EIR Table 4.0-1, *List of Cumulative Development Projects*, would drain onto the Project site and no other planned or reasonably foreseeable project would contribute runoff to the Project’s storm water drainage system. The proposed Project’s runoff would be accommodated by the Project’s storm water drainage system which would discharge storm water from the site to the existing storm drain system in Live Oak Avenue. The existing storm drain system in Live Oak Avenue conveys storm water runoff to the west where it ultimately discharges to the Saw Pit Channel which is tributary to the Los Angeles River. The existing storm drain system in Live Oak Avenue has been designed to convey storm water flows from other developments within the Project area, including the Project site. As previously discussed in Threshold e, the Project site would discharge storm water flows into the existing storm drain system in Live Oak Avenue at a rate that would be within the allowable capacity of the storm drain. Based on the foregoing, there would be no direct or cumulative effects on surface or groundwater hydrology or water quality due to interaction of runoff from the Project site and the other planned and pending cumulative development projects identified in EIR Table 4.0-1, *List of Cumulative Development Projects*.



B. Groundwater Supply and Recharge

In order to meet the water demand of the Project and the City of Hope expansion project (previously identified as cumulative development project D4 on EIR Table 4.0-1), a water supply well is proposed to be installed on-site that would extract groundwater from the MSGB. According to the Project-specific WSA (EIR *Technical Appendix JI*), the CAW Duarte Service Area is currently entitled to 1.84634% of the OSY of the MSGB. In the event that the CAW extracts MSGB groundwater in excess of its portion of the annual OSY, the CAW must pay a Replacement Water Assessment fee, which would be used by the MSGB Watermaster to purchase imported water from either the Upper District, San Gabriel Valley Municipal Water District, or the Three Valleys Municipal Water District. As previously discussed in the response to Threshold b, the Upper District has reviewed the updated MSGB Replacement Water demands presented in the Project's WSA and has confirmed it has sufficient replacement water supply supplies to meet the Project's water demand through at least 2035. Accordingly, based on CAW's entitlement to the 1.84634% of the OSY of the MSGB and the availability of replacement water to be purchased from the Upper District, the operation of the Project's proposed on-site water supply well would not result in the substantial depletion of groundwater supplies, and impacts would be less than significant on a direct and cumulative basis. Thus, development of the Project in addition to other local cumulative development projects would not result in cumulatively considerable adverse effects to local groundwater resources.

Although the proposed Project would increase the quantity of impervious surfaces on the Project site, the Project proposes to include water quality detention basins and permeable landscape areas that would allow for the percolation of on-site storm water runoff into the underlying MSGB. Accordingly, because the Project has no potential to interfere substantially with groundwater recharge, the Project would result in a less-than-cumulatively considerable impact with respect to groundwater recharge within the MSGB.

C. Water Quality

During Project construction, the proposed Project and other development projects within the Los Angeles River watershed would have the potential to result in a cumulative water quality impact, including erosion and sedimentation. Pursuant to the requirements of the State Water Resources Control Board and the LARWQCB, all construction projects that disturb one or more acres of land area are required to obtain a NPDES permit and obtain coverage for construction activities. In order to obtain coverage, an effective site-specific SWPPP is required to be developed and implemented for all development projects. The SWPPP must identify potential on-site pollutants and identify and implement an effective combination of erosion control and sediment control measures to reduce or eliminate discharge of pollutants to surface water from storm water and non-storm water discharges. In addition, the Project and all cumulative developments would be required to comply with the LARWQCB's Los Angeles River Basin Water Quality Control Program. Compliance with these mandatory regulatory requirements would ensure construction of the Project and other cumulative development projects within the Los Angeles River Watershed would contribute less-than-cumulatively considerable impacts to groundwater and surface water quality.



All new development projects (including some of those that were previously identified in identified in EIR Table 4.0-1, *List of Cumulative Development Projects*) located within and/or discharging to the Los Angeles River watershed are required to develop SUSMPs or equivalent water quality management plans to capture and treat developed site runoff in accordance with applicable regulations established by the local government agencies responsible for approving those projects, and in accordance with the water quality regulations established by the LARWQCB. Successful implementation of the existing regulatory requirements would reduce potential cumulative impacts on surface runoff and groundwater and surface water quality to less than significant. Given the Project's preliminary LID and its storm water drainage design described in this Subsection, any Project-related contribution to cumulative hydrology or water quality effects on the River would be less-than-cumulatively considerable.

D. Flood Hazards

The Project site is not located in a 100-year flood plan and is located outside of the area subject to inundation hazards associated with the Santa Fe Dam (City of Irwindale, 2008, Exhibit 6-3). There are no other levees or dams within the vicinity of the Project site that could expose the Project to flooding as a result of inundation. Other projects located in the area would be required to comply with LACFCD requirements in order to reduce flooding hazards resulting from the failure of a levee or dam. Therefore, the proposed Project would not be subject to flooding from the failure of a levee or dam, and a cumulatively significant impact would not occur.

E. Erosion and Siltation

The proposed Project incorporates design features (i.e., detention basins) that would ensure that the Project's post-development drainage conditions closely approximate those that occur under existing conditions, in a manner consistent with City of Irwindale and LAFCD requirements. In addition, the proposed Project's grading plan seeks to generally retain the site's existing topographic character. These characteristics would ensure that substantial erosion and siltation do not occur on- or off-site, and that Project-related drainage would not exceed the capacity of existing drainage systems. The Project would have less-than-significant impacts with respect to erosion and siltation. Other cumulative projects in the vicinity of the proposed Project also would be required to comply with regulatory requirements and implement design features and mitigation measures to reduce potential impacts associated with erosion and siltation. Accordingly, the Project would result in less-than-cumulatively considerable impacts due to erosion and siltation.

F. Conflict with Water Quality Control Plans or Sustainable Groundwater Management Plans

Furthermore, as discussed in the response to Threshold e, because the Project has no potential to conflict with any water quality control plans or sustainable groundwater management plans on a direct basis. As such, the Project would also have no potential to conflict with such plans on a cumulative basis.



4.7.5 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Less-than-Significant Impact. With implementation of the required SWPPP during construction activities and implementation of BMPs from the Project-specific LID during operations, the Project would result in less-than-significant water quality impacts and would not violate any water quality standards.

Threshold b: Less-than-Significant Impact. As demonstrated in the response to Threshold b, the Project's proposed water supply well would not pump groundwater in excess of available water supplies to the extent that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Additionally, the Project would introduce impervious surfaces to the site, but would not interfere substantially with groundwater recharge due to the inclusion of pervious landscaping and water quality basins that would facilitate infiltration of storm water. Accordingly, impacts to groundwater supplies and groundwater recharge would be less than significant.

Threshold c: Less-than-Significant Impact. The proposed Project would not substantially alter the site's existing drainage pattern. The Project's proposed water quality detention basins also would ensure that runoff from the site does not exceed the capacity of existing downstream facilities, including the Sawpit Wash Channel. As such, the Project would not affect the course of any stream or river and would not result in substantial erosion or siltation on- or off-site.

The Project's drainage system is designed to ensure that all runoff is conveyed by facilities with adequate capacity, or to ensure that runoff in excess of downstream capacity is detained on-site. Accordingly, the Project would not contribute runoff that would exceed the capacity of existing or planned storm water drainage systems and would not result in flooding on- or off-site, and a less-than-significant impact would occur. Implementation of the Project's proposed BMPs (include on-site water quality detention basins) also would ensure the Project does not contribute substantial additional sources of polluted runoff to existing or planned drainage systems. Accordingly, a less-than-significant impact would occur.

The Project site is not located within a 100-year flood hazard area. Therefore, the Project has no potential to place structures in a flood hazard area. Furthermore, the Project site is not located within the inundation area for the Santa Fe Dam. Moreover, the proposed on-site storm drain infrastructure and water quality facilities are designed and properly sized to intercept flood flows and route them off-site toward existing flood control facilities that have adequate available capacity to accommodate the Project's storm water runoff. Accordingly, the Project would not impede or redirect flood flows, and no impact would occur.

Threshold d: No Impact. The Project site has little to no potential to be exposed to hazards associated with flood hazards, seiches, or tsunamis due to its location outside of mapped flood zones, proximity to water bodies, and the existing and proposed topography of the Project site.



Threshold e: No Impact. The Project has no potential to conflict with any water quality control plans or sustainable groundwater management plans. No impact would occur.

4.7.6 MITIGATION

Impacts would be less than significant and mitigation is not required.



4.8 LAND USE AND PLANNING

The analysis presented in this Subsection is based, in part, on a review of the City of Irwindale 2020 General Plan Update (dated June 2008). The General Plan document is available for review on the City of Irwindale’s website referenced in EIR Section 7.0, *References* (City of Irwindale, 2008). The analysis in this Subsection is also based on the City of Irwindale 2010 General Plan Update Environmental Impact Report (SCH No. 2005071047) (City of Irwindale, 2006), as well as an economic analysis summary memorandum prepared for the proposed Project titled “Fiscal & Economic Impacts Resulting from the Proposed Industrial and Retail Site” prepared by David Taussig and Associates, Inc. and dated February 23, 2017 (EIR *Technical Appendix M*) (David Taussig and Associates, Inc., 2017).

4.8.1 EXISTING CONDITIONS

A. Existing Onsite and Adjacent Land Uses

1. *Project Site*

The Project site was previously operated as a sand and gravel quarry and implementation of the proposed Project represents the end use that would result from reclamation of the site. Mining operations on the Project site commenced in the 1960s and ceased in 2002, with the depleted quarry extending to a depth of approximately 160 to 170 feet below ground surface (bgs) (HD Geosolutions, Inc., 2018, p. 3). Under existing conditions, the property is under an active reclamation process involving an Inert Debris Engineered Fill Operation (IDEFO). An IDEFO is a fill operation where inert (non-chemically reactive) materials such as clean dirt, concrete, and brick are being placed into the quarry to raise it to natural grade, on which an end use can be developed. The IDEFO is permitted by City of Irwindale Grading Permit No. 05061504220003, issued on November 16, 2016, which allows for reclamation of the site through the placement of approximately 2.5 million cubic yards of fill material (City of Irwindale, 2016). Reclamation of the site authorized by Grading Permit No. 05061504220003 is an existing, permitted activity and is not subject to evaluation in this EIR. Before construction activities for the proposed Project can commence, all grading activities associated with Grading Permit No. 05061504220003, on the portion of the Project site planned for construction, will need to have been completed. Project-related construction activities could not feasibly commence on any portion of the site until such a time that reclamation activities on that portion of the site have resulted in the completion of rough-graded level pads that are suitable for development with an end use. Only limited (i.e., “precise”) grading will be required as part of the proposed Project evaluated by this EIR. The environmental baseline for purposes of this EIR is set at the NOP issuance date of April 2, 2018, but this EIR recognizes that the property is, and will continue for some time, to be in a state of physical change associated with mine reclamation activities.

2. *Surrounding Land Uses*

As previously illustrated in Figure 2-3, *Surrounding Land Uses and Development*, and discussed in EIR Subsection 2.6.2, the Project site is located within an area containing aggregate mining uses (located to the north); the I-605 Freeway and San Gabriel River floodplain (located to the east); electric



utility facilities (located to the northeast, east, and southeast); the Irwindale Speedway (located to the south); and various commercial land uses (located to the west). Arrow Highway abuts the Project site to the north; the I-605 Freeway abuts the Project site to the east; and Live Oak Avenue abuts the Project site to the south. The intersection of Live Oak Avenue and Arrow Highway abuts the Project site to the west.

B. Applicable Land Use Plans, Policies, and Regulations

1. City of Irwindale General Plan

In June 2008, the City of Irwindale adopted a comprehensive update of their General Plan, which defines a vision for the long-term growth and character of the City, along with goals, policies, objectives and implementing measures to provide guidance to City decision-makers, City staff, land owners, businesses, residents, and others in making decisions about land use, circulation, open space, environmental quality, economic development and other matters that align with the vision of the General Plan. A summary of the General Plan's elements is provided below.

□ Community Development Element

Section 2 of the General Plan is the Community Development Element, which designates the general distribution and intensity of land use and development contemplated within the land area governed by the General Plan. The Community Development Element complies with the State requirements for a land use element, and also covers issues related to urban design and economic development. According to the Community Development Element, the majority of the City's 9.5-square mile land area is devoted to flood control improvements within the flood plain of the San Gabriel River which includes the Santa Fe Dam and Recreation Area. Additionally, approximately 12.5% of the City's land area is occupied by active quarries while approximately 10.9% is occupied by inactive quarries. According to Table 2-1 of the Community Development Element, residential accounts for approximately 1% of the City's total land uses, while commercial and industrial account for approximately 0.25% and 15% of the City's total land uses, respectively. (City of Irwindale, 2008, pp. 23-26)

The Community Development Element includes Exhibit 2-3, *City of Irwindale Land Use Plan – Base Land Use Designations*, which shows the Project site is designated “Regional Commercial” by the City of Irwindale General Plan. According to the Community Development Element, the “Regional Commercial” land use designation is intended to “...encourage a balanced mix of commercial, office professional, and light manufacturing uses along a number of high-visibility traffic corridors” (City of Irwindale, 2008, p. 40). As previously shown on Figure 2-4, *Existing General Plan Land Use Designations*, the properties located directly north of the Project site are designated “Quarry Overlay”, properties located directly east of the Project site are designated “Regional Commercial”, properties to the south of the Project site are designated “Commercial/Recreation” and “Industrial/Business Park”, and properties to the west of the Project site are designated “Industrial/Business Park” and “Quarry Overlay.” (City of Irwindale, 2008, Exhibit 2-3)



Housing Element

The Housing Element of the City of Irwindale General Plan was adopted by the Irwindale City Council on September 11, 2013 and covers the planning period spanning from October 2013 to October 2021. The Housing Element identifies plans and programs for the rehabilitation of existing housing, and the development of new housing to accommodate future demand. Specific components of the Housing Element, which are also requirements of State law, include the following: an assessment of housing needs and an inventory of resources and constraints relevant to the meeting of those needs; a statement of the community's goals, quantified objectives, and policies relative to the maintenance, improvement, and development of housing; and a program that establishes an eight-year schedule of actions the community intends to implement as a means to achieve the goals and objectives of the housing element. The primary goal of the Housing Element is to promote the development of new housing to meet the existing and projected demand while preserving the existing residential neighborhoods in the City. (City of Irwindale, 2013, pp. 5-7).

Infrastructure Element

The City of Irwindale Infrastructure Element complies with the State requirements for a circulation element. The Infrastructure Element identifies and describes the City's existing and proposed transportation network, including applicable levels of service for key roadway segments and intersections in the City. The Infrastructure Element promotes the maintenance of a safe and efficient circulation system for the City. A primary purpose of the Infrastructure Element is to provide for the maintenance of the City's transportation network in order to support the buildout of the General Plan land use plan. The City's roadway classification standards are shown in Table 4-10 of the City's Infrastructure Element and indicate Arrow Highway (fronts the northerly Project site boundary) is designated as a Secondary Highway (80-foot ROW) and Live Oak Avenue (fronts the southerly Project site boundary) is designated as a Major Highway (100-foot ROW). Additionally, Exhibit 4-1 of the City's Infrastructure Element depicts the designated truck routes within the City and indicates Arrow Highway and Live Oak Avenue are both designated truck routes. (City of Irwindale, 2008, pp. 86-101).

Resource Management Element

The Resource Management Element meets the State's requirements for an open space element and conservation element. The purpose of the Resource Management Element is to assist in the long-range preservation and conservation of the City's remaining open space resources, including four (4) key issues: cultural resources, ecological resources, natural resources, and open space resources used for recreation (City of Irwindale, 2008, p. 103). Additionally, the Resource Management Element includes a Resource Management Plan that establishes policies and programs related to the preservation of important natural and man-made resources within the City. The Resource Management Element also discusses the development of reclamation plans in compliance with the State of California Surface Mining and Reclamation Act of 1975 (SMARA) which gives the City the authority to require quarry owners to reclaim/rehabilitate their land once mining operations have been completed (City of Irwindale, 2008, pp. 104-124). As discussed throughout this EIR, mining operations at the Project site



have been completed, and reclamation of the Project site is ongoing in accordance with existing regulations under SMARA and in the City’s Municipal Code in order to allow for future development of the site.

Public Safety Element

The objective of the state-mandated Safety Element is to assist in the mitigation and reduction of natural and manmade hazards to life, health, and property, and to ensure that emergency services in the City are adequate to meet the City’s needs during both minor emergencies and major catastrophic situations. Policies in the Public Safety Element pertain to the following areas: seismic and geologic hazards, fire hazard, flooding hazards, crime, and civil disaster preparedness. (City of Irwindale, 2008, pp. 126-142)

Implementation Element

The Implementation Element serves as a guide for implementation of the General Plan and lists the specific implementation programs that are included in the other Irwindale General Plan elements (described above). This includes but is not limited to policies pertaining to: air quality planning, building code review, cultural resources management, design guidelines, energy conservation, environmental review, fire prevention, hazardous materials, recreational facilities, and transportation-related issues. (City of Irwindale, 2008, pp. 150-154)

2. *City of Irwindale Zoning Regulations*

The City of Irwindale Zoning Code is contained within Title 17 of the City of Irwindale’s Municipal Code. The Zoning Code is a regulatory document that establishes specific standards for the use and development of all properties located within the City by regulating development intensity, including limits on building setbacks, landscaping standards, and building heights. The Zoning Code also defines the permitted land uses within the various zones. As previously depicted on Figure 2-5, *Existing Zoning Classifications*, the easterly majority of the Project site is zoned “Heavy Manufacturing (M-2)” and the westerly portion of the Project site is zoned “Quarry Overlay Zone (Q).” Zoning Code §§17.56.010-17.56.020 describes all permitted and conditional uses allowed within the M-2 Zone (City of Irwindale, 2018). Zoning Code §17.60.010 describes all of the conditional uses that are allowed within Q Zone (City of Irwindale, 2018).

3. *SCAG’s Regional Comprehensive Plan and Regional Transportation Plan/ Sustainable Communities Strategy*

SCAG is a Joint Powers Authority (JPA) under California state law, established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. Under federal law, SCAG is designated as a Metropolitan Planning Organization (MPO) and under state law as a Regional Transportation Planning Agency and a Council of Governments. The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. SCAG develops long-range regional transportation plans including sustainable communities strategy and growth forecast components,



regional transportation improvement programs, regional housing needs allocations, and other plans for the region.

As a MPO and public agency, SCAG develops transportation and housing plans that transcend jurisdictional boundaries that affect the quality of life for southern California as a whole. SCAG's 2008 Regional Comprehensive Plan (RCP) and 2016-2040 RTP/SCS serve as advisory documents to local agencies in the southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance. SCAG's RCP identifies voluntary best practices to approach growth and infrastructure challenges in an integrated and comprehensive way. The most recent 2008 RCP is a holistic, strategic plan for defining and solving inter-related housing, traffic, water, air quality, and other regional challenges. The RCP ties together SCAG's role in transportation, land use, and air quality planning and recommends key roles and responsibilities for public and private sector stakeholders and invites them to implement reasonable policies that are within their control. (SCAG, 2008, p. 2)

SCAG's 2016-2040 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The RTP/SCS charts a course for closely integrating land use and transportation and outlines more than \$556.5 billion in transportation system investments for the SCAG region through 2040. The third amendment to the RTP/SCS is currently under development by SCAG to address the 2019 Federal Transportation Improvement Program and to update the RTP/SCS's list of regionally significant transportation projects.

4. *South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP)*

California Health & Safety Code § 40702 et seq., California Clean Air Act requires that an Air Quality Management Plan (AQMP) be developed and subsequently updated every three years for air basins with non-attainment status. The Project site is located in the South Coast Air Basin (SCAB). According to the most recent state area designation maps provided by the California Air Resources Board (CARB), the SCAB currently does not meet State or federal criteria for ozone (8-hour standard) or particulate matter <2.5 microns (PM_{2.5}); additionally, the SCAB does not meet State criteria for particulate matter <10 microns (PM₁₀) (CARB, 2017c). The South Coast Air Quality Management District (SCAQMD) Governing Board adopted its most recent AQMP on March 3, 2016. Every three years, AQMD drafts and prepares a plan for air quality improvement within the AQMD area boundaries. Each iteration of the plan is an update of the previous plan and has a 20-year horizon with a revised baseline.

The 2016 AQMP is a plan for the regional improvement of air quality. Projects such as the proposed Project relate to the air quality planning process through the growth forecasts that were used as inputs into the regional transportation model. If a proposed project is consistent with these growth forecasts, and if all available emissions reduction strategies are implemented as effectively as possible on a project-specific basis, then the proposed project is consistent with the AQMP. Although the SCAQMD recommends projects that are inconsistent with the AQMP be designated as having a significant air



quality impact, consistency itself is not considered as a sufficient basis to support a finding of a less-than significant impact. Refer to Subsection 4.2, *Air Quality*, for a detailed discussion of the Project's consistency with the 2016 AQMP.

4.8.2 BASIS FOR DETERMINING SIGNIFICANCE

Section XI of Appendix G to the CEQA Guidelines addresses typical adverse effects to land use and planning, and includes thresholds to evaluate a project's impacts on land use and planning (OPR, 2018). The proposed Project would result in a significant impact related to land use and planning if the Project or any Project-related component would:

- a. *Physically divide an established community; and/or*
- b. *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.*

4.8.3 IMPACT ANALYSIS

Threshold a: Would the Project physically divide an established community?

As shown in Figure 2-2, *Vicinity Map*, and Figure 2-3, *Surrounding Land Uses and Development*, the closest established community to the Project site is the residential neighborhood located approximately 0.4-mile northwest of the Project site (located within unincorporated Los Angeles County) and the residential neighborhood located approximately 0.7 mile southeast of the Project site (located within the City of Baldwin Park) (Google Earth, 2018). There are no community facilities that service these neighborhoods which are separated from these neighborhoods by the Project site. As previously described in EIR Subsection 4.8.1A.2, the surrounding existing land uses include mining operations, commercial land uses, the Irwindale Speedway, and utility-related facilities. As previously shown on Figure 2-4, *Existing General Plan Land Use Designations*, the City of Irwindale General Plan designates the surrounding properties as "Regional Commercial," "Commercial/Recreation," "Industrial/Business Park," and "Quarry Overlay." Accordingly, development of the Project site in accordance with the proposed The Park @ Live Oak Specific Plan would have no potential to divide any existing established communities. The Project site was previously used as a sand and gravel quarry and currently operates as an IDEFO and does not provide access to established communities. Development of the site as proposed by The Park @ Live Oak Specific Plan would not isolate any established communities or residences from neighboring communities or other facilities. In fact, the construction of Private Drive A though the Project site would provide a roadway connection between Arrow Highway and Live Oak Avenue, which would improve connectivity north and south of the Project site. As such, Project implementation would have no potential to physically divide an established community and no impact 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?*

This EIR analyzes the physical environmental effects associated with all components of the Project, including Project construction and operation. Governmental approvals requested from the City of Irwindale by the Project Applicant include a General Plan Amendment (GPA) No. 01-2017, Specific Plan (The Park @ Live Oak Specific Plan), Zone Change (ZC) No. 01-2017, Tentative Parcel Map (TPM) No. 82551, and Development Agreement (DA) No. 01-2017.

The land use plans, policies, and regulations applicable to the Project and evaluated herein include those listed below, each of which is discussed in more detail. Refer to Subsection 4.2, *Air Quality*, for a detailed discussion of the Project's consistency with the SCAQMD's 2016 AQMP, which concludes that the proposed Project would be inconsistent with the 2016 AQMP.

1. City of Irwindale General Plan
2. City of Irwindale Zoning Code
3. The SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

1. The City of Irwindale General Plan

The City of Irwindale General Plan 2008 Update Community Development Element designates the Project as "Regional Commercial." As previously illustrated on Figure 3-8, *Existing and Proposed General Plan Land Use Designations*, the proposed GPA No. 01-2017 would modify the General Plan land use designation that is applicable to the Project site from Regional Commercial to Specific Plan. Additionally, governmental approvals requested from the City of Irwindale by the Project Applicant include The Park @ Live Oak Specific Plan, TPM No. 82551, and DA No. 01-2017. With the approval of the proposed The Park @ Live Oak Specific Plan, any future development plans and entitlement applications (tract maps, site plans, and other similar entitlements) would be required to comply with The Park @ Live Oak Specific Plan and substantially conform to the standards and guidelines set forth in the other sections of the Specific Plan, as well as any other applicable City of Irwindale regulations. Although the proposed Project would result in a change to the General Plan land use designations for the Project site in order to accommodate the approval of The Park @ Live Oak Specific Plan, these changes would not result in a conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or reducing an environmental effect. Accordingly, a less-than-significant environmental impact would result from the proposed amendment of the Project site's existing City of Irwindale General Plan land use designation (Regional Commercial).

Table 4.8-1, General Plan Consistency, provides an analysis of the Project's consistency with all applicable General Plan goals, objectives, and policies that were adopted for the purpose of avoiding or mitigating an environmental effect. As shown in Table 4.8-1, the Project would not result in an inconsistency with any of the applicable General Plan goals, objectives, and policies. Accordingly, the



Project would have a less-than-significant impact with respect to a conflict with the City of Irwindale Plan.

Table 4.8-1 General Plan Consistency

GENERAL PLAN POLICY	SPECIFIC PLAN CONSISTENCY
COMMUNITY DEVELOPMENT ELEMENT (CDE)	
<i>Issue Area – Land Use Planning: The City of Irwindale is committed to the development of a comprehensive land use plan that will enhance the City’s livability and economic base for future generations.</i>	
<p><u>CDE Policy 1:</u> The City of Irwindale, through continued comprehensive land use planning, will strive to preserve the overall mix of land uses and development in the community.</p>	<p><u>Consistent.</u> The Park @ Live Oak Specific Plan provides an industrial/commercial business park that capitalizes on the property’s location north of Live Oak Avenue, south of Arrow Highway, and west of the I-605 Freeway and on- and off-ramps. The Project would complement existing and planned surrounding land uses in the City of Irwindale and adjacent cities. The Park @ Live Oak Specific Plan is located in an area of Irwindale that is already developed as an industrial/commercial area, containing landfills, distribution warehousing, e-commerce, and light industrial land uses. Future land uses within The Park @ Live Oak Specific Plan would be separated from the surrounding land uses to the north by Arrow Highway, to the south by Live Oak Avenue, to the east by Interstate 605, and by proposed landscaping on the perimeter of the Project site. To the south and southwest, properties across from Live Oak Avenue are already developed with industrial warehouse buildings and the Irwindale Speedway, which would be compatible land uses with those proposed by the Project. To the east, across Interstate 605 are industrial warehouse buildings and the Nu-Way Landfill. To the north and northwest, landscaping is proposed as part of The Park @ Live Oak Specific Plan as a separating visual and physical buffer from the existing sand and gravel quarry operations north of Arrow Highway. Accordingly, the Project would be consistent with this policy.</p>
<p><u>CDE Policy 2:</u> The City of Irwindale will continue to plan for the transition of the quarries located within the City to other land uses.</p>	<p><u>Consistent.</u> The Project site is a former sand and gravel quarry that is currently being backfilled with inert debris. Upon completion of the inert debris fill operation, the site would not be productively used unless and until it is redeveloped with an end use. The Project would develop the site with revenue- and employment-generating uses that would transition the site to productive economic use upon completion of quarry backfilling activities. Accordingly, the Project would be consistent with this policy.</p>
<p><u>CDE Policy 3:</u> The City of Irwindale will continue to ensure that the type, location, and intensity of all new development and intensified developments adhere to the</p>	<p><u>Consistent.</u> Under existing conditions, the City of Irwindale General Plan designates the entire Project site for “Regional Commercial” land uses. The General Plan states that the Regional Commercial designation “. . . encourages a balanced</p>



GENERAL PLAN POLICY	SPECIFIC PLAN CONSISTENCY
<p>requirements that are specified for their particular land use category in the General Plan.</p>	<p>mix of commercial, office professional, and light manufacturing uses along a number of high visibility traffic corridors . . .” (City of Irwindale, 2008, p. 40). Implementation of the proposed The Park @ Live Oak Specific Plan would provide for a mix of Industrial/Business Park and Commercial/Industrial land uses consistent with the General Plan’s vision for the subject property as an employment-generating and economic-investment generating use. The proposed Project requires a General Plan Amendment to change the site’s existing General Plan land use designations from “Regional Commercial” to “Commercial/ Industrial” to reflect the land uses, development standards, design guidelines and implementation procedures proposed in The Park @ Live Oak Specific Plan. As such, the Project would be consistent with this policy.</p>
<p><u>CDE Policy 5:</u> The City of Irwindale will continue to promote comprehensive development consistent with this General Plan as opposed to piecemeal and incremental planning.</p>	<p><u>Consistent.</u> The Park @ Live Oak Specific Plan proposes a comprehensive development plan for the Project site and would ensure that development across each of the proposed planning areas would meet design and operational criteria to preclude land use incompatibilities. As such, the Project would be consistent with this policy.</p>
<p><i>Issue Area – Economic Development: The City of Irwindale intends to continue its pursuit and promotion of economic development that will provide jobs and revenue for the community.</i></p>	
<p><u>CDE Policy 7:</u> The City of Irwindale will continue to promote economic development through the use of redevelopment.</p> <p><u>CDE Policy 10:</u> The City of Irwindale will promote development that will benefit the community as a whole in terms of both jobs and revenue generation.</p>	<p><u>Consistent.</u> The Park @ Live Oak Specific Plan would allow for the former quarry site to be developed with a 1,550,000 square foot (sq. ft.) industrial/commercial business park that would require a minimum of 15,000 square feet (s.f.) of commercial building space and permit up to a maximum of 98,600 s.f. of commercial building space. Revenue benefits to the City of Irwindale may include but not be limited to increased property tax revenue and point-of-sale tax revenue. In addition, the Project would generate a substantial number of jobs that could be filled by residents of the City and surrounding communities and thereby stimulate spending in the local economy. Additionally, the Industrial/Business Park and Commercial/Industrial land uses proposed by The Park @ Live Oak Specific Plan would diversify the City’s employment/revenue generating land uses, which under existing conditions predominantly consists of mining-related uses. As such, the Project would be consistent with this policy.</p>
<p><i>Issue Area – Urban Design: The City of Irwindale will continue its efforts in improving the appearance of the community.</i></p>	
<p><u>CDE Policy 12:</u> The City of Irwindale will continue to promote quality design in the review and approval of commercial and industrial development through the application</p>	<p><u>Consistent.</u> The Project would develop the site in accordance with the Design Guidelines established in Chapter 4 of The Park @ Live Oak Specific Plan, which include comprehensive architectural and landscape standards and development criteria</p>



GENERAL PLAN POLICY	SPECIFIC PLAN CONSISTENCY
of the commercial and industrial design guidelines.	that provide for an attractive, contemporary business park. As such, the Project would be consistent with this policy.
<u>CDE Policy 14:</u> The City of Irwindale will continue to promote property maintenance in all areas of the City.	<u>Consistent.</u> The Park @ Live Oak defines the entities responsible for maintenance of the proposed publicly and privately-owned improvements within the Specific Plan, including roadways and utility infrastructure (refer to Section 5 and Table 5-2 of The Park @ Live Oak Specific Plan). Compliance with The Park @ Live Oak Specific Plan’s maintenance program would ensure that all improvements within the Specific Plan area would be properly and perpetually maintained. As such, the Project would be consistent with this policy.
<u>CDE Policy 16:</u> The City of Irwindale will continue to work towards the development of streetscape, sign standards, and a Public Art Program.	<u>Consistent.</u> The Design Guidelines from Chapter 4 of The Park @ Live Oak Specific Plan establish comprehensive streetscape design standards for interior streets and along the Project site’s frontage with Arrow Highway and Live Oak Avenue. The Design Guidelines define the Project’s design theme and are intended to create a welcoming visual environment. In addition, the Design Guidelines include signage guidelines to provide for safe and efficient circulation of vehicle traffic, facilitate pedestrian travel, and identify building occupants. As such, the Project would be consistent with this policy.
<u>CDE Policy 17:</u> The City of Irwindale will continue to encourage a balance of commercial uses to avoid an overconcentration of uses to best serve the residents, employee population, and business community.	<u>Consistent.</u> This Project would include a variety of market-driven commercial uses to service nearby residents, employees, visitors to the area, and travelers on I-605 freeway. The range of land uses permitted by The Park @ Live Oak Specific Plan provide a mix of uses to take advantage of proximity to transportation corridors and serve the surround community and region. The proposed Industrial/Business Park land uses would provide patrons for the Commercial/Industrial and commercial land uses and complement the mix of existing and planned uses proximate to the Project Area. As such, the Project would be consistent with this policy.
INFRASTRUCTURE ELEMENT (IE)	
<i>Issue Area – Maintenance of Service Standards: City of Irwindale will continue to maintain the highest levels of public service to respond to the existing and future demand for such services.</i>	
<u>IE Policy 1:</u> The City will continue to support the efforts of the City of Irwindale Public Works Department in maintaining the highest service standards feasible. <u>IE Policy 2:</u> The City will continue to cooperate with those utility providers in the City to ensure	<u>Consistent.</u> The Project would improve roadways and public utilities/infrastructure in a logical sequence in conjunction with future development of The Park @ Live Oak Specific Plan and as required by the City of Irwindale and applicable public service providers. Improvements would be provided as necessary to serve the Project site while maintaining adequate service levels for existing and surrounding land uses. Chapter



GENERAL PLAN POLICY	SPECIFIC PLAN CONSISTENCY
<p>that sufficient infrastructure capacity is available to meet current and future service demands.</p>	<p>2, <i>Development Plan</i>, of The Park @ Live Oak Specific Plan includes plans for water, sewer, storm water, and dry utilities. As such, the Project would be consistent with these policies.</p>
<p><i>Issue Area – Traffic and Circulation: The City of Irwindale will strive to improve safe and efficient circulation in the City.</i></p>	
<p><u>IE Policy 3:</u> The City of Irwindale will continue to develop and enhance the existing streets and intersections in the City.</p> <p><u>IE Policy 4:</u> The City of Irwindale will strive to ensure that all new development implements its “fair-share” of infrastructure improvements to offset the potential adverse impacts associated with the additional traffic that will be generated by the new development.</p>	<p><u>Consistent.</u> The Park @ Live Oak Specific Plan proposes roadway and sidewalk/parkway improvements to facilitate efficient vehicular and non-vehicular transportation through and around the Project Area. Frontage improvements would occur along the Project’s frontages with the north side of Live Oak Avenue and south side of Arrow Highway. As described in EIR Subsection 4.11, <i>Transportation</i>, the Project would be required to make certain roadway improvements and pay fair share contributions fees to mitigate Project-related direct and cumulative traffic impacts to the extent feasible. As such, the Project would be consistent with these policies.</p>
RESOURCE MANAGEMENT ELEMENT (RME)	
<p><i>Issue Area – Natural Resources. The City of Irwindale will continue to cooperate in the maintenance and conservation of the area’s natural resources.</i></p>	
<p><u>RME Policy 1:</u> The City of Irwindale will continue to work with the quarries and other regulatory agencies to facilitate their reclamation.</p> <p><u>RME Policy 3:</u> The City of Irwindale will work with the quarry owners and/or operators and regulatory agencies to help facilitate their timely reclamation.</p>	<p><u>Consistent.</u> The Park @ Live Oak Specific Plan addresses proposed development activities on the Project site following the completion of reclamation activities for the former quarry. As such, with implementation of the Project, the former quarry site would transition to a productive and economically beneficial end use for the City of Irwindale. Thus, the Project would be consistent with these policies.</p>
<p><i>Issue Area – Resource Preservation. The City of Irwindale will maintain and preserve those natural and man-made amenities that contribute to the City’s livability.</i></p>	
<p><u>RME Policy 11:</u> The City of Irwindale supports the ethic of conservation of non-renewable resources. This includes efforts to reduce the use of energy (in any form), greenhouse gas (GHG) emissions (consistent with AB 32) and efforts to find new and more energy efficient methods for delivering services. The City supports the development of building standards that enable the community to design energy saving features such as solar energy systems, water efficient landscaping, and sustainable, green, and energy efficient building standards.</p>	<p><u>Consistent.</u> The Park @ Live Oak Specific Plan would develop the Project site with industrial and commercial business park land uses near a major transportation corridor (I-605), thus reducing vehicle miles traveled as associated GHG emissions by limiting travel on local roads. Additionally, implementing development within the Specific Plan would be required to comply with the California Green Building Standards Code (CALGreen) and incorporate additional sustainable design features that minimize water use and maximize energy efficiency. Refer to the Project’s design features noted in the proposed Specific Plan and the mitigation measures recommended in EIR Subsection 4.2, <i>Air Quality</i>, and 4.5, <i>Greenhouse Gas Emissions</i>. Further, through redevelopment of a former quarry site that has been depleted of recoverable</p>



GENERAL PLAN POLICY	SPECIFIC PLAN CONSISTENCY
	mineral resources to a productive employment-generating end use, the Project would be consistent with this policy.
<p><i>Issue Area – Mining and Reclamation. The following policies focus on those City policy actions that can be taken to improve environmental compliance, reclamation planning, and long-term economic improvement of the mines and quarries (inactive, active, and reclaimed) in Irwindale.</i></p>	
<p>RME Policy 19: The City of Irwindale will consider environmental justice issues as they are related to potential health impact associated with air pollution and ensure that all land use decisions, including enforcement actions, are made in an equitable fashion to protect residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location from the health effects of air pollution.</p>	<p>Consistent. The Park @ Live Oak Specific Plan provides an industrial/commercial business park that capitalizes on the property’s location north of Live Oak Avenue, south of Arrow Highway, and west of the I-605 freeway and on- and off-ramps. The Project would complement existing and planned surrounding land uses in the City of Irwindale and adjacent cities. The Park @ Live Oak Specific Plan is located in an area of Irwindale that is already developed as an industrial/commercial area, containing landfills, distribution warehousing, e-commerce, and light industrial land uses. As described in EIR Subsection 4.2, <i>Air Quality</i>, the long-term operation of the Project would not directly cause or contribute in a cumulatively considerable manner to the exposure of the Toxic Air Contaminant emissions to the maximally exposed residence, individual worker, and/or school child. Accordingly, the Project would be consistent with this policy.</p>
<p>PUBLIC SAFETY ELEMENT (PSE)</p>	
<p><i>Issue Area – Emergency Preparedness. The City of Irwindale will strive to maintain the highest levels of readiness to respond to disasters or local emergencies.</i></p>	
<p>PSE Policy 3: The City of Irwindale will work to reduce potential hazards through conscientious land use planning. The City shall require liquefaction assessment studies as part of development proposals in areas identified by the California Geological Survey as susceptible to liquefaction. The studies shall be conducted in accordance with the California Geological Survey’s Special Publication 117; Guidelines for Evaluating and Mitigating Seismic Hazards in California, and the Southern California Earthquake Center’s (1999) procedures to implement Special Publication 117 – Liquefaction Hazards (both documents are incorporated herein by reference). On sites shown to be susceptible to liquefaction, the City shall require the implementation of mitigation measures designed to reduce this hazard to an acceptable level. The City shall require a State certified engineering geologist or registered civil engineer; having competence in the field of seismic hazard evaluation and mitigation, to review the study at the</p>	<p>Consistent. As described in EIR Subsection 4.4, <i>Geology and Soils</i>, the potential for liquefaction in the Project area is considered low. Additionally, the Project site is not depicted as being located within a zone designated by the state geologist as being susceptible to soil liquefaction; therefore, the potential for liquefaction to occur along the margins of the Project site that contain native materials is also considered low. Notwithstanding, the Project’s improvements are required to be designed and constructed in accordance with the latest applicable seismic safety guidelines, including the standard requirements of the CBSC and City of Irwindale Municipal Code. Furthermore, the Project would be required to comply with the site-specific grading and construction recommendations contained within the Project’s geotechnical report, which the City would impose as conditions of Project approval, to further reduce the risk of seismic-related ground failure due to liquefaction. Lastly, although it has been determined that implementation of the proposed Project would result in a potentially significant impact as a result of seismically-induced settlement on the site margins (within the native materials and above the areas of the former quarry slopes and westerly area) of the Project site, mitigation measures are specified in EIR Subsection 4.5, <i>Geology and Soils</i>, to reduce</p>



GENERAL PLAN POLICY	SPECIFIC PLAN CONSISTENCY
<p>Applicant’s expense. The review shall determine the adequacy of the hazard evaluation and proposed mitigation measures and determine whether the requirements of State law are satisfied, as described in Special Publication 117 by the California Geological Survey.</p>	<p>impacts to less than significant. Accordingly, the Project would be consistent with this policy.</p>
<p><i>Issue Area – Noise: The City of Irwindale will work to reduce the high levels of noise exposure associated with the existing development and transportation facilities in the City.</i></p>	
<p>PSE Policy 5: The City of Irwindale will work towards reducing noise exposure in the City by considering noise and land use compatibility in land use planning.</p>	<p>Consistent. The Park @ Live Oak Specific Plan provides an industrial/commercial business park that capitalizes on the property’s location north of Live Oak Avenue, south of Arrow Highway, and west of the I-605 freeway and on- and off-ramps. The Project would complement existing and planned surrounding land uses in the City of Irwindale and adjacent cities. The Park @ Live Oak Specific Plan is located in an area of Irwindale that is already developed as an industrial/commercial area, containing landfills, distribution warehousing, e-commerce, and light industrial land uses. As described in EIR Subsection 4.9, <i>Noise</i>, noise generated by Project construction activities would result in a less-than-significant increase in ambient noise levels. During long-term operation of the Project, the Project would not expose persons to or generate noise levels in excess of local standards and would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Additionally, under long-term operation, Project-related traffic would not expose persons to or generate noise levels in excess of local standards and would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Accordingly, the Project would be consistent with this policy.</p>

2. City of Irwindale Zoning Code

As discussed above in Subsection 4.8.1B.2, the City of Irwindale Zoning Code is contained within Title 17 of the City of Irwindale Municipal Code, and establishes specific standards for the use and development of all properties located within the City by regulating land uses, development intensity, including limits on building setbacks, landscaping standards, and building heights. As shown in Figure 2-5, *Existing Zoning Designations*, the zoning designations applicable to the Project site under existing conditions include Quarry Overlay Zone (Q) on the westerly portion of the site and Heavy Manufacturing (M-2) on the easterly portion of the site.

As shown on Figure 3-9, *Existing and Proposed Zoning Designations*, the Project proposes Zone Change No. 01-2017 to change the existing zoning designations applicable to the Project site from Q



and M-2 to “The Park @ Live Oak Specific Plan Zone.” The application of The Park @ Live Oak Specific Plan Zone would allow for the Project to be developed in accordance with Section 3, *Development Standards*, of The Park @ Live Oak Specific Plan, which would constitute the zoning regulations applicable to any future development within the Project site. The City’s approval and implementation of Zone Change No. 01-2017 would ensure the Project would be consistent with the proposed zoning regulations as identified in Section 3, *Development Standards*, of The Park @ Live Oak Specific Plan. Inconsistency with the site’s existing zoning designations does not constitute a significant environmental impact in itself, because it does not imply a physical impact to the environment. Potential environmental impacts resulting from the Project are discussed in the respective EIR Subsections. Based on the foregoing, the Project would have a less-than-significant impact with respect to a conflict with the City of Irwindale Zoning Code.

3. SCAG RCP and RTP/SCS

SCAG’s 2008 RCP and 2016-2040 RTP/SCS are the applicable SCAG planning documents that apply to the proposed Project. The RCP identifies voluntary best practices to approach growth and infrastructure challenges in an integrated and comprehensive way. The RTP/SCS goals are meant to provide guidance for considering proposed projects for municipalities throughout the SCAG jurisdictional area within the context of regional goals and policies. As shown in Table 4.8-2, *Analysis of Consistency with SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy Goals*, implementation of the proposed Project would not result in an inconsistency with the adopted RTP/SCS. Accordingly, a less-than-significant impact would occur.

Table 4.8-2 Analysis of Consistency with SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy Goals

2016 RTP/SCS GOAL	GOAL STATEMENT	PROJECT CONSISTENCY DISCUSSION
G1	Align the plan investments and policies with improving regional economic development and competitiveness.	<u>No inconsistency identified.</u> This policy would be implemented by cities and the counties within the SCAG region as part of comprehensive local and regional planning efforts.
G2	Maximize mobility and accessibility for all people and goods in the region.	<u>No inconsistency identified.</u> The Project site is located approximately 27.7 miles from the Ports of LA/Long Beach. As such, development of the site with logistics warehouse buildings would efficiently facilitate the regional movement of goods from their arrival into the United States at the Ports, to their delivery to the end consumers. EIR Section 4.11, <i>Transportation</i> , evaluates Project-related traffic impacts and specifies the mitigation measures that would be imposed to ensure that roadway and intersection improvements needed to accommodate Project traffic volumes are implemented concurrent with proposed development. Trucks accessing the Project site would be required to travel on



		designated truck routes in the City of Irwindale (and surrounding jurisdictions) to ultimately reach the state highway system to facilitate goods movement throughout the region.
G3	Ensure travel safety and reliability for all people and goods in the region.	<u>No inconsistency identified.</u> As disclosed in Threshold d in EIR Section 4.11, <i>Transportation</i> , there is no component of the Project that would result in a substantial safety hazard to motorists. Furthermore, EIR Section 4.11 specifies specific mitigation measures that would be implemented by the Project to ensure that the roadway and intersection improvements meet safety standards and operate as efficiently as possible.
G4	Preserve and ensure a sustainable regional transportation system.	<u>No inconsistency identified.</u> This policy would be implemented by cities and the counties within the SCAG region as part of the overall planning and maintenance of the regional transportation system. The Project would have no adverse effect on such planning or maintenance efforts.
G5	Maximize the productivity of our transportation system.	<u>No inconsistency identified.</u> This policy would be implemented by cities and the counties within the SCAG region as part of the overall planning and maintenance of the regional transportation system. The Project would have no adverse effect on such planning or maintenance efforts.
G6	Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	<u>No inconsistency identified.</u> An analysis of the Project's environmental impacts is provided throughout this EIR and mitigation measures are specified where warranted. Air quality is addressed in EIR Section 4.2, <i>Air Quality</i> , and mitigation measures are recommended to reduce, to the extent feasible, the Project's air quality impacts. Additionally, and as discussed in EIR Section 4.5, <i>Greenhouse Gas Emissions</i> , the Project would incorporate measures related to building design, landscaping, and energy systems to promote the efficient use of energy.
G7	Actively encourage and create incentives for energy efficiency, where possible.	<u>No inconsistency identified.</u> This policy provides guidance to City staff to establish local incentive programs to encourage and promote energy efficient development. Additionally, and as discussed in EIR Subsection 4.5, <i>Greenhouse Gas Emissions</i> , the Project would incorporate various measures related to building design, landscaping, and energy systems to promote the efficient use of energy.
G8	Encourage land use and growth patterns that facilitate transit and active transportation.	<u>No inconsistency identified.</u> This policy provides guidance to City staff to establish a local land use plan that facilitates the use of transit and non-motorized forms of transportation.



G9	Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies (SCAG does not yet have an agreed upon security/performance measure.	<u>No inconsistency identified.</u> This policy provides guidance to City staff to monitor the transportation network and to continue to coordinate with other agencies as appropriate.
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(SCAG, 2016a)

Furthermore, there are no adopted, approved, or proposed Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or State habitat conservation plans that are applicable to the Project site or vicinity (CDFW, 2017). As such, the proposed Project has no potential to conflict with any applicable habitat conservation plan or natural community conservation plan, because no such applicable plans exist.

4.8.4 CUMULATIVE IMPACT ANALYSIS

Since the focus of this EIR Subsection is on the Project’s consistency with plans and policies, there is no interactive effect on such issues with other pending development projects in the City of Irwindale or surrounding areas, including all of the cumulative projects listed in Table 4.0-1, *Cumulative Development Projects*. As discussed in the responses to Thresholds a and b above, the Project would result in less-than-significant impacts regarding the topic of Land Use and Planning. As such, there is no potential for the Project to contribute to any cumulatively significant impacts under the topic of Land Use and Planning.

4.8.5 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: No Impact. The Project would not result in the physical division of an established community. Accordingly, no impact would occur.

Threshold b: Less-than-Significant Impact. The Project would be consistent with the applicable policies of the City of Irwindale General Plan intended to address adverse environmental effects. Although the Project would not implement the current zoning designations applicable to the Project site (Q and M-2), the Project’s proposed Change of Zone would apply “The Park @ Live Oak Specific Plan Zone” to the entire site to allow for the Project site to be developed in accordance with Section 3, *Development Standards*, of The Park @ Live Oak Specific Plan. The proposed zoning standards would not create any new or more severe environmental effects than would the property’s existing Q and M-2 zoning standards. The Project also would be consistent with the applicable policies of the SCAG 2016-2040 RTP/SCS. The proposed Project has no potential to conflict with any applicable habitat conservation plan or natural community conservation plan, because no such applicable plans exist. Therefore, a less-than-significant impact would occur.

4.8.6 MITIGATION

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



4.9 NOISE

This following analysis is based on a technical noise study prepared by Urban Crossroads, Inc. entitled “The Park at Live Oak Noise Impact Analysis” dated May 23, 2018 and included as *Technical Appendix H* to this EIR (Urban Crossroads, Inc., 2018e). The report considers potential noise impacts associated with construction and operation of the proposed Project.

4.9.1 EXISTING CONDITIONS

A. Noise Fundamentals

Following is a general discussion about the definition of noise, how humans typically perceive and react to noise, and how noise levels propagate from their source to a receiver. Also presented is general information about ground borne vibration.

1. Noise Definitions

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the “average” noise levels within the environment. (Urban Crossroads, Inc., 2018e, p. 10)

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing 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 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 L_{eq} 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 of Irwindale relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources. (Urban Crossroads, Inc., 2018e, p. 10)

2. Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

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. (Urban Crossroads, Inc., 2018e, p. 10)

☐ **Ground Absorption**

The propagation path of noise from a highway to a receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. 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., those 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. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (Urban Crossroads, Inc., 2018e, pp. 10-11)

☐ **Atmospheric Effects**

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (Urban Crossroads, Inc., 2018e, p. 11)

☐ **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. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. The noise analysis conducted in *Technical Appendix H* and evaluated in this EIR also does not consider the planting of vegetation to be a noise abatement measure. (Urban Crossroads, Inc., 2018e, p. 11)



3. *Human Response to Noise*

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another 25 percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B of the Project's Noise Impact Analysis (EIR *Technical Appendix H*). An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (Urban Crossroads, Inc., 2018e, p. 12)

4. *Vibration*

Per the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations 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. (Urban Crossroads, Inc., 2018e, p. 13)

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment. (Urban Crossroads, Inc., 2018e, p. 13)

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. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C of the Project's Noise Impact Analysis (EIR *Technical Appendix H*) illustrates common vibration sources and the human and structural response to ground-borne vibration. (Urban Crossroads, Inc., 2018e, p. 13)

B. Existing Noise Conditions

To assess the existing noise level environment, eight (8) individual 24-hour noise level measurements were taken at receiver locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Figure 4.9-1, *Noise Measurement Locations*, provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Thursday, August 24th, 2017 at the closest sensitive receiver locations and non-noise-sensitive receiver locations. Appendix 5.1 of the Project's Noise Impact Analysis (EIR *Technical Appendix H*) includes study area photos. (Urban Crossroads, Inc., 2018e, p. 25)

The results of the noise level measurements are presented in Table 4.9-1, *Existing Ambient Noise Level measurements*, and are summarized below. The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 of the Project's Noise Impact Analysis (EIR *Technical Appendix H*) provides a summary of the existing hourly ambient noise levels described below (Urban Crossroads, Inc., 2018e, p. 26):

- **Location L1**: Represents the noise levels on Longden Avenue adjacent to Longden Avenue Park, Plymouth Elementary School, and existing residential homes approximately 4,900 feet west of the Project site. The noise level measurements collected show an overall 24-hour exterior noise level of 70.5 dBA CNEL. The hourly noise levels measured at location L1 ranged from 63.0 to 69.4 dBA L_{eq} during the daytime hours and from 51.0 to 69.6 dBA L_{eq} during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 66.3 dBA L_{eq} with an average nighttime noise level of 63.3 dBA L_{eq} . (Urban Crossroads, Inc., 2018e, p. 26)
- **Location L2**: Represents the noise levels on Meridian Street near existing residential homes and industrial uses located approximately 2,800 feet north of the Project site. The noise level measurements collected show an overall 24-hour exterior noise level of 70.6 dBA CNEL. The hourly noise levels measured at location L2 ranged from 61.8 to 70.4 dBA L_{eq} during the daytime hours and from 52.4 to 66.4 dBA L_{eq} during the nighttime hours. The energy

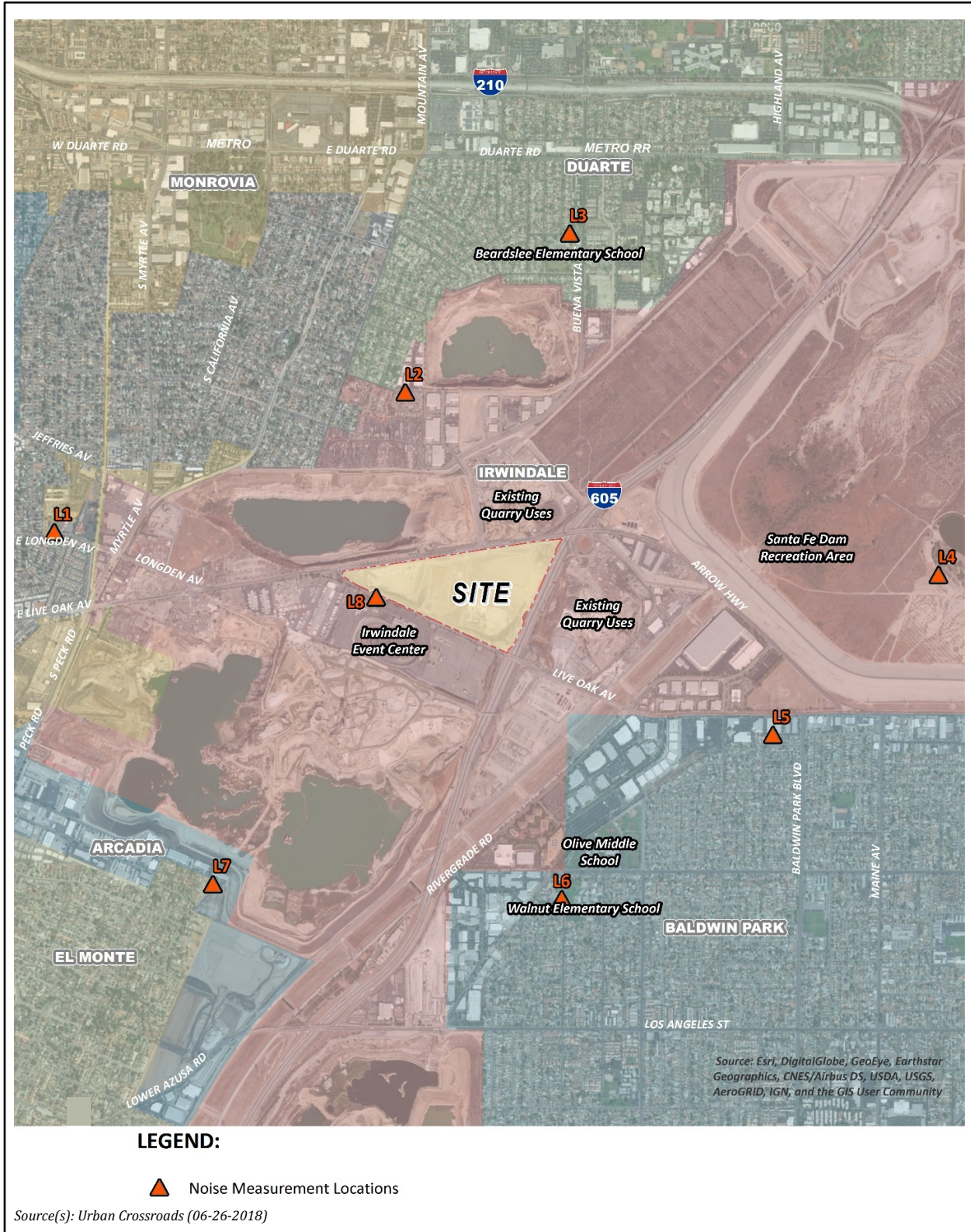
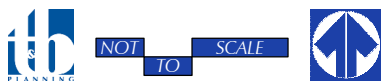


Figure 4.9-1



NOISE MEASUREMENT LOCATIONS



Table 4.9-1 Existing Ambient Noise Level measurements

Location ¹	Distance to Project Boundary (Feet)	Description	Energy Average Noise Level (dBA L _{eq}) ²		CNEL
			Daytime	Nighttime	
L1	4,900'	Located on Longden Avenue west of the Project adjacent to Longden Avenue Park, Plymouth Elementary School, and existing residential homes.	66.3	63.3	70.5
L2	2,800'	Located north of the Project site on Meridian Street near existing residential homes and industrial uses.	67.2	62.9	70.6
L3	5,125'	Located north of the Project site on Kellwill Way near existing residential homes and Beardslee Elementary School.	55.3	51.0	58.6
L4	6,330'	Located in the Santa Fe Dam Recreation Area east of the Project site.	51.8	43.0	52.6
L5	5,000'	Located southeast of the Project adjacent to existing industrial uses on Live Oak Avenue and nearby residential homes.	56.1	53.3	60.5
L6	4,230'	Located south of the Project site near Walnut Elementary School, existing residential homes, and Olive Middle School.	56.3	54.7	61.6
L7	5,575'	Located southwest of the Project site near existing residential homes on Durfee Avenue.	53.2	49.5	57.0
L8	60'	Located south of the Project site on Live Oak Avenue near the Irwindale Event Center and existing industrial uses.	80.1	76.4	83.8

¹ See Exhibit 5-A for the noise level measurement locations.

² Energy (logarithmic) average hourly levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Source: (Urban Crossroads, Inc., 2018e, Table 5-1)

(logarithmic) average daytime noise level was calculated at 67.2 dBA L_{eq} with an average nighttime noise level of 62.9 dBA L_{eq}. (Urban Crossroads, Inc., 2018e, p. 26)

Location L2 was selected based on conditions in the field to represent the residential uses north of the Project site. Due to the long-term nature of the measurements (a minimum 24 hours), a secure location was selected at a greater distance from the Project site than that of residential homes located at closer distances (e.g., homes on Van Meter Street). Further, all measurement locations were selected consistent with the FTA and Caltrans guidance, as described in Section 5.2 of the Project's Noise Impact Analysis (EIR *Technical Appendix H* above. (Urban Crossroads, Inc., 2018e, p. 26)



- Location L3: Represents the noise levels on Kellwill Way near existing residential homes and Beardslee Elementary School located approximately 5,125 feet north of the Project site. The 24-hour CNEL indicates that the overall exterior noise level is 58.6 dBA CNEL. At location L3, the background ambient noise levels ranged from 49.3 to 57.6 dBA L_{eq} during the daytime hours to levels of 44.9 to 56.0 dBA L_{eq} during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 55.3 dBA L_{eq} with an average nighttime noise level of 51.0 dBA L_{eq} . (Urban Crossroads, Inc., 2018e, p. 26)
- Location L4: Represents the noise levels in the Santa Fe Dam Recreation Area located approximately 6,330 feet east of the Project site. The noise level measurements collected show an overall 24-hour exterior noise level of 52.6 dBA CNEL. The hourly noise levels measured at location L4 ranged from 43.9 to 58.6 dBA L_{eq} during the daytime hours and from 37.4 to 47.9 dBA L_{eq} during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 51.8 dBA L_{eq} with an average nighttime noise level of 43.0 dBA L_{eq} . (Urban Crossroads, Inc., 2018e, p. 26)
- Location L5: Represents the noise levels adjacent to existing industrial uses on Live Oak Avenue and nearby residential homes located approximately 5,000 feet southeast of the Project. The noise level measurements collected show an overall 24-hour exterior noise level of 60.5 dBA CNEL. The hourly noise levels measured at location L5 ranged from 52.0 to 58.9 dBA L_{eq} during the daytime hours and from 49.4 to 58.4 dBA L_{eq} during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 56.1 dBA L_{eq} with an average nighttime noise level of 53.3 dBA L_{eq} . (Urban Crossroads, Inc., 2018e, p. 27)
- Location L6: Represents the noise levels near Walnut Elementary School, existing residential homes, and Olive Middle School approximately 4,230 feet south of the Project site. The noise level measurements collected show an overall 24-hour exterior noise level of 61.6 dBA CNEL. The hourly noise levels measured at location L6 ranged from 52.6 to 59.6 dBA L_{eq} during the daytime hours and from 50.7 to 58.0 dBA L_{eq} during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 56.3 dBA L_{eq} with an average nighttime noise level of 54.7 dBA L_{eq} . (Urban Crossroads, Inc., 2018e, p. 27)
- Location L7: Represents the noise levels near existing residential homes on Durfee Avenue approximately 5,575 feet southwest of the Project site. The noise level measurements collected show an overall 24-hour exterior noise level of 57.0 dBA CNEL. The hourly noise levels measured at location L7 ranged from 49.6 to 55.5 dBA L_{eq} during the daytime hours and from 40.7 to 53.7 dBA L_{eq} during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 53.2 dBA L_{eq} with an average nighttime noise level of 49.5 dBA L_{eq} . (Urban Crossroads, Inc., 2018e, p. 27)
- Location L8: Represents the noise levels on Live Oak Avenue near the Irwindale Event Center and existing industrial uses approximately 60 feet south of the Project site. The noise level



measurements collected show an overall 24-hour exterior noise level of 83.8 dBA CNEL. The hourly noise levels measured at location L8 ranged from 75.7 to 82.3 dBA L_{eq} during the daytime hours and from 71.3 to 80.0 dBA L_{eq} during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 80.1 dBA L_{eq} with an average nighttime noise level of 76.4 dBA L_{eq} . (Urban Crossroads, Inc., 2018e, p. 27)

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with the arterial roadway network and stationary-source noise associated with existing quarry and industrial uses. Further, the Project site currently operates as an Inert Debris Engineered Fill Operation (IDEFO) and generates existing noise levels associated with this use under existing conditions. The 24-hour existing noise level measurements shown on Table 4.9-1, *Existing Ambient Noise Level measurements*, present the existing ambient noise conditions. (Urban Crossroads, Inc., 2018e, p. 27)

C. Applicable Environmental Regulations

The following is a brief description of the State, and local environmental laws and related regulations governing noise. Local noise guidelines are often based on the broader guidelines established by the State of California. Because the Project's local road traffic distribution (and associated vehicular noise) is projected to route through the cities of Irwindale, Duarte, Baldwin Park, El Monte, and Monrovia, the noise criteria for all of these cities are presented.

1. Federal Regulations

There are no applicable federal regulations related to the issue of noise.

2. State Regulations

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 per guidelines adopted by the Governor's Office of Planning and Research (OPR). The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. In addition, CEQA requires that all known environmental effects of a project be analyzed, including environmental noise impacts. (Urban Crossroads, Inc., 2018e, p. 15)

State of California Green Building Standards Code

The 2016 State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the



combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available, and the noise level exceeds 65 dBA L_{eq} for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1). (Urban Crossroads, Inc., 2018e, p. 15)

3. *Regional Regulations*

There are no applicable regional regulations related to the issue of noise.

4. *Local Regulations*

Los Angeles County Municipal Code

The cities of Irwindale, Duarte, Baldwin Park, El Monte, and Monrovia General Plans and Municipal Codes do not identify specific vibration level standards. Therefore, the Project's Noise Impact Analysis (EIR *Technical Appendix H*) utilized the vibration perception threshold of 0.01 in/sec RMS established in Section 12.08.350 of the Los Angeles County Code to assess the Project's potential construction-related impacts at nearby sensitive receiver locations. (Urban Crossroads, Inc., 2018e, p. 19)

General Plan Noise Elements for Cities of Irwindale, Duarte, Baldwin Park, El Monte, and Monrovia

The Public Safety Element of the City of Irwindale General Plan identifies noise compatibility criteria consistent with OPR guidelines. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. (Urban Crossroads, Inc., 2018e, p. 15) The guidelines included in the General Plan Noise Element consider land use compatibility and identify exterior noise level compatibility criteria for transportation related noise. The Noise and Land Use Compatibility criteria provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. (Urban Crossroads, Inc., 2018e, p. 16)

Per the City of Irwindale's Noise and Land Use Compatibility criteria, noise-sensitive land uses such as residential uses are normally acceptable with exterior noise levels below 60 dBA CNEL and conditionally acceptable with noise levels approaching 70 dBA CNEL. Industrial uses, such as the proposed Project, are conditionally acceptable with exterior noise levels between 67 to 78 dBA CNEL and normally unacceptable with exterior noise levels above 75 dBA CNEL. For the purposes of this noise study, industrial land uses are considered normally acceptable land use with exterior noise levels below 70 dBA CNEL, consistent with the adjacent jurisdictional compatibility criteria of the General Plans for the nearby cities of Duarte, Baldwin Park, El Monte, and Monrovia. (Urban Crossroads, Inc., 2018e, p. 16)



□ **City of Irwindale Municipal Code**

The City of Irwindale Municipal Code, Title 9, Chapter 9.28, contains the City’s Noise Regulations and states it is “the policy of the city to prohibit unnecessary, excessive and annoying noises from all sources subject to its police power and contrary to the public interest. At certain levels noises are detrimental to the health and welfare of the citizenry and in the public interest shall be systematically proscribed” (City of Irwindale, 2018, Chapter 9.28). The City of Irwindale has set restrictions to control noise impacts associated with the construction of the proposed Project. Irwindale Municipal Code, Section 9.28.110, indicates that construction activity cannot constitute a violation of Section 9.28.040 unless authorized by a building inspector. Section 9.28.040 of the Irwindale Municipal Code identifies exterior noise level thresholds that are applicable to the Project’s construction activities, which is also consistent with the construction noise level limits established in Section 112.02 of the City of Los Angeles Municipal Code. (Urban Crossroads, Inc., 2018e, pp. 16-18)

To analyze noise impacts originating from a designated fixed location (i.e., the Project site), stationary-source (operational) noise such as the expected idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, refrigerated containers or reefers, roof-top air conditioning units, drive-through speakerphones, parking lot vehicle movements, and gas station activity were evaluated against applicable standards established within Section 9.28.030 of the Irwindale Municipal Code. (Urban Crossroads, Inc., 2018e, p. 16)

□ **Cities of Duarte, Baldwin Park, El Monte, and Monrovia Municipal Codes**

In addition to the applicable sections of the Irwindale Municipal Code discussed above, the Project’s Noise Impact Analysis (EIR *Technical Appendix H*) also utilized applicable operational noise standards from the municipal codes of the cities of Duarte, Baldwin Park, El Monte, and Monrovia to determine the potential operations-related noise impacts at noise receivers within each respective jurisdiction. Refer to *Technical Appendix H* for more information. (Urban Crossroads, Inc., 2018e, p. 18)

4.9.2 METHODOLOGY FOR CALCULATING PROJECT-RELATED NOISE IMPACTS

Following is a description of the methods and procedures used to model and analyze the future noise environment. Eleven (11) receiver locations were analyzed to assess the potential for long-term operational and short-term construction noise impacts, which are representative of all off-site properties that could experience measurable noise effects from the proposed Project. Receiver locations located farther from the Project site than the 11 analyzed locations would experience lower Project-related noise levels, because noise levels drop as distance from the noise source increases. The following 11 receiver locations as shown on Figure 4.9-2, *Receiver Locations*, were identified as representative sensitive receiver locations for focused analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include: schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and

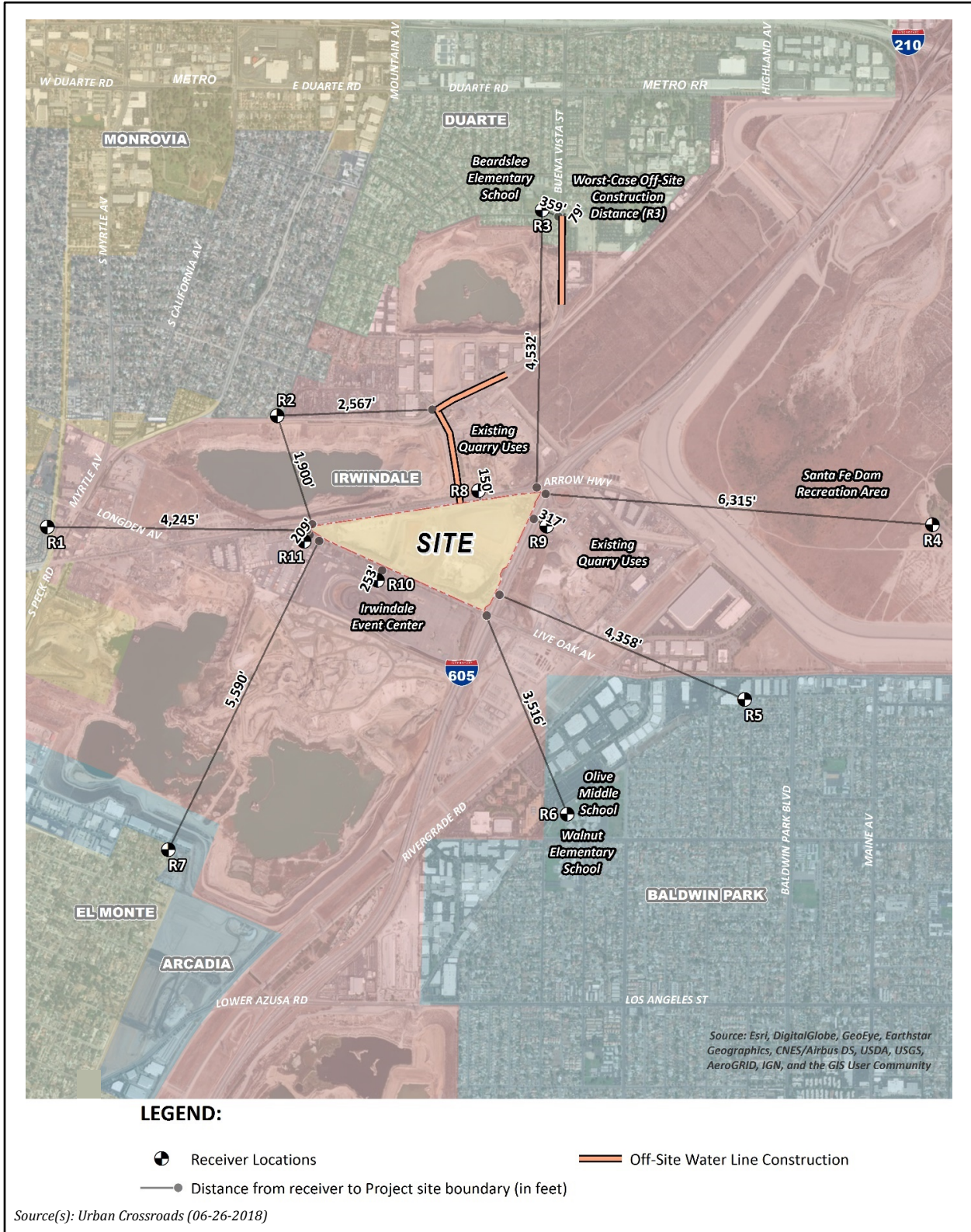
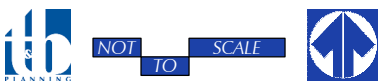


Figure 4.9-2



RECEIVER LOCATIONS



equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, quarry, utilities, agriculture, natural open space, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. (Urban Crossroads, Inc., 2018e, p. 55)

Sensitive receivers in the Project study area include existing residential homes and school uses, as described below, at receiver locations R1 to R7. Non-noise-sensitive receiver locations are identified below, at locations R8 to R11, to evaluate potential impacts related to the applicable operational and construction noise level standards within each respective jurisdiction (discussed below in EIR Subsection 4.9.3). Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. (Urban Crossroads, Inc., 2018e, p. 55)

- R1: Located approximately 4,245 feet west of the Project site, R1 represents an existing residential community north of Arrow Highway/Live Oak Avenue. A 24-hour noise level measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents existing residential homes located approximately 1,900 feet north of the Project site. A 24-hour noise level measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents an existing residential homes and Beardslee Elementary School located roughly 4,532 feet north of the Project site. A 24-hour noise level measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R4: Location R4 represents the existing Santa Fe Dam Recreation Area located roughly 6,315 feet east of the Project site. A 24-hour noise level measurement was taken near this location, L4, to describe the existing ambient noise environment.
- R5: Location R5 represents existing residential homes located roughly 4,358 feet southeast of the Project site, south of Live Oak Avenue. A 24-hour noise level measurement was taken east of this location, L5, to describe the existing ambient noise environment.
- R6: Location R6 represents Olive Middle School, Walnut Elementary School, and existing residential homes located approximately 3,516 feet southeast of the Project site. A 24-hour noise level measurement was taken near this location, L6, to describe the existing ambient noise environment.
- R7: Located approximately 5,590 feet south of the Project site, R7 represents existing residential homes. A 24-hour noise level measurement was taken near this location, L7, to describe the existing ambient noise environment.



- R8: Location R8 represents existing quarry uses north of the Project site at roughly 150 feet across Arrow Highway. The 24-hour noise level measurement at location L8 is used to describe the existing ambient noise environment at this receiver location.
- R9: Location R9 represents existing quarry uses located roughly 317 feet east of the Project site across I-605. The 24-hour noise level measurement at location L8 is used to describe the existing ambient noise environment at this receiver location.
- R10: Location R10 represents the Irwindale Event Center located approximately 253 feet south of the Project site. The 24-hour noise level measurement at location L8 is used to describe the existing ambient noise environment at this receiver location.
- R11: Located approximately 209 feet southwest of the Project site, R11 represents existing industrial uses, west of the Irwindale Event Center. The 24-hour noise level measurement at location L8 is used to describe the existing ambient noise environment at this receiver location.

(Urban Crossroads, Inc., 2018e, pp. 55-56)

A. Methodology for Calculating Project Construction Equipment Noise Levels

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to in excess of 80 dBA when measured at 50 feet. Hard site conditions are used in the construction noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source (i.e. construction equipment). For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver. The construction stages used in the Noise Impact Analysis (EIR *Technical Appendix H*) are consistent with the data used to support the calculation of the Project's construction emissions in the Project's Air Quality Impact Analysis (EIR *Technical Appendix B1*). (Urban Crossroads, Inc., 2018e, p. 69)

To describe the Project's construction noise levels, measurements were collected for similar activities at several construction sites. Table 4.9-2, *Construction Reference Noise Levels*, provides a summary of the construction reference noise level measurements utilized in the Project's Noise Impact Analysis. Since the reference noise levels were collected at varying distances, all construction noise level measurements presented on Table 4.9-2 have been adjusted to describe a common reference distance of 50 feet. (Urban Crossroads, Inc., 2018e, p. 69)



Table 4.9-2 Construction Reference Noise Levels

ID	Noise Source	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance (dBA Leq)	Reference Noise Levels @ 50 Feet (dBA Leq) ⁷
1	Truck Pass-Bys & Dozer Activity ¹	30'	63.6	59.2
2	Dozer Activity ¹	30'	68.6	64.2
3	Construction Vehicle Maintenance Activities ²	30'	71.9	67.5
4	Foundation Trenching ²	30'	72.6	68.2
5	Rough Grading Activities ²	30'	77.9	73.5
6	Residential Framing ³	30'	66.7	62.3
7	Water Truck Pass-By & Backup Alarm ⁴	30'	76.3	71.9
8	Dozer Pass-By ⁴	30'	84.0	79.6
9	Two Scrapers & Water Truck Pass-By ⁴	30'	83.4	79.0
10	Two Scrapers Pass-By ⁴	30'	83.7	79.3
11	Scraper, Water Truck, & Dozer Activity ⁴	30'	79.7	75.3
12	Concrete Mixer Truck Movements ⁵	50'	71.2	71.2
13	Concrete Paver Activities ⁵	30'	70.0	65.6
14	Concrete Mixer Pour & Paving Activities ⁵	30'	70.3	65.9
15	Concrete Mixer Backup Alarms & Air Brakes ⁵	50'	71.6	71.6
16	Concrete Mixer Pour Activities ⁵	50'	67.7	67.7
17	Forklift, Jackhammer, & Metal Truck Bed Loading	50'	67.9	67.9

¹ As measured by Urban Crossroads, Inc. on 10/14/15 at a business park construction site located at the northwest corner of Barranca Parkway and Alton Parkway in the City of Irvine.

² As measured by Urban Crossroads, Inc. on 10/20/15 at a construction site located in Rancho Mission Viejo.

³ As measured by Urban Crossroads, Inc. on 10/20/15 at a residential construction site located in Rancho Mission Viejo.

⁴ As measured by Urban Crossroads, Inc. on 10/30/15 during grading operations within a construction site located in the City of Ontario.

⁵ Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San Bernardino Avenue in the City of Redlands, between 1:00 a.m. to 2:00 a.m. on 7/1/15.

⁶ As measured by Urban Crossroads, Inc. on 9/9/16 during the demolition of an existing paved parking lot at 41 Corporate Park in Irvine.

⁷ Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).

Source: (Urban Crossroads, Inc., 2018e, Table 10-1)

B. Methodology for Calculating Project Operation Noise Levels

1. Reference Noise Level Measurements

To calculate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected to occur as a result of buildout of The Park @ Live Oak Specific Plan. This subsection provides a detailed description of the reference noise level measurements shown on Table 4.9-3, *Reference Noise Level Measurements*, used to calculate the Project’s operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment based on the mix of uses that would be permitted



on the Project site by The Park @ Live Oak Specific Plan, with idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, refrigerated containers or reefers, roof-top air conditioning units, drive-through speakerphones, parking lot vehicle movements, and gas station activity all operating continuously. In actuality, these operational noise level impacts would likely vary throughout the day; thus, the noise levels disclosed herein are likely overstated. (Urban Crossroads, Inc., 2018e, p. 59)

Table 4.9-3 Reference Noise Level Measurements

Noise Source	Duration (hh:mm:ss)	Ref. Distance (Feet)	Noise Source Height (Feet)	Hourly Activity (Mins) ⁶	Reference Noise Level (dBA Leq)	
					@ Ref. Dist.	@ 50 Feet
Truck Idle/Reefer Activity ¹	00:14:00	30'	8'	60	70.1	65.7
Roof-Top Air Conditioning Units ²	96:00:00	5'	25'	39	77.2	57.2
Drive-Through Speakerphone ³	02:00:00	15'	3'	60	62.0	51.5
Parking Lot Vehicle Movements ⁴	01:00:00	10'	5'	60	52.2	41.7
Gas Station Activity ⁵	00:03:00	5'	5'	60	68.2	48.2

¹ As measured by Urban Crossroads, Inc. on 1/7/2015 at the Nature's Best Distribution Facility in the City of Chino.

² As measured by Urban Crossroads, Inc. on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.

³ As measured by Urban Crossroads, Inc. on 12/19/2014 at the Panera Bread located at 423 Associated Road in the City of Brea.

⁴ As measured by Urban Crossroads, Inc. on 5/17/2017 at the Panasonic Avionics Corporation parking lot in the City of Lake Forest.

⁵ As measured by Urban Crossroads, Inc. on 4/26/2016 at the Quail Hill ARCO gas station in the City of Irvine.

⁶ Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site based on the reference noise level measurement activity.

Source: (Urban Crossroads, Inc., 2018e, Table 9-1)

Because the land uses within Planning Areas 1A, 2A, and 3A may vary in location at the time of actual Project operation, the Project's Noise Impact Analysis (EIR *Technical Appendix H*) assumed all noise sources, both industrial and commercial-use related, may operate at the closest point within the Project site to each nearby receiver location. Using this approach, a conservative analysis is presented herein which accounts for the Project's potential land use configurations previously shown on Figure 3-1, *The Park @ Live Oak Land Use Plan*. The subsequent subsections provide a discussion of each of the Project's potential sources of operational noise sources that were analyzed in the Project's Noise Impact Analysis (EIR *Technical Appendix H*). (Urban Crossroads, Inc., 2018e, p. 59)

Truck Idling, Loading/Unloading, Backup Alarms, and Refrigerated Containers

As shown on Table 4.9-3, on Wednesday, January 7, 2015, Urban Crossroads, Inc. collected short-term operational noise level measurements at the Nature's Best distribution facility located at 16081 Fern Avenue in the City of Chino. Operations at the Nature's Best distribution facility measurements represent the typical weekday logistics warehouse activities with both dry goods and cold storage from a single building, of approximately 397,000 square feet, with loading dock areas located on both sides of the building. To describe the loading dock activities, a reference noise level measurement was collected to represent the truck idling/reefer activity. A second reference noise level measurement at this location was collected to assess the entry gate noise source activity. (Urban Crossroads, Inc.,



2018e, p. 60) During the 14-minute truck idling/reefer activity reference noise level measurement, approximately 20 delivery trucks were docked, idling, or parked in the northern loading dock area. The truck idling/reefer activity reference noise level measurement was taken in the center of the loading dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 65.7 dBA L_{eq} at a uniform reference distance of 50 feet. (Urban Crossroads, Inc., 2018e, p. 60)

Roof-Top Air Conditioning Units

As shown on Table 4.9-3, to assess the impacts created by the roof-top air conditioning units at the Project buildings, reference noise levels measurements were taken at the Santee Walmart on Monday, July 27, 2015. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe a single mechanical roof-top air conditioning unit on the roof of an existing building. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At 5 feet from the roof-top air conditioning unit, the exterior noise levels were measured at 77.2 dBA L_{eq} . Using the uniform reference distance of 50 feet, the noise level is 57.2 dBA L_{eq} . The noise attenuation provided by a parapet wall is not reflected in this reference noise level measurement. (Urban Crossroads, Inc., 2018e, p. 60)

Drive-Through Speakerphone

As shown on Table 4.9-3, to describe the potential noise level impacts associated with a drive-through speakerphone and vehicle activities, a reference noise level measurement was collected on Friday, December 19, 2014 at a Panera Bread restaurant located at 423 South Associated Road in the City of Brea. The reference noise levels collected are expected to reflect potential drive-through speakerphone noise level activities at the Project site, since the reference measurement includes both drive-through speakerphone and vehicle activity noise. The noise sources included in the reference noise level measurement consist of employee voices over the speakerphone, customers' voices ordering food, car engines idling, car radios playing music, and cars queuing in the drive-through lane. At a uniform distance of 50 feet from the speakerphone, a reference noise level of 51.5 dBA L_{eq} was measured. This reference noise level measurement overstates the actual average noise levels since it represents the average of 28 speakerphone menu board ordering events observed over a two-hour period. In other words, the Panera Bread speakerphone menu board reference noise level describes continuous drive-through operations and does not include any periods of inactivity. (Urban Crossroads, Inc., 2018e, p. 61)

Parking Lot Vehicle Movements (Autos)

As shown on Table 4.9-3, to determine the noise levels associated with parking lot vehicle movements, Urban Crossroads collected reference noise level measurements over a 24-hour period on May 17, 2017 at the parking lot for the Panasonic Avionics Corporation in the City of Lake Forest. The peak hour of activity measured over the 24-hour noise level measurement period occurred between 12:00 p.m. to 1:00 p.m., or the typical lunch hour for employees working in the area. The measured reference noise level at 50 feet from parking lot vehicle movements was measured at 41.7 dBA L_{eq} . The parking



lot noise levels are mainly due to cars pulling in and out of spaces during peak lunch hour activity and employees talking. (Urban Crossroads, Inc., 2018e, p. 61)

Gas Station Activity

As shown on Table 4.9-3, to describe the potential noise level impacts created by a gas station, a reference noise level measurement was collected on Tuesday, April 26, 2016 at an ARCO gas station located at 6501 Quail Hill Parkway in the City of Irvine. The reference noise level measurement includes six cars fueling at once, car doors closing, engines starting, fuel pump TV sounds, and background car pass-by events within a 3-minute period. At a uniform reference distance of 50 feet from the gas station, a reference noise level of 48.2 dBA L_{eq} was measured. (Urban Crossroads, Inc., 2018e, p. 61)

Calculating Operational Noise Levels

Based upon the reference noise levels, it is possible to estimate the Project's operational stationary-source noise levels at each of the sensitive receiver locations. The operational noise level calculations disclosed below in EIR Subsection 4.9.4 account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source. The basic noise attenuation equation shown below is used to calculate the distance attenuation based on a reference noise level (SPL_1):

$$SPL_2 = SPL_1 - 20\log(D_2/D_1)$$

Where SPL_2 is the resulting noise level after attenuation, SPL_1 is the source noise level, D_2 is the distance to the reference sound pressure level (SPL_1), and D_1 is the distance to the receiver location. (Urban Crossroads, Inc., 2018e, p. 63)

2. Project Operational Noise Contribution

To describe the Project operational noise level contributions, the Project operational noise levels were combined with the existing ambient noise levels measurements for the off-site receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL_1/10} + 10^{SPL_2/10} + \dots + 10^{SPL_n/10}]$$

Where " SPL_1 ," " SPL_2 ," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describe the Project noise level contributions. EIR Subsection 4.9.4 discloses the noise levels calculated to be experienced at the receiver locations when unmitigated Project-source noise is added to the ambient daytime and nighttime conditions. (Urban Crossroads, Inc., 2018e, p. 65)



C. Methodology for Calculating Project Operational Traffic Noise

The calculated roadway noise impacts from Project-related vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. (Urban Crossroads, Inc., 2018e, p. 31)

Table 4.9-4, *Off-Site Roadway Parameters*, presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 4.9-4 identifies the 24 study area roadway segments that were studied; the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Irwindale, Duarte, Baldwin Park, El Monte, and Monrovia General Plan Circulation Elements; and the posted vehicle speeds. The ADT volumes used in the Project's Noise Impact Analysis (EIR *Technical Appendix H*) are presented on Table 4.9-5, *Average Daily Traffic Volumes*, are based on Project's Traffic Impact Analysis (EIR *Technical Appendix II*) for the following traffic scenarios: Existing, Opening Year 2020, Horizon Year 2040. Table 4.9-5 and Table 4.9-6, *Time of Day Vehicle Splits*, present the hourly traffic flow distributions (vehicle mix) used for the Noise Impact Analysis (EIR *Technical Appendix H*). For this analysis, soft site conditions are used to analyze the traffic noise impacts within the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. Caltrans' research has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model as used in the off-site traffic noise analysis included in the Project's Noise Impact Analysis (EIR *Technical Appendix H*). The Project's Traffic Impact Analysis (EIR *Technical Appendix II*) calculated that the Project would generate a net total of approximately 14,607 trip-ends per day (actual vehicles). (Urban Crossroads, Inc., 2018e, p. 31)

Refer to *Technical Appendix H* for more information regarding methodologies used for vehicle mix. Table 6-4 of the Project's Noise Impact Analysis (EIR *Technical Appendix H*) shows the traffic flow by vehicle type (vehicle mix) used for all *without* Project traffic scenarios, and Tables 6-5 to 6-7 of the Project's Noise Impact Analysis (EIR *Technical Appendix H*) show the vehicle mixes used for the *with* Project traffic scenarios. (Urban Crossroads, Inc., 2018e, p. 32)

To assess the off-site transportation CNEL noise level impacts associated with operation of the proposed Project, noise contours were developed based on the Project's Traffic Impact Analysis (EIR *Technical Appendix II*). Noise contour boundaries represent the equal levels of noise exposure and



are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios (Urban Crossroads, Inc., 2018e, p. 41):

- Existing Conditions Without / With Project: This scenario refers to the existing present-day noise conditions without and with the proposed Project.
- Opening Year 2020 Without / With the Project: This scenario refers to Opening Year noise conditions without and with the proposed Project. This scenario includes all cumulative projects identified in the Project's Traffic Impact Analysis.
- Horizon Year 2040 Without / With Project Avenue Extension: This scenario below refers to the background noise conditions at future Year 2040 without and with the proposed Project plus ambient growth. This scenario corresponds to Year 2040 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. 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. Appendix 7.1 of the Project's Noise Impact Analysis (EIR *Technical Appendix H*) includes a summary of the traffic noise level contours for each of the traffic scenarios described above. (Urban Crossroads, Inc., 2018e)



Table 4.9-4 Off-Site Roadway Parameters

ID	Roadway	Segment	Adjacent Planned (Existing) Land Use ¹	Distance from Centerline to Nearest Adjacent Land Use (Feet) ²	Posted Vehicle Speed (mph)
1	Myrtle Av.	n/o Longden Av.	Industrial	30'	40
2	Peck Rd.	s/o Arrow Hwy.	Industrial	60'	40
3	Avenida Barbosa	n/o Buena Vista St.	Quarry (Industrial)	30'	40
4	Avenida Barbosa	s/o Buena Vista St.	Quarry	30'	40
5	Rivergrade Rd.	s/o Arrow Hwy.	Industrial	30'	40
6	Rivergrade Rd.	s/o Stewart Av.	Industrial	30'	40
7	Rivergrade Rd.	s/o Live Oak Av.	Open Space/Industrial	30'	50
8	Stewart Av.	s/o Live Oak Av.	Industrial/Residential	40'	30
9	Baldwin Park Bl.	s/o Live Oak Av.	Industrial/Residential	50'	40
10	Maine Av.	s/o Arrow Hwy.	Industrial/Residential	40'	35
11	Longden Av.	w/o Myrtle Av.	Industrial (Residential)	30'	40
12	Longden Av.	e/o Myrtle Av.	Quarry/Industrial	30'	40
13	Live Oak Av.	w/o Peck Rd.	Industrial (Residential)	48'	40
14	Arrow Hwy.	e/o Peck Rd.	Industrial	40'	45
15	Arrow Hwy.	e/o Longden Av.	Quarry (Industrial)	40'	45
16	Arrow Hwy.	e/o I-605 Fwy.	Open Space/Commercial	40'	45
17	Arrow Hwy.	w/o Rivergrade Rd.	Open Space/Industrial	40'	45
18	Arrow Hwy.	e/o Rivergrade Rd.	Open Space/Industrial	40'	45
19	Arrow Hwy.	w/o Maine Av.	Open Space/Industrial	40'	45
20	Arrow Hwy.	e/o Maine Av.	Open Space/Industrial	40'	45
21	Live Oak Av.	w/o Rivergrade Rd.	Open Space/Industrial	50'	45
22	Live Oak Av.	e/o Rivergrade Rd.	Industrial/Commercial	50'	45
23	Live Oak Av.	e/o Stewart Av.	Industrial (Vacant)	50'	45
24	Live Oak Av.	w/o Arrow Hwy.	Industrial (Vacant)	50'	45

¹ City of Irwindale General Plan Exhibit 2-3, City of Baldwin Park Zoning Map, and City of Monrovia General Plan Land Use Element Figure 1.

² Distance to adjacent land use is based upon the right-of-way distances for each functional roadway classification provided in the General Plan Circulation Elements.

Source: (Urban Crossroads, Inc., 2018e, Table 6-1)



Table 4.9-5 Average Daily Traffic Volumes

ID	Roadway Segment	Average Daily Traffic Volumes ¹					
		Existing		Opening Year Cumulative 2020		Horizon Year 2040 Without	
		Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Myrtle Av. n/o Longden Av.	25,837	26,527	27,774	28,464	29,493	30,183
2	Peck Rd. s/o Arrow Hwy.	21,475	22,165	23,235	23,925	23,383	24,073
3	Avenida Barbosa n/o Buena Vista St.	6,136	6,826	6,857	7,547	7,265	7,955
4	Avenida Barbosa s/o Buena Vista St.	15,611	16,301	17,446	18,136	18,485	19,175
5	Rivergrade Rd. s/o Arrow Hwy.	5,363	8,399	8,112	11,148	8,469	11,505
6	Rivergrade Rd. s/o Stewart Av.	2,535	5,571	2,690	5,726	2,859	5,895
7	Rivergrade Rd. s/o Live Oak Av.	11,042	11,594	14,673	15,225	15,407	15,959
8	Stewart Av. s/o Live Oak Av.	5,755	6,445	6,771	7,461	7,154	7,844
9	Baldwin Park Bl. s/o Live Oak Av.	11,684	12,374	13,419	14,109	14,196	14,886
10	Maine Av. s/o Arrow Hwy.	10,106	10,796	11,725	12,415	12,397	13,087
11	Longden Av. w/o Myrtle Av.	13,381	14,071	14,556	15,246	15,446	16,136
12	Longden Av. e/o Myrtle Av.	16,851	18,231	18,595	19,975	19,716	21,096
13	Live Oak Av. w/o Peck Rd.	25,108	25,822	27,883	28,597	29,553	30,267
14	Arrow Hwy. e/o Peck Rd.	23,789	25,193	26,917	28,321	28,500	29,904
15	Arrow Hwy. e/o Longden Av.	41,218	44,002	46,253	49,037	48,995	51,779
16	Arrow Hwy. e/o I-605 Fwy.	27,508	31,924	31,969	36,385	33,799	38,215
17	Arrow Hwy. w/o Rivergrade Rd.	24,194	28,610	26,801	31,217	28,411	32,827
18	Arrow Hwy. e/o Rivergrade Rd.	21,137	22,517	25,978	27,358	27,384	28,764
19	Arrow Hwy. w/o Maine Av.	44,296	45,676	50,172	51,552	53,119	54,499
20	Arrow Hwy. e/o Maine Av.	32,875	33,719	37,273	38,117	39,460	40,304
21	Live Oak Av. w/o Rivergrade Rd.	27,508	29,456	31,971	33,919	33,801	35,749
22	Live Oak Av. e/o Rivergrade Rd.	30,406	31,802	34,512	35,908	36,535	37,931
23	Live Oak Av. e/o Stewart Av.	29,466	30,172	33,071	33,777	35,031	35,737
24	Live Oak Av. w/o Arrow Hwy.	25,119	25,825	29,041	29,747	30,712	31,418

¹ Source: The Park at Live Oak Traffic Impact Analysis, Urban Crossroads, Inc., May 2018.

Source: (Urban Crossroads, Inc., 2018e, Table 6-2)



Table 4.9-6 Time of Day Vehicle Splits

Vehicle Type	Time of Day Splits ¹			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	72.45%	9.15%	18.40%	100.00%
Medium Trucks	77.70%	4.78%	17.52%	100.00%
Heavy Trucks	84.32%	2.68%	13.00%	100.00%

¹ Based on existing 24-hour classification counts by vehicle type taken on 11/28/2017 at Arrow Highway west of Maine Avenue (The Park at Live Oak Traffic Impact Analysis, Urban Crossroads, Inc., May 2018). Vehicle mix percentage values rounded to the nearest one-hundredth.

"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Source: (Urban Crossroads, Inc., 2018e, Table 6-3)

D. Methodology for Calculating Project-Related Vibration Impacts

The Project's Noise Impact Analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity. (Urban Crossroads, Inc., 2018e, p. 39)

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with several types of construction equipment are summarized below in Table 4.9-7, *Vibration Source Levels for Construction Equipment*. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$. (Urban Crossroads, Inc., 2018e, p. 39)

Table 4.9-7 Vibration Source Levels for Construction Equipment

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

Source: (Urban Crossroads, Inc., 2018e, Table 6-8)



4.9.3 BASIS FOR DETERMINING SIGNIFICANCE

Section XIII of Appendix G to the CEQA Guidelines addresses typical adverse effects to noise and includes the following thresholds to evaluate a project's impacts on Noise (OPR, 2018). The proposed Project would result in a significant noise impact if the Project or any Project-related component would result in:

- a. *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;*
- b. *Generation of excessive groundborne vibration or groundborne noise levels; and/or*
- 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 level.*

A. Overview of Noise Thresholds of Significance

The CEQA Guidelines and the City of Irwindale General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts under Threshold a. Threshold c applies to nearby public and private airports, if any, and the Project's land use compatibility. (Urban Crossroads, Inc., 2018e, p. 21)

B. Evaluation of Noise Impacts at Noise-Sensitive Receivers

Noise level increases at the closest sensitive receiver locations that would result from the Project are evaluated based on the Appendix G CEQA Guidelines described above. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that there is no single noise increase that renders the noise impact significant. Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. (Urban Crossroads, Inc., 2018e, p. 21)

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of



cumulative noise exposure metrics, such as the average-daily noise level (i.e., CNEL), energy average noise level (L_{eq}), and median noise level (L_{50}). (Urban Crossroads, Inc., 2018e, p. 22)

For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, FICON identifies a readily perceptible 5 dBA or greater Project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per FICON, in areas where the without Project noise levels range from 60 to 65 dBA, a 3 dBA barely perceptible noise level increase appears to be appropriate for most people. When the *without Project* noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance. Table 4.9-8, *Significance of Noise Impacts at Noise-Sensitive Receivers*, below provides a summary of the potential noise impact significance criteria, based on guidance from FICON. (Urban Crossroads, Inc., 2018e, p. 22)

Table 4.9-8 Significance of Noise Impacts at Noise-Sensitive Receivers

Without Project Noise Level	Potential Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Federal Interagency Committee on Noise (FICON), 1992.

Source: (Urban Crossroads, Inc., 2018e, Table 4-1)

C. Evaluation of Noise Impacts at Non-Noise-Sensitive Receivers

Non-noise-sensitive industrial uses, such as the Project’s proposed industrial and commercial business park uses, are considered *conditionally acceptable* with exterior noise levels between 67 to 78 dBA CNEL and *normally unacceptable* with exterior noise levels above 75 dBA CNEL. For the purposes of evaluating the Project’s noise impacts, industrial land uses are considered *normally acceptable* land use with exterior noise levels below 70 dBA CNEL, consistent with the adjacent jurisdictional compatibility criteria of the General Plans for the nearby cities of Duarte, Baldwin Park, El Monte, and Monrovia. (Urban Crossroads, Inc., 2018e, p. 22)

To determine if Project-related traffic noise level increases are significant at off-site non-noise sensitive land uses, a *readily perceptible* 5 dBA and *barely perceptible* 3 dBA criteria are used. When the without Project noise levels at the non-noise-sensitive land uses are below the *normally acceptable* 70 dBA CNEL compatibility criteria, a *readily perceptible* 5 dBA or greater noise level increase is considered a significant impact. When the *without Project* noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but



instead rely on the City of Irwindale General Plan Noise and Land Use Compatibility criteria. (Urban Crossroads, Inc., 2018e, pp. 22-23)

D. Summary of Significance Criteria

Noise impacts will be considered significant if any of the following occur as a result of the proposed Project. The significance criteria for noise impacts is summarized in Table 4.9-9, *Summary of Noise Significance Criteria*.

1. Off-Site Traffic Noise

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
 - Are less than 60 dBA CNEL and the Project creates a *readily perceptible* 5 dBA CNEL or greater Project-related noise level increase; or
 - Range from 60 to 65 dBA CNEL and the Project creates a *barely perceptible* 3 dBA CNEL or greater Project-related noise level increase; or
 - Already exceed 65 dBA CNEL, and the Project creates a community noise level impact of greater than 1.5 dBA CNEL.
- When the noise levels at existing and future non-noise-sensitive land uses (e.g. industrial, etc.):
 - Are less than the City of Irwindale General Plan Noise and Land Use Compatibility 70 dBA CNEL criteria and the Project creates a *readily perceptible* 5 dBA CNEL or greater Project-related noise level increase; or
 - Are greater than the City of Irwindale General Plan Noise and Land Use Compatibility 70 dBA CNEL criteria and the Project creates a *barely perceptible* 3 dBA CNEL or greater Project-related noise level increase.

(Urban Crossroads, Inc., 2018e, p. 23)

2. Operational Noise

- If Project-related operational (stationary-source) noise levels exceed the exterior noise level limits at receiver locations within the jurisdiction of the City of Irwindale, Duarte, Baldwin Park, El Monte, or Monrovia (as listed on Table 3-1 of the Project's Noise Impact Analysis [EIR *Technical Appendix H*]).
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
 - Are less than 60 dBA L_{eq} and the Project creates a *readily perceptible* 5 dBA L_{eq} or greater Project-related noise level increase; or
 - Range from 60 to 65 dBA L_{eq} and the Project creates a *barely perceptible* 3 dBA L_{eq} or greater Project-related noise level increase; or
 - Already exceed 65 dBA L_{eq} , and the Project creates a community noise level impact of greater than 1.5 dBA L_{eq} .
- If long-term Project-generated operational vibration levels could exceed the Los Angeles County acceptable vibration threshold of 0.01 in/sec RMS at sensitive receiver locations (Los Angeles County Code, Section 12.08.350).



(Urban Crossroads, Inc., 2018e, p. 23)

3. Construction Noise and Vibration

- If Project-related construction activities create noise levels at nearby receiver locations exceeding the ambient noise level plus 5 dBA Leq (City of Irwindale Municipal Code, Section 9.28.110). The construction noise level threshold is based on the City of Irwindale Municipal Code standards, consistent with the City of Baldwin Park standards and the Los Angeles Municipal Code construction noise level limits (Section 112.02). (Urban Crossroads, Inc., 2018e, p. 24)
- If short-term Project-generated construction source vibration levels could exceed the Los Angeles County acceptable vibration standard of 0.01 in/sec RMS at sensitive receiver locations (Los Angeles County Code, Section 12.08.350). (Urban Crossroads, Inc., 2018e, p. 24)

Table 4.9-9 Summary of Noise Significance Criteria

Analysis	Receiving Land Use	Jurisdiction	Condition(s)	Significance Criteria	
				Daytime	Nighttime
Off-Site Traffic	Noise-Sensitive ¹	All	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
			If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
			If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
	Non-Noise-Sensitive ²		if ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase	
			if ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Any	All	Exterior Noise Level Limits	See Table 3-1.	
	Noise-Sensitive	All ¹	if ambient is < 60 dBA Leq	≥ 5 dBA Leq Project increase	
			if ambient is 60 - 65 dBA Leq	≥ 3 dBA Leq Project increase	
			if ambient is > 65 dBA Leq	≥ 1.5 dBA Leq Project increase	
Any	All	Vibration Level Threshold ³	0.01 in/sec RMS		
Construction	Any	All	Noise Level Threshold ⁴	Ambient + 5 dBA Leq	
			Vibration Level Threshold ³	0.01 in/sec RMS	

¹ Source: FICON, 1992.

² Based on the City of Irwindale General Plan, Noise and Land Use Compatibility criteria (Page 146) and consistent with adjacent criteria of the Cities of Duarte, Baldwin Park, and El Monte criteria.

³ Source: Los Angeles County Code, Section 12.08.350.

⁴ Source: City of Irwindale Municipal Code, Section 9.28.110 (Appendix 3.1). The construction noise level threshold is based on the City of Irwindale Municipal Code standards, consistent with the City of Baldwin Park standards and the Los Angeles Municipal Code construction noise level limits (Section 112.02).

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "RMS" = root-mean-square

Source: (Urban Crossroads, Inc., 2018e, Table 4-2)



4.9.4 IMPACT ANALYSIS

Threshold a: *Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

A. Short-Term Construction Noise Impacts

As previously discussed in EIR Subsection 4.9.2A, noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. Tables 10-2 to 10-6 of the Project’s Noise Impact Analysis (EIR *Technical Appendix H*) show the Project construction stages and the reference construction noise levels used for each stage. In addition, Table 10-9 of the Project’s Noise Impact Analysis (EIR *Technical Appendix H*) shows the off-site water line construction noise levels at the nearest receiver locations (as depicted on Exhibit 10-A of the Noise Impact Analysis) to each off-site water line. Table 4.9-10, *Project Construction Noise Levels*, provides a summary of the noise levels from each stage of construction at each of the receiver locations. Based on the reference construction noise levels, when the highest reference noise level is operating at the edge of primary construction activity nearest each sensitive receiver location, the Project-related construction noise levels at the sensitive receiver locations would range from 29.0 to 67.9 dBA L_{eq} (as shown in Table 4.9-10). (Urban Crossroads, Inc., 2018e, p. 72)

Table 4.9-10 Project Construction Noise Levels

Receiver Location ¹	Construction Noise Level (dBA L_{eq})					Highest Levels ²
	Site Preparation	Grading	Building Construction	Architectural Coating	Paving	
R1	35.8	35.8	24.4	24.4	27.8	35.8
R2	43.0	43.0	31.6	31.6	35.0	43.0
R3	35.3	35.3	23.9	23.9	27.4	35.3
R4	32.4	32.4	21.0	21.0	24.4	32.4
R5	35.6	35.6	24.2	24.2	27.7	35.6
R6	37.3	37.3	25.9	25.9	29.3	37.3
R7	33.5	33.5	22.1	22.1	25.5	33.5
R8	67.9	67.9	56.5	56.5	60.0	67.9
R9	62.2	62.2	50.8	50.8	54.2	62.2
R10	64.5	64.5	53.1	53.1	56.5	64.5
R11	65.4	65.4	54.0	54.0	57.5	65.4

¹ Noise receiver locations are shown on Exhibit 10-A.

² Estimated construction noise levels during peak operating conditions.

Source: (Urban Crossroads, Inc., 2018e, Table 10-7)



Table 4.9-11, *Project Construction Noise Level Significance Evaluation*, shows the highest construction noise levels at the potentially impacted receiver locations during Project construction activities. As shown on Table 4.9-11, the Project's construction noise levels are calculated to range from 32.4 to 67.9 dBA L_{eq} and would not increase noise levels by more than 5 dBA L_{eq} above ambient noise levels at any of the receiver locations. Therefore, the Project's construction noise levels would not exceed the City of Irwindale's significance threshold during the daytime or nighttime hours, and impacts would be less than significant. (Urban Crossroads, Inc., 2018e, p. 78)

In addition, Table 4.9-12, *Off-Site Water Line Construction Noise Levels*, shows the off-site water line daytime construction noise levels at the closest receiver locations, R2 and R3, as shown on Exhibit 10-A of the Project's Noise Study (EIR *Technical Appendix H*). The Project-related off-site water line daytime construction noise levels are anticipated to range from 29.0 to 59.2 dBA L_{eq} and would satisfy the 72.2 dBA L_{eq} daytime standard based on ambient conditions at receiver location R2, and the 60.3 dBA L_{eq} daytime standard based on ambient noise conditions at receiver location R3, thereby resulting in less-than-significant noise impacts. (Urban Crossroads, Inc., 2018e, p. 79)

Table 4.9-11 Project Construction Noise Level Significance Evaluation

Receiver Location ¹	Jurisdiction	Land Use	Highest Project Construction Noise Level ²	Existing Ambient Noise Level ³		Plus 5 dBA Threshold for Construction Noise	Threshold ⁴		Threshold Exceeded? ⁵	
				Daytime	Nighttime		Daytime	Nighttime	Daytime	Nighttime
R1	Irwindale	Noise-Sensitive (Residential Standards)	35.8	66.3	63.3	+5	71.3	68.3	No	No
R2	Irwindale		43.0	67.2	62.9	+5	72.2	67.9	No	No
R3	Duarte		35.3	55.3	51.0	+5	60.3	56.0	No	No
R4	Irwindale		32.4	51.8	43.0	+5	56.8	48.0	No	No
R5	Baldwin Park		35.6	56.1	53.3	+5	61.1	58.3	No	No
R6	Baldwin Park		37.3	56.3	54.7	+5	61.3	59.7	No	No
R7	El Monte		33.5	53.2	49.5	+5	58.2	54.5	No	No
R8	Irwindale	Industrial	67.9	80.1	76.4	+5	85.1	81.4	No	No
R9	Irwindale		62.2	80.1	76.4	+5	85.1	81.4	No	No
R10	Irwindale		64.5	80.1	76.4	+5	85.1	81.4	No	No
R11	Irwindale		65.4	80.1	76.4	+5	85.1	81.4	No	No

¹ See Exhibit 10-A for the sensitive receiver locations.

² Highest Project construction noise levels as shown on Table 10-7.

³ Ambient exterior noise level at each receiver location (Table 5-1), since the existing ambient noise levels already exceed the base exterior noise level standards shown on Table 3-1.

⁴ Ambient exterior noise level standard plus 5 dBA per the City of Irwindale Municipal Code, Section 9.28.110.

⁵ Do the highest Project construction noise levels exceed the ambient plus 5 dBA threshold?

Source: (Urban Crossroads, Inc., 2018e, Table 10-8)



Table 4.9-12 Off-Site Water Line Construction Noise Levels

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R2	2,567'	-34.2	-5.0	29.0
R3	79'	-4.0	-5.0	59.2

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

² Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing intervening structures (barriers, buildings, berms) in the Project study area.

Source: (Urban Crossroads, Inc., 2018e, Table 10-9)

B. Long-Term Operational Impacts

Under long-term operating conditions, the Project has the potential to result in noise impacts associated with vehicle traffic and due to on-site operational activities. Each is discussed below.

1. Traffic-Related Noise Impact Analysis

As previously described in EIR Subsection 4.9.2C, noise contours were developed based on the Project's Traffic Impact Analysis (EIR *Technical Appendix II*) in order to assess the off-site transportation CNEL noise level impacts associated with the proposed Project. Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the Existing (2017) Conditions Without / With Project scenario, the Opening Year 2020 Without / With the Project scenario, and the Horizon Year 2040 Without / With Project Avenue Extension scenario. Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The subsections below present a summary of the exterior traffic noise levels, without barrier attenuation, for the 24 study area roadway segments analyzed from the without Project to the with Project conditions under Existing, Opening Year 2020, Horizon Year 2040 traffic conditions.

Existing (2017) Conditions Without and With Project Traffic Noise Level Contributions

Table 4.9-13, *Existing (2017) Without Project Conditions Traffic Noise Contours*, presents the Existing without Project conditions CNEL noise levels. As shown on Table 4.9-13, the without Project exterior noise levels are calculated to range from 67.0 to 80.8 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 4.9-14, *Existing (2017) With Project Conditions Traffic Noise Contours*, shows the Existing with Project conditions would range from 67.2 to 80.9 dBA CNEL. As shown on Table 4.9-15, *Existing (2017) Off-Site Project-Related Traffic Noise Impacts*, the Project would generate a noise level increase of up to 1.2 dBA CNEL on the study area roadway segments. Based on the significance criteria previously presented in EIR Subsection 4.9.3 and Table 4.9-9, *Summary of Noise Significance Criteria*, the Project-related noise level increases at



the land uses adjacent to roadways conveying Project traffic would be less than significant under Existing (2017) conditions. (Urban Crossroads, Inc., 2018e, p. 48)

□ **Opening Year 2020 Project Traffic Noise Level Contributions**

Table 4.9-16, *Opening Year 2020 Without Project Conditions Traffic Noise Contours*, presents the Opening Year 2020 without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 67.8 to 81.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 4.9-17, *Opening Year 2020 With Project Conditions Traffic Noise Contours*, shows the Opening Year 2020 with Project conditions will range from 67.8 to 81.4 dBA CNEL. As shown on Table 4.9-18, *Opening Year (2020) Off-Site Project-Related Traffic Noise Impacts*, the Project will generate a noise level increase of up to 1.2 dBA CNEL on the study area roadway segments. Based on the significance criteria in EIR Subsection 4.9.3 and Table 4.9-9, *Summary of Noise Significance Criteria*, the Project-related noise level increases at the land uses adjacent to roadways conveying Project traffic are considered less than significant under Opening Year 2020 conditions. (Urban Crossroads, Inc., 2018e, p. 50)

□ **Horizon Year 2040 Project Traffic Noise Level Contributions**

Table 4.9-19, *Horizon Year 2040 Without Project Conditions Traffic Noise Contours*, presents the Horizon Year 2040 without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 68.0 to 81.6 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 4.9-20, *Horizon Year 2040 With Project Conditions Traffic Noise Contours*, shows the Horizon Year 2040 with Project conditions will range from 68.1 to 81.6 dBA CNEL. As shown on Table 4.9-21, *Horizon Year (2040) Off-Site Project-Related Traffic Noise Impacts*, the Project would generate a noise level increase of up to 1.1 dBA CNEL on the study area roadway segments. Based on the significance criteria in EIR Subsection 4.9.3 and Table 4.9-9, *Summary of Noise Significance Criteria*, the Project-related noise level increases at the land uses adjacent to roadways conveying Project traffic are considered less than significant under Horizon Year 2040 conditions. (Urban Crossroads, Inc., 2018e, p. 52)



Table 4.9-13 Existing (2017) Without Project Conditions Traffic Noise Contours

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Myrtle Av.	n/o Longden Av.	Industrial	78.0	102	220	473
2	Peck Rd.	s/o Arrow Hwy.	Industrial	73.4	100	216	466
3	Avenida Barbosa	n/o Buena Vista St.	Quarry (Industrial)	71.7	39	84	182
4	Avenida Barbosa	s/o Buena Vista St.	Quarry	75.8	73	157	338
5	Rivergrade Rd.	s/o Arrow Hwy.	Industrial	71.1	36	77	166
6	Rivergrade Rd.	s/o Stewart Av.	Industrial	67.9	RW	47	101
7	Rivergrade Rd.	s/o Live Oak Av.	Open Space/Industrial	76.3	79	170	366
8	Stewart Av.	s/o Live Oak Av.	Industrial/Residential	67.0	RW	55	118
9	Baldwin Park Bl.	s/o Live Oak Av.	Industrial/Residential	71.9	67	145	313
10	Maine Av.	s/o Arrow Hwy.	Industrial/Residential	70.8	45	98	210
11	Longden Av.	w/o Myrtle Av.	Industrial (Residential)	75.1	66	142	305
12	Longden Av.	e/o Myrtle Av.	Quarry/Industrial	76.1	n/a	n/a	n/a
13	Live Oak Av.	w/o Peck Rd.	Industrial (Residential)	75.6	114	245	527
14	Arrow Hwy.	e/o Peck Rd.	Industrial	78.1	139	300	646
15	Arrow Hwy.	e/o Longden Av.	Quarry (Industrial)	80.5	201	432	932
16	Arrow Hwy.	e/o I-605 Fwy.	Open Space/Commercial	78.8	153	330	711
17	Arrow Hwy.	w/o Rivergrade Rd.	Open Space/Industrial	78.2	141	303	653
18	Arrow Hwy.	e/o Rivergrade Rd.	Open Space/Industrial	77.6	129	277	597
19	Arrow Hwy.	w/o Maine Av.	Open Space/Industrial	80.8	211	454	977
20	Arrow Hwy.	e/o Maine Av.	Open Space/Industrial	79.5	173	372	801
21	Live Oak Av.	w/o Rivergrade Rd.	Open Space/Industrial	79.2	204	440	948
22	Live Oak Av.	e/o Rivergrade Rd.	Industrial/Commercial	79.6	218	470	1013
23	Live Oak Av.	e/o Stewart Av.	Industrial (Vacant)	79.5	214	461	992
24	Live Oak Av.	w/o Arrow Hwy.	Industrial (Vacant)	78.8	192	414	892

¹ City of Irwindale General Plan Exhibit 2-3, City of Baldwin Park Zoning Map, and City of Monrovia General Plan Land Use Element Figure 1.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

Source: (Urban Crossroads, Inc., 2018e, Table 7-1)



Table 4.9-14 Existing (2017) With Project Conditions Traffic Noise Contours

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Myrtle Av.	n/o Longden Av.	Industrial	78.0	102	221	476
2	Peck Rd.	s/o Arrow Hwy.	Industrial	73.4	101	217	469
3	Avenida Barbosa	n/o Buena Vista St.	Quarry (Industrial)	71.9	40	86	185
4	Avenida Barbosa	s/o Buena Vista St.	Quarry	75.8	73	158	341
5	Rivergrade Rd.	s/o Arrow Hwy.	Industrial	71.7	39	84	182
6	Rivergrade Rd.	s/o Stewart Av.	Industrial	69.1	RW	56	121
7	Rivergrade Rd.	s/o Live Oak Av.	Open Space/Industrial	76.4	80	172	370
8	Stewart Av.	s/o Live Oak Av.	Industrial/Residential	67.2	RW	56	120
9	Baldwin Park Bl.	s/o Live Oak Av.	Industrial/Residential	72.0	68	147	316
10	Maine Av.	s/o Arrow Hwy.	Industrial/Residential	70.9	46	99	213
11	Longden Av.	w/o Myrtle Av.	Industrial (Residential)	75.2	66	143	308
12	Longden Av.	e/o Myrtle Av.	Quarry/Industrial	76.2	n/a	n/a	n/a
13	Live Oak Av.	w/o Peck Rd.	Industrial (Residential)	75.7	115	247	533
14	Arrow Hwy.	e/o Peck Rd.	Industrial	78.2	141	305	656
15	Arrow Hwy.	e/o Longden Av.	Quarry (Industrial)	80.6	204	439	946
16	Arrow Hwy.	e/o I-605 Fwy.	Open Space/Commercial	78.9	158	340	733
17	Arrow Hwy.	w/o Rivergrade Rd.	Open Space/Industrial	78.4	146	314	676
18	Arrow Hwy.	e/o Rivergrade Rd.	Open Space/Industrial	77.7	130	280	604
19	Arrow Hwy.	w/o Maine Av.	Open Space/Industrial	80.9	212	456	983
20	Arrow Hwy.	e/o Maine Av.	Open Space/Industrial	79.6	174	375	807
21	Live Oak Av.	w/o Rivergrade Rd.	Open Space/Industrial	79.3	208	447	963
22	Live Oak Av.	e/o Rivergrade Rd.	Industrial/Commercial	79.7	221	476	1025
23	Live Oak Av.	e/o Stewart Av.	Industrial (Vacant)	79.5	215	464	999
24	Live Oak Av.	w/o Arrow Hwy.	Industrial (Vacant)	78.8	194	418	900

¹ City of Irwindale General Plan Exhibit 2-3, City of Baldwin Park Zoning Map, and City of Monrovia General Plan Land Use Element Figure 1.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

Source: (Urban Crossroads, Inc., 2018e, Table 7-3)



Table 4.9-15 Existing (2017) Off-Site Project-Related Traffic Noise Impacts

ID	Road	Segment	CNEL at Adjacent Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold Exceeded? ²
			No Project	With Project	Project Addition		
1	Myrtle Av.	n/o Longden Av.	78.0	78.0	0.0	No	No
2	Peck Rd.	s/o Arrow Hwy.	73.4	73.4	0.0	No	No
3	Avenida Barbosa	n/o Buena Vista St.	71.7	71.9	0.2	No	No
4	Avenida Barbosa	s/o Buena Vista St.	75.8	75.8	0.0	No	No
5	Rivergrade Rd.	s/o Arrow Hwy.	71.1	71.7	0.6	No	No
6	Rivergrade Rd.	s/o Stewart Av.	67.9	69.1	1.2	No	No
7	Rivergrade Rd.	s/o Live Oak Av.	76.3	76.4	0.1	No	No
8	Stewart Av.	s/o Live Oak Av.	67.0	67.2	0.2	Yes	No
9	Baldwin Park Bl.	s/o Live Oak Av.	71.9	72.0	0.1	Yes	No
10	Maine Av.	s/o Arrow Hwy.	70.8	70.9	0.1	Yes	No
11	Longden Av.	w/o Myrtle Av.	75.1	75.2	0.1	Yes	No
12	Longden Av.	e/o Myrtle Av.	76.1	76.2	0.1	No	No
13	Live Oak Av.	w/o Peck Rd.	75.6	75.7	0.1	Yes	No
14	Arrow Hwy.	e/o Peck Rd.	78.1	78.2	0.1	No	No
15	Arrow Hwy.	e/o Longden Av.	80.5	80.6	0.1	No	No
16	Arrow Hwy.	e/o I-605 Fwy.	78.8	78.9	0.1	No	No
17	Arrow Hwy.	w/o Rivergrade Rd.	78.2	78.4	0.2	No	No
18	Arrow Hwy.	e/o Rivergrade Rd.	77.6	77.7	0.1	No	No
19	Arrow Hwy.	w/o Maine Av.	80.8	80.9	0.1	No	No
20	Arrow Hwy.	e/o Maine Av.	79.5	79.6	0.1	No	No
21	Live Oak Av.	w/o Rivergrade Rd.	79.2	79.3	0.1	No	No
22	Live Oak Av.	e/o Rivergrade Rd.	79.6	79.7	0.1	No	No
23	Live Oak Av.	e/o Stewart Av.	79.5	79.5	0.0	No	No
24	Live Oak Av.	w/o Arrow Hwy.	78.8	78.8	0.0	No	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

² Significance Criteria (Section 4).

Source: (Urban Crossroads, Inc., 2018e, Table 7-7)



Table 4.9-16 Opening Year 2020 Without Project Conditions Traffic Noise Contours

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Myrtle Av.	n/o Longden Av.	Industrial	78.3	107	231	497
2	Peck Rd.	s/o Arrow Hwy.	Industrial	73.7	106	228	491
3	Avenida Barbosa	n/o Buena Vista St.	Quarry (Industrial)	72.2	42	91	196
4	Avenida Barbosa	s/o Buena Vista St.	Quarry	76.3	79	169	364
5	Rivergrade Rd.	s/o Arrow Hwy.	Industrial	72.9	47	102	219
6	Rivergrade Rd.	s/o Stewart Av.	Industrial	68.1	RW	49	105
7	Rivergrade Rd.	s/o Live Oak Av.	Open Space/Industrial	77.5	95	205	442
8	Stewart Av.	s/o Live Oak Av.	Industrial/Residential	67.8	RW	61	132
9	Baldwin Park Bl.	s/o Live Oak Av.	Industrial/Residential	72.5	74	159	343
10	Maine Av.	s/o Arrow Hwy.	Industrial/Residential	71.5	50	108	232
11	Longden Av.	w/o Myrtle Av.	Industrial (Residential)	75.5	70	150	323
12	Longden Av.	e/o Myrtle Av.	Quarry/Industrial	76.5	n/a	n/a	n/a
13	Live Oak Av.	w/o Peck Rd.	Industrial (Residential)	76.1	122	263	566
14	Arrow Hwy.	e/o Peck Rd.	Industrial	78.7	151	325	701
15	Arrow Hwy.	e/o Longden Av.	Quarry (Industrial)	81.0	217	467	1006
16	Arrow Hwy.	e/o I-605 Fwy.	Open Space/Commercial	79.4	169	365	786
17	Arrow Hwy.	w/o Rivergrade Rd.	Open Space/Industrial	78.6	151	325	699
18	Arrow Hwy.	e/o Rivergrade Rd.	Open Space/Industrial	78.5	148	318	685
19	Arrow Hwy.	w/o Maine Av.	Open Space/Industrial	81.4	229	493	1062
20	Arrow Hwy.	e/o Maine Av.	Open Space/Industrial	80.1	188	404	871
21	Live Oak Av.	w/o Rivergrade Rd.	Open Space/Industrial	79.8	226	486	1048
22	Live Oak Av.	e/o Rivergrade Rd.	Industrial/Commercial	80.2	238	512	1103
23	Live Oak Av.	e/o Stewart Av.	Industrial (Vacant)	80.0	231	497	1072
24	Live Oak Av.	w/o Arrow Hwy.	Industrial (Vacant)	79.4	212	456	983

¹ City of Irwindale General Plan Exhibit 2-3, City of Baldwin Park Zoning Map, and City of Monrovia General Plan Land Use Element Figure 1.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

Source: (Urban Crossroads, Inc., 2018e, Table 7-3)



Table 4.9-17 Opening Year 2020 With Project Conditions Traffic Noise Contours

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Myrtle Av.	n/o Longden Av.	Industrial	78.3	108	232	499
2	Peck Rd.	s/o Arrow Hwy.	Industrial	73.7	106	229	494
3	Avenida Barbosa	n/o Buena Vista St.	Quarry (Industrial)	72.3	43	92	199
4	Avenida Barbosa	s/o Buena Vista St.	Quarry	76.3	79	170	367
5	Rivergrade Rd.	s/o Arrow Hwy.	Industrial	73.3	50	108	233
6	Rivergrade Rd.	s/o Stewart Av.	Industrial	69.3	RW	58	124
7	Rivergrade Rd.	s/o Live Oak Av.	Open Space/Industrial	77.6	96	207	446
8	Stewart Av.	s/o Live Oak Av.	Industrial/Residential	67.8	RW	62	133
9	Baldwin Park Bl.	s/o Live Oak Av.	Industrial/Residential	72.6	75	161	346
10	Maine Av.	s/o Arrow Hwy.	Industrial/Residential	71.5	50	109	234
11	Longden Av.	w/o Myrtle Av.	Industrial (Residential)	75.5	70	151	326
12	Longden Av.	e/o Myrtle Av.	Quarry/Industrial	76.6	n/a	n/a	n/a
13	Live Oak Av.	w/o Peck Rd.	Industrial (Residential)	76.1	123	265	571
14	Arrow Hwy.	e/o Peck Rd.	Industrial	78.7	153	330	711
15	Arrow Hwy.	e/o Longden Av.	Quarry (Industrial)	81.1	220	473	1020
16	Arrow Hwy.	e/o I-605 Fwy.	Open Space/Commercial	79.6	174	375	807
17	Arrow Hwy.	w/o Rivergrade Rd.	Open Space/Industrial	78.8	155	335	721
18	Arrow Hwy.	e/o Rivergrade Rd.	Open Space/Industrial	78.6	149	321	692
19	Arrow Hwy.	w/o Maine Av.	Open Space/Industrial	81.4	230	496	1068
20	Arrow Hwy.	e/o Maine Av.	Open Space/Industrial	80.1	189	407	877
21	Live Oak Av.	w/o Rivergrade Rd.	Open Space/Industrial	79.9	229	493	1062
22	Live Oak Av.	e/o Rivergrade Rd.	Industrial/Commercial	80.2	240	517	1113
23	Live Oak Av.	e/o Stewart Av.	Industrial (Vacant)	80.0	232	501	1078
24	Live Oak Av.	w/o Arrow Hwy.	Industrial (Vacant)	79.4	213	459	990

¹ City of Irwindale General Plan Exhibit 2-3, City of Baldwin Park Zoning Map, and City of Monrovia General Plan Land Use Element Figure 1.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

Source: (Urban Crossroads, Inc., 2018e, Table 7-4)



Table 4.9-18 Opening Year (2020) Off-Site Project-Related Traffic Noise Impacts

ID	Road	Segment	CNEL at Adjacent Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold Exceeded? ²
			No Project	With Project	Project Addition		
1	Myrtle Av.	n/o Longden Av.	78.3	78.3	0.0	No	No
2	Peck Rd.	s/o Arrow Hwy.	73.7	73.7	0.0	No	No
3	Avenida Barbosa	n/o Buena Vista St.	72.2	72.3	0.1	No	No
4	Avenida Barbosa	s/o Buena Vista St.	76.3	76.3	0.0	No	No
5	Rivergrade Rd.	s/o Arrow Hwy.	72.9	73.3	0.4	No	No
6	Rivergrade Rd.	s/o Stewart Av.	68.1	69.3	1.2	No	No
7	Rivergrade Rd.	s/o Live Oak Av.	77.5	77.6	0.1	No	No
8	Stewart Av.	s/o Live Oak Av.	67.8	67.8	0.0	Yes	No
9	Baldwin Park Bl.	s/o Live Oak Av.	72.5	72.6	0.1	Yes	No
10	Maine Av.	s/o Arrow Hwy.	71.5	71.5	0.0	Yes	No
11	Longden Av.	w/o Myrtle Av.	75.5	75.5	0.0	Yes	No
12	Longden Av.	e/o Myrtle Av.	76.5	76.6	0.1	No	No
13	Live Oak Av.	w/o Peck Rd.	76.1	76.1	0.0	Yes	No
14	Arrow Hwy.	e/o Peck Rd.	78.7	78.7	0.0	No	No
15	Arrow Hwy.	e/o Longden Av.	81.0	81.1	0.1	No	No
16	Arrow Hwy.	e/o I-605 Fwy.	79.4	79.6	0.2	No	No
17	Arrow Hwy.	w/o Rivergrade Rd.	78.6	78.8	0.2	No	No
18	Arrow Hwy.	e/o Rivergrade Rd.	78.5	78.6	0.1	No	No
19	Arrow Hwy.	w/o Maine Av.	81.4	81.4	0.0	No	No
20	Arrow Hwy.	e/o Maine Av.	80.1	80.1	0.0	No	No
21	Live Oak Av.	w/o Rivergrade Rd.	79.8	79.9	0.1	No	No
22	Live Oak Av.	e/o Rivergrade Rd.	80.2	80.2	0.0	No	No
23	Live Oak Av.	e/o Stewart Av.	80.0	80.0	0.0	No	No
24	Live Oak Av.	w/o Arrow Hwy.	79.4	79.4	0.0	No	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

² Significance Criteria (Section 4).

Source: (Urban Crossroads, Inc., 2018e, Table 7-8)



Table 4.9-19 Horizon Year 2040 Without Project Conditions Traffic Noise Contours

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Myrtle Av.	n/o Longden Av.	Industrial	78.5	111	240	517
2	Peck Rd.	s/o Arrow Hwy.	Industrial	73.7	106	229	493
3	Avenida Barbosa	n/o Buena Vista St.	Quarry (Industrial)	72.5	44	94	203
4	Avenida Barbosa	s/o Buena Vista St.	Quarry	76.5	82	176	379
5	Rivergrade Rd.	s/o Arrow Hwy.	Industrial	73.1	48	104	225
6	Rivergrade Rd.	s/o Stewart Av.	Industrial	68.4	RW	51	109
7	Rivergrade Rd.	s/o Live Oak Av.	Open Space/Industrial	77.7	98	212	457
8	Stewart Av.	s/o Live Oak Av.	Industrial/Residential	68.0	RW	63	136
9	Baldwin Park Bl.	s/o Live Oak Av.	Industrial/Residential	72.8	77	165	356
10	Maine Av.	s/o Arrow Hwy.	Industrial/Residential	71.7	52	112	241
11	Longden Av.	w/o Myrtle Av.	Industrial (Residential)	75.7	72	156	336
12	Longden Av.	e/o Myrtle Av.	Quarry/Industrial	76.8	85	184	395
13	Live Oak Av.	w/o Peck Rd.	Industrial (Residential)	76.3	127	273	588
14	Arrow Hwy.	e/o Peck Rd.	Industrial	78.9	157	338	728
15	Arrow Hwy.	e/o Longden Av.	Quarry (Industrial)	81.3	225	485	1045
16	Arrow Hwy.	e/o I-605 Fwy.	Open Space/Commercial	79.6	176	379	816
17	Arrow Hwy.	w/o Rivergrade Rd.	Open Space/Industrial	78.9	157	337	727
18	Arrow Hwy.	e/o Rivergrade Rd.	Open Space/Industrial	78.7	153	329	709
19	Arrow Hwy.	w/o Maine Av.	Open Space/Industrial	81.6	238	512	1103
20	Arrow Hwy.	e/o Maine Av.	Open Space/Industrial	80.3	195	420	905
21	Live Oak Av.	w/o Rivergrade Rd.	Open Space/Industrial	80.1	234	505	1087
22	Live Oak Av.	e/o Rivergrade Rd.	Industrial/Commercial	80.4	247	532	1145
23	Live Oak Av.	e/o Stewart Av.	Industrial (Vacant)	80.2	240	517	1114
24	Live Oak Av.	w/o Arrow Hwy.	Industrial (Vacant)	79.6	220	473	1020

¹ City of Irwindale General Plan Exhibit 2-3, City of Baldwin Park Zoning Map, and City of Monrovia General Plan Land Use Element Figure 1.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

Source: (Urban Crossroads, Inc., 2018e, Table 7-5)



Table 4.9-20 Horizon Year 2040 With Project Conditions Traffic Noise Contours

ID	Road	Segment	Adjacent Planned (Existing) Land Use ¹	CNEL at Nearest Adjacent Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Myrtle Av.	n/o Longden Av.	Industrial	78.6	112	241	519
2	Peck Rd.	s/o Arrow Hwy.	Industrial	73.8	107	230	496
3	Avenida Barbosa	n/o Buena Vista St.	Quarry (Industrial)	72.6	44	96	207
4	Avenida Barbosa	s/o Buena Vista St.	Quarry	76.6	82	177	381
5	Rivergrade Rd.	s/o Arrow Hwy.	Industrial	73.5	51	111	239
6	Rivergrade Rd.	s/o Stewart Av.	Industrial	69.5	RW	60	128
7	Rivergrade Rd.	s/o Live Oak Av.	Open Space/Industrial	77.8	99	214	460
8	Stewart Av.	s/o Live Oak Av.	Industrial/Residential	68.1	RW	64	138
9	Baldwin Park Bl.	s/o Live Oak Av.	Industrial/Residential	72.8	77	167	359
10	Maine Av.	s/o Arrow Hwy.	Industrial/Residential	71.8	52	113	243
11	Longden Av.	w/o Myrtle Av.	Industrial (Residential)	75.8	73	157	339
12	Longden Av.	e/o Myrtle Av.	Quarry/Industrial	76.9	86	186	400
13	Live Oak Av.	w/o Peck Rd.	Industrial (Residential)	76.4	128	275	593
14	Arrow Hwy.	e/o Peck Rd.	Industrial	79.0	159	343	738
15	Arrow Hwy.	e/o Longden Av.	Quarry (Industrial)	81.3	228	492	1059
16	Arrow Hwy.	e/o I-605 Fwy.	Open Space/Commercial	79.8	180	388	836
17	Arrow Hwy.	w/o Rivergrade Rd.	Open Space/Industrial	79.1	161	347	748
18	Arrow Hwy.	e/o Rivergrade Rd.	Open Space/Industrial	78.8	154	332	716
19	Arrow Hwy.	w/o Maine Av.	Open Space/Industrial	81.6	239	515	1109
20	Arrow Hwy.	e/o Maine Av.	Open Space/Industrial	80.4	196	423	910
21	Live Oak Av.	w/o Rivergrade Rd.	Open Space/Industrial	80.1	237	511	1102
22	Live Oak Av.	e/o Rivergrade Rd.	Industrial/Commercial	80.5	249	537	1156
23	Live Oak Av.	e/o Stewart Av.	Industrial (Vacant)	80.3	241	520	1120
24	Live Oak Av.	w/o Arrow Hwy.	Industrial (Vacant)	79.7	221	477	1027

¹ City of Irwindale General Plan Exhibit 2-3, City of Baldwin Park Zoning Map, and City of Monrovia General Plan Land Use Element Figure 1.

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

"RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

Source: (Urban Crossroads, Inc., 2018e, Table 7-6)



Table 4.9-21 Horizon Year (2040) Off-Site Project-Related Traffic Noise Impacts

ID	Road	Segment	CNEL at Adjacent Land Use (dBA) ¹			Noise-Sensitive Land Use?	Threshold Exceeded? ²
			No Project	With Project	Project Addition		
1	Myrtle Av.	n/o Longden Av.	78.5	78.6	0.1	No	No
2	Peck Rd.	s/o Arrow Hwy.	73.7	73.8	0.1	No	No
3	Avenida Barbosa	n/o Buena Vista St.	72.5	72.6	0.1	No	No
4	Avenida Barbosa	s/o Buena Vista St.	76.5	76.6	0.1	No	No
5	Rivergrade Rd.	s/o Arrow Hwy.	73.1	73.5	0.4	No	No
6	Rivergrade Rd.	s/o Stewart Av.	68.4	69.5	1.1	No	No
7	Rivergrade Rd.	s/o Live Oak Av.	77.7	77.8	0.1	No	No
8	Stewart Av.	s/o Live Oak Av.	68.0	68.1	0.1	Yes	No
9	Baldwin Park Bl.	s/o Live Oak Av.	72.8	72.8	0.0	Yes	No
10	Maine Av.	s/o Arrow Hwy.	71.7	71.8	0.1	Yes	No
11	Longden Av.	w/o Myrtle Av.	75.7	75.8	0.1	Yes	No
12	Longden Av.	e/o Myrtle Av.	76.8	76.9	0.1	No	No
13	Live Oak Av.	w/o Peck Rd.	76.3	76.4	0.1	Yes	No
14	Arrow Hwy.	e/o Peck Rd.	78.9	79.0	0.1	No	No
15	Arrow Hwy.	e/o Longden Av.	81.3	81.3	0.0	No	No
16	Arrow Hwy.	e/o I-605 Fwy.	79.6	79.8	0.2	No	No
17	Arrow Hwy.	w/o Rivergrade Rd.	78.9	79.1	0.2	No	No
18	Arrow Hwy.	e/o Rivergrade Rd.	78.7	78.8	0.1	No	No
19	Arrow Hwy.	w/o Maine Av.	81.6	81.6	0.0	No	No
20	Arrow Hwy.	e/o Maine Av.	80.3	80.4	0.1	No	No
21	Live Oak Av.	w/o Rivergrade Rd.	80.1	80.1	0.0	No	No
22	Live Oak Av.	e/o Rivergrade Rd.	80.4	80.5	0.1	No	No
23	Live Oak Av.	e/o Stewart Av.	80.2	80.3	0.1	No	No
24	Live Oak Av.	w/o Arrow Hwy.	79.6	79.7	0.1	No	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use.

² Significance Criteria (Section 4).

Source: (Urban Crossroads, Inc., 2018e, Table 7-9)



2. Stationary Noise Impacts

As previously discussed in EIR Subsection 4.9.2B, implementation of the proposed The Park @ Live Oak Specific Plan would entail the construction and operation of an industrial and commercial business park. Based on the list of permitted uses identified in the proposed Specific Plan, a reasonable assumption was made for a mix of stationary noise sources associated with the operation of the Project; these would include but not be limited to idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, refrigerated containers or reefers, roof-top air conditioning units, drive-through speakerphones, parking lot vehicle movements, and gas station activity. The reference noise levels describe the worst-case noise condition with full 24-hour operation. However, in reality, operational noise levels would vary throughout the day and would not be constant. Based upon the reference noise levels, as previously described in EIR Subsection 4.9.2B.1, Table 4.9-22, *Project Operational Stationary Noise Levels*, operational activity noise is expected to range from 23.9 to 33.4 dBA L_{eq} at noise-sensitive receiver locations R1 to R7, and from 44.3 to 49.4 dBA L_{eq} at non-noise sensitive receiver locations R8 to R11. The unmitigated Project operational noise level calculation worksheets are included in Appendix 9.1 of the Project’s Noise Impact Analysis (EIR *Technical Appendix H*). (Urban Crossroads, Inc., 2018e, p. 63)

Table 4.9-22 Project Operational Stationary Noise Levels

Receiver Location ¹	Noise Levels by Individual Source ²					Combined Operational Noise Levels (dBA L_{eq}) ³
	Truck Idle/Reefer Activity	Roof-Top Air Conditioning Unit	Drive-Through Speakerphone	Parking Lot Vehicle Movements	Gas Station Activity	
R1	25.7	16.5	12.6	12.6	9.4	26.6
R2	32.5	23.5	19.4	17.9	16.4	33.4
R3	25.6	15.6	11.9	12.2	8.9	26.4
R4	23.1	13.1	9.2	10.1	6.0	23.9
R5	26.7	16.0	12.3	12.3	9.0	27.4
R6	28.1	17.7	11.8	13.8	8.6	28.8
R7	24.5	14.2	10.4	10.9	7.2	25.3
R8	47.9	39.4	39.3	33.5	37.3	49.4
R9	45.8	37.3	33.9	29.1	31.4	46.8
R10	44.1	38.1	29.2	29.9	26.6	45.4
R11	40.8	39.3	34.7	30.7	33.5	44.3

¹ See Exhibit 9-A for the receiver and noise source locations.

² Reference noise sources as shown on Table 9-1.

³ Calculations for each noise source are provided in Appendix 9.1.

Source: (Urban Crossroads, Inc., 2018e, Table 9-2)

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Irwindale and adjacent jurisdictions’ noise level standards. Table 4.9-23, *Project Operational Noise Level Compliance*, shows the operational noise levels associated with the Project would comply with the exterior noise level

standards at all nearby sensitive receiver locations, under each applicable jurisdictions' standards. Therefore, the Project's operational noise impacts are considered less than significant. (Urban Crossroads, Inc., 2018e, p. 64)

Table 4.9-23 Project Operational Noise Level Compliance

Receiver Location ¹	City	Land Use	Noise Level at Receiver Locations (dBA L _{eq}) ²	Thresholds at Receiving Land Use (dBA L _{eq})			Threshold Exceeded? ³		
				Daytime	Evening	Nighttime	Daytime	Evening	Nighttime
R1	Irwindale	Noise-Sensitive (Residential Standards)	26.6	50	-	45	No	-	No
R2	Irwindale		33.4	50	-	45	No	-	No
R3	Duarte		26.4	55	-	45	No	-	No
R4	Irwindale		23.9	50	-	45	No	-	No
R5	Baldwin Park		27.4	55	50	45	No	No	No
R6	Baldwin Park		28.8	55	50	45	No	No	No
R7	El Monte		25.3	50	-	45	No	-	No
R8	Irwindale	Industrial	49.4	70	-	60	No	-	No
R9	Irwindale		46.8	70	-	60	No	-	No
R10	Irwindale		45.4	70	-	60	No	-	No
R11	Irwindale		44.3	70	-	60	No	-	No

¹ See Exhibit 9-A for the receiver and noise source locations.

² Estimated Project operational noise levels as shown on Table 9-2.

³ Do the estimated Project operational noise levels meet the operational noise level thresholds?

"-" = Jurisdiction does not identify evening noise level limits (daytime and nighttime only); "Daytime," "Evening," and "Nighttime" based on the hours specified on Table 3-1 by each respective jurisdiction.

Source: (Urban Crossroads, Inc., 2018e, Table 9-3)

Noise levels that would be experienced at receiver locations when unmitigated Project-source noise is added to the ambient daytime and nighttime conditions are presented on Table 4.9-24, *Project Operational Noise Level Contributions – Daytime*, and Table 4.9-25, *Project Operational Noise Level Contributions – Nighttime*, respectively. As indicated on Table 4.9-24 and Table 4.9-25, the Project would not contribute an operational noise level increase during the daytime hours and would contribute an operational noise level increase during the nighttime hours of up to 0.1 dBA L_{eq}. Based on the without Project (ambient) noise levels, the Project operational noise level increases would comply with the significance criteria discussed in EIR Subsection 4.9.3D, and therefore, the noise level increases at the sensitive receiver locations would be less than significant. On this basis, Project operational stationary-source noise would not result in a substantial temporary/periodic, or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Noise impacts associated with long-term on-site operations would be less than significant. (Urban Crossroads, Inc., 2018e, pp. 65-66)



Table 4.9-24 Project Operational Noise Level Contributions – Daytime

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Contribution ⁶	Threshold Exceeded? ⁷
R1	26.6	L1	66.3	66.3	0.0	No
R2	33.4	L2	67.2	67.2	0.0	No
R3	26.4	L3	55.3	55.3	0.0	No
R4	23.9	L4	51.8	51.8	0.0	No
R5	27.4	L5	56.1	56.1	0.0	No
R6	28.8	L6	56.3	56.3	0.0	No
R7	25.3	L7	53.2	53.2	0.0	No
R4	49.4	L8	80.1	80.1	0.0	No
R5	46.8	L8	80.1	80.1	0.0	No
R6	45.4	L8	80.1	80.1	0.0	No
R7	44.3	L8	80.1	80.1	0.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.

² Total Project operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria as defined in Section 4.

Source: (Urban Crossroads, Inc., 2018e, Table 9-4)



Table 4.9-25 Project Operational Noise Level Contributions – Nighttime

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Contribution ⁶	Threshold Exceeded? ⁷
R1	26.6	L1	63.3	63.3	0.0	No
R2	33.4	L2	62.9	62.9	0.0	No
R3	26.4	L3	51.0	51.0	0.0	No
R4	23.9	L4	43.0	43.1	0.1	No
R5	27.4	L5	53.3	53.3	0.0	No
R6	28.8	L6	54.7	54.7	0.0	No
R7	25.3	L7	49.5	49.5	0.0	No
R4	49.4	L8	76.4	76.4	0.0	No
R5	46.8	L8	76.4	76.4	0.0	No
R6	45.4	L8	76.4	76.4	0.0	No
R7	44.3	L8	76.4	76.4	0.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.

² Total Project operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 5-A.

⁴ Observed ambient noise levels as shown on Table 5-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance Criteria as defined in Section 4.

Source: (Urban Crossroads, Inc., 2018e, Table 9-5)



Threshold b: *Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?*

A. Short-Term Construction Vibration Impacts

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration 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. It is not expected that heavy equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.
- **Trucks:** Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem. (Urban Crossroads, Inc., 2018e, p. 80)

Ground-borne vibration levels resulting from construction of the Project were estimated by data published by the Federal Transit Administration (FTA). Grading activities during Project construction would have the potential to generate low levels of ground-borne vibration. Using the vibration source level of construction equipment provided on Table 4.9-7 and the construction vibration assessment methodology published by the FTA, calculated vibration levels at nearby receiver locations are reported on Table 4.9-26, *Project Construction Vibration Levels*. (Urban Crossroads, Inc., 2018e, p. 80)

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference velocity of 0.089 in/sec PPV at 25 feet. As shown on Table 4.9-26, at distances ranging from 191 to 6,424 feet from Project construction activities, construction vibration velocity levels are expected to approach 0.004 in/sec PPV. To assess the human perception of vibration levels in PPV the velocities are converted to RMS vibration levels based on the Caltrans Transportation and Construction Vibration Guidance Manual conversion factor of 0.71. Table 4.9-26 shows the highest construction vibration levels in RMS are expected to approach 0.003 in/sec RMS at the nearby receiver locations. Based on the County of Los Angeles threshold of 0.01 in/sec RMS, construction activities associated with the proposed Project would not exceed the vibration standard of 0.01 in/sec RMS at all receiver locations during Project construction. Therefore, vibration impacts associated with construction of the Project would be less than significant. (Urban Crossroads, Inc., 2018e, p. 80)



Further, the Project-related construction vibration levels do not represent levels capable of causing building damage to nearby residential structures. The FTA identifies construction vibration levels capable of building damage ranging from 0.12 to 0.5 in/sec PPV. The peak Project-related construction vibration levels shown on Table 4.9-26, approaching 0.004 in/sec PPV, would not exceed the FTA vibration levels for building damage at the residential homes near the Project site. Based on the foregoing, vibration impacts associated with Project construction would be less than significant. (Urban Crossroads, Inc., 2018e, pp. 80-81)

At distances ranging from 79 to 2,567 feet from the Project’s off-site water line construction activities, construction vibration velocity levels are expected to approach 0.006 in/sec PPV, as shown on Table 4.9-27, *Off-Site Water Line Construction Vibration Levels*. The highest construction vibration levels in RMS are expected to approach 0.004 in/sec RMS at the nearby receiver locations. Based on the County of Los Angeles threshold of 0.01 in/sec RMS, the Project’s proposed off-site water line construction activities would not exceed the vibration standard of 0.01 in/sec RMS at the nearby sensitive receiver locations. Therefore, vibration impacts resulting from construction of the Project’s off-site water lines would be less than significant. (Urban Crossroads, Inc., 2018e, p. 81)

Table 4.9-26 Project Construction Vibration Levels

Receiver ¹	Distance to Const. Activity (Feet)	Receiver PPV Levels (in/sec) ²					RMS Vibration Level ³	Threshold Exceeded? ⁴
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Highest Vibration Levels		
R1	4,356'	0.000	0.000	0.000	0.000	0.000	0.000	No
R2	1,900'	0.000	0.000	0.000	0.000	0.000	0.000	No
R3	4,581'	0.000	0.000	0.000	0.000	0.000	0.000	No
R4	6,424'	0.000	0.000	0.000	0.000	0.000	0.000	No
R5	4,422'	0.000	0.000	0.000	0.000	0.000	0.000	No
R6	3,651'	0.000	0.000	0.000	0.000	0.000	0.000	No
R7	5,662'	0.000	0.000	0.000	0.000	0.000	0.000	No
R8	191'	0.000	0.002	0.004	0.004	0.004	0.003	No
R9	370'	0.000	0.001	0.001	0.002	0.002	0.001	No
R10	283'	0.000	0.001	0.002	0.002	0.002	0.002	No
R11	254'	0.000	0.001	0.002	0.003	0.003	0.002	No

¹ Receiver locations are shown on Exhibit 10-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 6-8.

³ Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.

⁴ Do the highest vibration levels exceed the maximum acceptable vibration threshold shown on Table 4-2?

Source: (Urban Crossroads, Inc., 2018e, Table 10-10)



Table 4.9-27 Off-Site Water Line Construction Vibration Levels

Receiver ¹	Distance to Off-Site Const. Activity (Feet)	Receiver PPV Levels (in/sec) ²			RMS Vibration Level ³	Threshold Exceeded? ⁴
		Small Bulldozer	Jack-hammer	Highest Vibration Levels		
R2	2,567'	0.000	0.000	0.000	0.000	No
R3	79'	0.001	0.006	0.006	0.004	No

¹ Closest sensitive receiver locations to the off-site water line locations are shown on Exhibit 10-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 6-8.

³ Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.

⁴ Do the highest vibration levels exceed the maximum acceptable vibration threshold shown on Table 4-2?

Source: (Urban Crossroads, Inc., 2018e, Table 10-11)

B. Long-Term Operational Vibration Impacts

As previously discussed in EIR Subsection 4.9.3, the threshold of 0.01 in/sec RMS is used to assess the potential vibration impacts from truck trips associated with the Project’s operational activities. Truck vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. Typical vibration levels for the Project’s heavy truck activity at normal traffic speeds will approach 0.004 in/sec PPV and 0.003 in/sec RMS at 25 feet based on the FTA Transit Noise Impact and Vibration Assessment. Trucks transiting on-site will be travelling at very low speeds; therefore, it is anticipated that delivery truck vibration impacts at nearby receivers would not exceed the vibration threshold of 0.01 in/sec RMS, and impacts would be less than significant. (Urban Crossroads, Inc., 2018e, p. 67)

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?*

The uses proposed on the Project site by The Park @ Live Oak Specific Plan are not noise-sensitive. The closest airport to the Project site is the El Monte airport which is located approximately 2.8 miles southwest of the Project site. As shown on the Los Angeles County Airport Land Use Commission (ALUC) GIS database, the Project site is not located within the Airport Influence Area (AIA), Airport Runway Protection Zone and Inner Safety Zone, or the Federal Aviation Regulations (FAR) – Part 77 Imaginary Surfaces associated with the El Monte Airport (LACDRP, 2009). Additionally, the proposed Project does not involve the construction, operation, or use of any public airports or public use airports. There are no conditions associated with the proposed Project that would contribute to airport noise or exposure of additional people to unacceptable levels of airport noise. Accordingly, the Project would have no impact associated with airport noise.



There are no private airstrips in the vicinity of the Project site, so there is no potential for the proposed Project to expose people residing or working in the project area to excessive noise levels associated with private airstrip operations (Google Earth Pro, 2018). Accordingly, no impact would occur.

4.9.5 CUMULATIVE IMPACT ANALYSIS

This cumulative impact analysis considers development of the proposed Project in conjunction with other development projects in the vicinity of the Project site. The analysis of potential cumulative impacts is divided into four (4) general topics of discussion by combining the Thresholds of Significance (listed above in Subsection 4.9.3) into groupings of similar topics.

A. Substantial Noise Increase or Violations (Threshold a)

1. Short-Term Cumulative Construction-Noise Impacts

Construction activities associated with the 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 peak noise level anticipated during construction activities are estimated to reach a maximum noise level of 67.9 dBA L_{eq} at receiver R8 (represents the existing quarry uses located approximately 150 feet north of the Project site) which does not represent an increase in noise levels by more than 5 dBA L_{eq} above the ambient noise levels at receiver R8. Therefore, Project construction-related activities would result in less-than-significant noise impacts. Because the Project's construction noise levels would be less than significant and construction noise would be temporary in nature, in addition to the fact that the Project and other cumulative projects (previously identified in EIR Table 4.0-1, *List of Cumulative Development Projects*, and shown in EIR Figure 4.0-1, *Cumulative Development Projects Location Map*) would be required to comply with applicable noise standards to reduce potential construction-related noise level impacts, Project construction activities combined with foreseeable construction noise from nearby development would result in a less-than-cumulatively considerable increase in ambient noise levels in the Project study area.

2. Long-Term Cumulative Traffic-Related Noise Impacts

The traffic-related noise analysis contained in the Noise Impact Analysis for future conditions (Year 2020 and Year 2040) was based upon the Project's Traffic Impact Analysis (*Technical Appendix II*) which considers impacts based on the addition of cumulative development projects as well as ambient growth. Therefore, the Noise Impact Analysis for future conditions contained above is inherently cumulative in nature. As previously shown in Table 4.9-18 and Table 4.9-21 (respectively), the Project's traffic-related noise impacts to all 24 study area roadway segments would be less than significant under the future Opening Year 2020 and Horizon Year 2040 conditions. Therefore, the Project's traffic-related noise impacts along study area roadway segments (24 total) would be less-than-cumulatively considerable under Existing (2017), Opening Year 2020, and Horizon Year 2040 conditions.



3. *Long-Term Cumulative Stationary Noise Impacts*

As previously shown in Table 4.9-24 and Table 4.9-25 (respectively), the proposed Project would not result in an increase in the cumulative noise levels at sensitive receiver locations during daytime hours (7:00 a.m. to 10:00 p.m.) or during nighttime hours (10:00 p.m. to 7:00 a.m.). Thus, the Project's operational activities would not contribute to the creation of a significant long-term increase in noise levels above the ambient conditions and would not cause or contribute to the exposure of sensitive receptors to noise levels in excess of applicable standards. Furthermore, as shown on Figure 4.0-1, *Cumulative Development Projects Location Map*, and Figure 4.9-2, *Receiver Locations*, there are no cumulative development projects located in the vicinity of the sensitive receivers (R1 through R7) that could generate new stationary noise impacts which (when combined with stationary noise generated by operation of the Project) could result in cumulatively considerable noise impacts. Accordingly, the Project would have less-than-significant direct and cumulative stationary operational noise impacts.

B. Groundborne Vibration and Groundborne Noise (Threshold b)

The types of construction equipment that would be used to implement the proposed Project would not create vibration amplitudes that could cause structural damage to nearby structures. The nearest existing off-site structures would not be exposed to substantial ground-borne vibration due to the temporary operation of heavy construction equipment on the Project site. Under long-term operating conditions, the Project would not involve the use of equipment, facilities, or activities that would result in perceptible groundborne vibration. Other cumulative development projects in the vicinity of the proposed Project could result in a cumulatively considerable impact regarding ground-borne vibration and ground-borne noise during construction. However, the proposed Project as well as other cumulative projects (listed in Table 4.0-1 of this EIR) would be required to comply with applicable noise standards to reduce potential ground-borne vibration and ground-borne noise impacts. Accordingly, groundborne vibration and noise impacts would be less-than-cumulatively considerable.

C. Public and Private Airport-Related Noise Levels (Threshold c)

The proposed Project does not involve the construction, operation, or use of any public airports, public use airports, or private airstrips. There are no conditions associated with 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 any public airports, public use airports, or private airstrip. Additionally, the Project does not lie within an airport land use plan, or within two miles of a public airport or public use airport or a private airstrip. Accordingly, no direct or cumulative impacts associated with airport-related noise would occur.

4.9.6 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Less-than-Significant Impact. Noise generated by Project construction activities would result in a less-than-significant increase in ambient noise levels. During long-term operation of the Project, the Project would not expose persons to or generate noise levels in excess of local standards and would not result in a substantial permanent increase in ambient noise levels in the Project vicinity



above levels existing without the Project. Additionally, under long-term operation, Project-related traffic would not expose persons to or generate noise levels in excess of local standards and would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Accordingly, the Project's long-term noise impacts would be less than significant.

Threshold b: Less-than-Significant Impact. The Project would not generate excessive groundborne vibration or groundborne noise levels. Impacts would be less than significant.

Threshold c: No Impact. The Project would not expose people residing or working in the area to excessive noise levels associated with public airports or private airstrips. Therefore, the Project would have no impact.

4.9.7 MITIGATION

Impacts would be less than significant. Therefore, no mitigation is required.



4.10 PUBLIC SERVICES

The analysis in this Subsection assesses the Project's potential to cause physical impacts to the environment resulting from Project-related service demands placed on the following public services: fire protection/emergency medical, police protection, schools, parks/recreation, and libraries. There are no other public services for which Project-related service demands would have the potential to physically impact the environment. The analysis in this Subsection is based in part on the City of Irwindale General Plan Update (City of Irwindale, 2008), Section 3.12, *Public Services Impacts*, of the City of Irwindale General Plan Update EIR (City of Irwindale, 2006), and written correspondence with the City of Irwindale Police Department and the Los Angeles County Fire Department (LACFD), which are included as *Technical Appendix N*. A complete list of references utilized in this Subsection is contained in EIR Section 7.0, *References*.

4.10.1 EXISTING CONDITIONS

A. Fire Protection/Emergency Medical Service

Fire protection and medical aid services are provided to the Project site and surrounding area by the LACFD. The LACFD is a full-service fire department that provides fire suppression, urban search and rescue, paramedic ambulance service, fire prevention inspections/permits, public fire education programs, emergency preparedness planning, fire cause and origin investigation, fire patrols, and other services based on community needs. LACFD calls for service pertaining to the City of Irwindale are dispatched from Fire Station No. 169, located in El Monte at 5112 North Peck Road. LACFD Fire Station No. 169 is also the closest fire station to the Project site and is located approximately 2.4 roadway miles southwest of the Project site. According to LACFD, the estimated response time to the Project site from Station No. 169 is five (5) to six (6) minutes (Google Earth, 2018; LACFD, 2018).

B. Police Service

The Project site is served by the Irwindale Police Department (IPD). The IPD provides police services throughout the City of Irwindale from its headquarters located at 5050 North Irwindale Avenue in Irwindale, California. The IPD police station is staffed with 37 employees, including 27 sworn police officers. Average response times for priority 1 (emergency) calls are usually three minutes or less. (IPD, 2018)

The IPD police station is located approximately 3.2 roadway miles east of the Project site. Although, officers do not usually respond to calls for service from the station because they are out on patrol throughout the City and mobile throughout the duration of their shifts. Estimated response times for service calls to the Project site are nine (9) minutes for a non-emergency and three (3) minutes for an emergency. Under existing conditions, the Project site is used as an IEDFO and therefore calls for police service to the site are presumed to be infrequent. (IPD, 2018; Google Earth, 2018)

The IPD has a mutual aid contract with the Los Angeles County Sheriff's Department which provides special weapons teams when required, as well as other specialized equipment and services. Air support services are provided through a contract with the El Monte Police Department. Jail booking services



are accomplished through a contract for services with the Glendora Police Department Jail facility. (City of Irwindale, 2006, p. 68)

C. Schools

The Project site is located within the Baldwin Park Unified School District and Covina-Valley Unified School District. The only public school located within the City of Irwindale is Merwin Elementary School, which is located approximately 3.2 miles southeast of the Project site and is within the Covina-Valley Unified School District (Google Earth, 2018). Under existing conditions, the Project site places no demand on the public-school system because it operates as an IDEFO and does not include any households with public school students.

D. Parks and Recreational Facilities

According to the Irwindale General Plan Update, the City of Irwindale owns and maintains three (3) park facilities: Irwindale Park, Jardin de Roca Park, and the Nora Fraijo Pocket Park. Irwindale Park is a 25.0-acre park that includes a gym, baseball field, children's playground, picnic facilities, tennis courts, and an Olympic-size swimming pool. Irwindale Park is located at 16053 Calle De Paseo, Irwindale, California, approximately 2.7 miles east of the Project site. The Jardin de Roca Park is located at 5051 Irwindale Avenue, Irwindale, California (approximately 2.6 miles east of the Project site), and features a skate park, picnic tables, and playground equipment. (City of Irwindale, 2008, p. 109)

Additionally, the Santa Fe Dam Recreation Area is located approximately 1.4 mile east of the Project site, which consists of a 650-acre recreational area that the Los Angeles County Parks and Recreation Department leases from the Santa Fe Dam Reservoir Area. According to the City of Irwindale General Plan Update, the Santa Fe Dam Recreation Area consists of approximately 250 acres of passive recreation facilities, 350 acres of wildlife management area, and 50 acres of natural open space. Recreational amenities within the Santa Fe Dam Recreation Area include a 70-acre lake (including a seasonal swim beach patrolled by lifeguards), picnic areas, playgrounds, nature trails, bicycle trails, camping areas, and wildlife interpretive center. (City of Irwindale, 2008, p. 109)

E. Library Facilities

The Irwindale Public Library is owned and operated by the City of Irwindale, located at 5050 North Irwindale Avenue. Under existing conditions, the Project site places no demand on the City's public library system because the Project site operates as an IDEFO and does not include any households that would use a library.



4.10.2 APPLICABLE ENVIRONMENTAL REGULATIONS

A. Fire Protection Services Regulations and Plans

1. Public Resources Code (PRC) Sections 4290-4299

This portion of the Public Resources Code (PRC) requires minimum statewide fire safety standards pertaining to: road standards for fire equipment access; standards for signs identifying streets, roads, and buildings; minimum private water supply reserves for emergency fire use; and fuel breaks and greenbelts. With certain exceptions, all new construction in potential wildland fire areas is required to meet the statewide standards. State requirements, however, do not supersede more restrictive local regulations.

2. PRC Sections 4102-4127 - State Responsibility Areas (SRAs)

PRC Section 4102 specifies that “‘State responsibility areas’ means areas of the state in which the financial responsibility of preventing and suppressing fires has been determined by the [State Fire] Board pursuant to Section 4125, to be primarily the responsibility of the state.” These areas may contain state or privately-owned forest, watershed, and rangeland. §§ 4126-4127 of the PRC further specify the standards that define what does and does not constitute an SRA.

3. California Code of Regulations (CCR) Title 24, Parts 2 and 9 – Fire Codes

Part 2 of Title 24 of the CCR refers to the California Building Code which contains complete regulations and general construction building standards of State of California adopting agencies, including administrative, fire and life safety and field inspection provisions. Part 2 was updated in 2008 to reflect changes in the base document from the Uniform Building Code to the International Building Code. Part 9 refers to the California Fire Code, which contains other fire safety-related building standards. In particular, Chapter 7A, “Materials and Construction Methods for Exterior Wildfire Exposure,” in the 2010 California Building Code addresses fire safety standards for new construction and Section 701A.3.2 addresses “New Buildings Located in Any Fire Hazard Severity Zone.”

4. CCR Title 14 – Natural Resources

These regulations constitute the basic wildland fire protection standards of the California Board of Forestry. They were prepared and adopted to establish minimum wildfire protection standards in conjunction with building, construction, and development within SRAs. Among other things, Title 14 requires the design and construction of structures, subdivisions, and developments in an SRA provide for basic emergency access and perimeter wildfire protection measures (fire fuel modification zones, etc.).



5. *California Government Code (CGC) Sections 51178-51179 – Very High Fire Hazard Severity Zones*

Section 51178 specifies that the Director of CalFire, in cooperation with local fire authorities, must identify areas that are Very High Fire Hazard Severity Zones (VHFHSZs) in Local Responsibility Areas (LRAs), based on consistent statewide criteria and the expected severity of fire hazard. It further specifies that VHFHSZs “shall be based on fuel loading, slope, fire weather and other relevant factors,” including areas subject to Santa Ana winds which are a “major cause of wildfire spread.” Section 51179 states that a local agency (such as a county) must also designate (and map) the VHFHSZs in its jurisdiction by ordinance. (See the discussion on Ordinance No. 787, below, regarding Riverside County’s VHFHSZs). Other portions of the Government Code outline when a local agency may use its discretion to exclude areas from VHFHSZ requirements or add areas not designated by the State of California to its VHFHSZ areas.

6. *CGC Section 51182 – Defensible Space*

Pursuant to this code, a person who “owns, leases, controls, operates or maintains an occupied dwelling or occupied structure in, upon or adjoining a mountainous area, forest-covered land, brush-covered land, grass-covered land or land that is covered with flammable material” in a very high fire hazard severity zone designated by the local agency pursuant to § 51179, shall at all times maintain a specified amount of “defensible space” to protect structures in high fire hazard areas.

7. *PRC Section 4213 - Fire Prevention Fees*

Pursuant to PRC Section 4213, in July of 2011, the State of California began assessing an annual “Fire Prevention Fee” for all habitable structures within the State’s Responsibility Area (SRA) to pay for fire prevention services. The SRA is the portion of the state where the State of California is financially responsible for the prevention and suppression of wildfires. The SRA does not include lands within incorporated city boundaries, Tribal or federally owned land. As of 2013, the fee is up to \$150 per habitable structure (i.e., a building that can be occupied for residential use, which does not include incidental buildings such as detached garages, barns, outdoor bathrooms, sheds, etc.).

B. School Services Regulations and Plans

1. *Assembly Bill (AB) 16*

In 2002, AB 16 created the Critically Overcrowded School Facilities program, which supplements the new construction provisions within the School Facilities Program (SFP). The SFP provides State of California funding assistance for new facility construction projects and modernization projects. The Critically Overcrowded School Facilities program allows school districts with critically overcrowded school facilities, as determined by the California Department of Education (CDE), to apply for new construction projects in advance of meeting all SFP new construction program requirements. Districts with SFP new construction eligibility and school sites included on a CDE list of source schools may apply.



2. *Leroy F. Greene School Facilities Act of 1998 (Senate Bill (SB) 50)*

Senate Bill 50 (SB 50) was enacted by the State Legislature in 1998, which amended existing state law governing school fees. In particular, SB 50 amended prior California Government Code (CGC) Section 65995(a) to prohibit state or local agencies from imposing school impact mitigation fees, dedications, or other requirements in excess of those provided in the statute in connection with “any legislative or adjudicative act...by any state or local agency involving...the planning, use, or development of real property....”

The legislation also amended CGC Section 65996(b) to prohibit local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any “legislative or adjudicative act [involving] the planning, use or development of real property.” Further, SB 50 established the base amount of allowable developer fees: \$1.93 per square foot for residential construction and \$0.31 per square foot for commercial. These base amounts are commonly called “Level 1 fees” and are the same caps that were in place at the time SB 50 was enacted. Level 1 fees are subject to inflation adjustment every two years.

In certain circumstances, for residential construction, school districts can impose fees that are higher than Level 1 fees. School districts can impose Level 2 fees, which are equal to 50% of land and construction costs if they: (1) prepare and adopt a school needs analysis for facilities; (2) are determined by the State Allocation Board to be eligible to impose these fees; and (3) meet at least two of the following four conditions:

- At least 30% of the district’s students are on a multi-track year-round schedule.
- The district has placed on the ballot within the previous four years a local school bond that received at least 50% of the votes cast.
- The district has passed bonds equal to 30% of its bonding capacity.
- Or, at least 20% of the district’s teaching stations are relocatable classrooms.

Additionally, if the State of California’s bond funds are exhausted, a school district that is eligible to impose Level 2 fees is authorized to impose even higher fees. Commonly referred to as “Level 3 fees,” these fees are equal to 100% of land and construction costs of new schools required as a result of new developments.

4.10.3 BASIS FOR DETERMINING SIGNIFICANCE

Section XV of Appendix G to the CEQA Guidelines addresses typical adverse effects to public services, and includes the following threshold questions to evaluate a project’s impacts on public services (OPR, 2018) The Project would have a significant impact associated with public services if the Project or any Project-related component would:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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:

- a. fire protection;*
- b. police protection;*
- c. schools;*
- d. parks;*
- e. other public facilities.*

4.10.4 IMPACT ANALYSIS

Threshold a: *Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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:*

a) Fire protection?

The Project site receives fire protection services from LACFD. Development of the Project site in accordance with The Park @ Live Oak Specific Plan and related entitlement actions has the potential to increase the frequency of fire protection and emergency medical calls to the site. As was previously stated, LACFD Fire Station No. 169 (located at 5112 North Peck Road in El Monte) is the nearest fire station to the Project site, located approximately 2.4 roadway miles southwest of the site. The estimated response time to the Project site from Station No. 169 is five (5) to six (6) minutes or less. Fire Station No. 169 is staffed with a 3-person engine company including one (1) fire captain, one (1) firefighter specialist, and one (1) firefighter. LACFD has indicated that current staffing and facilities at LACFD Fire Station No. 169 would provide adequate fire protection and emergency services without the need for construction of additional facilities or expansion of existing facilities. (Google Earth, 2018; LACFD, 2018)

All of the Project's buildings are required by law to include fire sprinklers. Further, based on the expected building sizes and occupant types that would be permitted by The Park @ Live Oak Specific Plan (industrial and commercial business park-type uses), it is highly likely that most of the large buildings constructed within the Specific Plan area would be equipped with an Early Suppression, Fast Response (ESFR) fire sprinkler system. ESFR systems incorporate high volume, high-pressure sprinkler heads to provide the necessary fire protection, without the need for in-rack sprinklers. While most other sprinkler systems are intended to control the growth of a fire, an ESFR sprinkler system is designed to suppress a fire. To suppress a fire does not necessarily mean that the system will extinguish the fire but rather it is meant to "knock" the fire back down to its original point of origin. ESFR systems provide buildings with a high margin of fire safety and also allow more time for emergency responders to reach a fire incident before a fire spreads from its point of origin.



The buildings that would be developed on the Project site are required by law to be constructed in accordance with the California Building Standards Code (CBSC), which includes preventative fire measures. In addition, the LACFD is required to review all future building plans to ensure that every building is positioned in a way that allows adequate access for emergency vehicles and has adequate fire hydrant placement and fire flows.

As stated above, the LACFD has indicated that this Project would have a less-than-significant impact on fire protection services and would not necessitate new or expanded off-site fire protection facilities (LACFD, 2018). Additionally, based on the Project site's proximity to LACFD Fire Station No. 169 (2.4 roadway miles away) and the requirement for future buildings constructed within the Project site to install appropriate fire suppression systems and comply with the preventative fire measures from the CBSC, Project implementation would not result in or require new or expanded off-site fire protection facilities. In addition, no fire stations are presently located on-site or are planned to be located on the site, so there is no potential for the Project to have a direct physical impact related to a fire protection facility. For these reasons, the Project would result in less-than-significant impacts to fire protection facilities.

Threshold b: *Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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:*

b) Police protection?

The Project site receives police services from the City of Irwindale Police Department (IPD), which when needed, contracts with the Los Angeles County Sheriff's Department (LACSD) which can provide additional services including special weapons teams and specialized equipment through a mutual aid agreement (City of Irwindale, 2008, p. 127). Development of the Project would potentially increase the frequency of police calls to the site compared to existing conditions.

Security would be enhanced by Project design; The Park @ Live Oak Specific Plan specifies that walls and/or fencing are to be installed around truck courts and service areas, which will reduce the potential for crimes such as theft and vandalism. Also, most large industrial/business park buildings are anticipated to have a security check-in gate for trucks and service vehicles. During the building permit plan check process, an IPD police captain or police lieutenant reviews the building plans before the City issues a building permit to determine the needs for crime prevention, such as installation of lighting systems, emergency notification systems, and/ or crime prevention through environmental design. This pre-construction review process is intended to prevent or deter crime and the demand for police protection services to new developments.

The IPD has indicated that current staffing and facilities at the IPD police station located at 5050 North Irwindale Avenue would provide adequate police protection services without the need for the construction of additional facilities or the physical expansion of existing facilities (IPD, 2018). The



IPD estimates that average response times to the Project site would be nine (9) minutes for non-emergency situations and three (3) minutes for emergency situations.

Project implementation would not result in or require new or expanded police protection facilities. In addition, no police stations are presently located on the site or are planned to be located on the site, so there is no potential for the Project to have a direct physical impact any police protection facility. For these reasons, the Project would result in less-than-significant impacts to police protection facilities.

Threshold c: *Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance for any of the public services?*

c) Schools?

Development of Project site in accordance with the proposed The Park @ Live Oak Specific Plan would not create a direct demand for public school services because the property would contain non-residential uses (i.e., industrial and commercial land uses), which would not directly generate any school-aged children requiring public education. Because the proposed Project would not directly generate students and is not expected to indirectly draw a substantial number of students to the area, the proposed Project would not directly cause or contribute to a need to construct new or physically altered public school facilities.

Although the Project would not directly create a demand for additional public school services, the Project Applicant would still be required to contribute fees to the Baldwin Park Unified School District and Covina-Valley Unified School District, in compliance with California Senate Bill 50 (SB 50, Greene), California Government Code §§ 65995.5–65998, which allows school districts to collect fees from new developments to offset the costs associated with increasing school capacity needs. The payment of school mitigation impact fees authorized by SB 50 is deemed to provide “full and complete mitigation of impacts” on school facilities from the development of real property (California Government Code Section 65995).

Project implementation would not result in or require new or expanded public school facilities. In addition, no schools are located on the Project site, nor are any schools planned to be located on the Project site, so there is no potential for the Project to have a direct physical impact on any school. For these reasons, the Project would have less-than-significant impacts on school facilities.



Threshold d: *Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance for any of the public services?*

d) Parks?

Implementation of The Park @ Live Oak Specific Plan would not directly create a demand for public park facilities and would not directly result in the need to modify existing or construct new park and recreation facilities. Demand placed on parks and other recreation facilities is based on the generation of a resident population associated with a person's place of residence, and not typically their place of employment. In the case of the proposed Project, there is a potential that employees and visitors to the Project site would use the nearby Irwindale Park (located approximately 2.7 miles east of the Project site). The use of Irwindale Park and its amenities by employees and visitors would in no way advance the physical deterioration of the park or cause its overuse.

Additionally, no parks or recreation facilities are presently located on the Project site or are planned to be located on the site, so there is no potential for the Project to have a direct physical impact on any park or recreation facility. As such, the Project would have a less-than-significant impact on parks.

Threshold e: *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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?*

e) Other public facilities?

Implementation of The Park @ Live Oak Specific Plan would not directly create a demand for public library facilities and would not directly result in the need to modify existing or construct new library. Demand placed on libraries are based on the generation of a resident population associated with a person's place of residence, and not typically their place of employment. Because the Project would not directly result in a demand for library facilities, Project-related impacts to library facilities would be less than significant. There are no other public services for which Project-related service demands would have the potential to physically impact public facilities.

4.10.5 CUMULATIVE IMPACT ANALYSIS

The development of the Project site in accordance with the land uses permitted within the proposed The Park @ Live Oak Specific Plan would result in an incremental increase in demand for fire protection and police protection services to the site. However, both the LACFD and the IPD have existing facilities in place to adequately serve the Project site in its developed condition in addition to the Departments' other service commitments in their respective service areas. There is no reasonable potential that new police or fire protection stations would be needed or that existing stations would



need to be physically altered to accommodate necessary personnel and equipment. Accordingly, the Project would have a less-than-cumulatively considerable impact with respect to resulting in adverse physical impacts related to police/fire protection service facilities.

The proposed The Park @ Live Oak Specific Plan only permits employment uses and does not include a residential component. As such, the Project would not directly introduce new residents into the City and surrounding areas. Therefore, the Project would have no potential to result in cumulatively considerable impacts to resident-serving facilities such as schools, parks, libraries, and other public facilities or services. If any indirect resident growth occurs from the jobs that would be created by the Project, it is expected that such growth would be consistent with buildout projections and population projections reported in the local governments' General Plans, which are relied upon by local agencies to plan for public services. Accordingly, the Project's indirect impacts would be less-than-cumulatively considerable.

4.10.6 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Less-than-Significant Impact. The Project site is primarily served by LACFD Fire Station No. 169. According to the LACFD, Fire Station No. 169 has adequate physical capacity to house the personnel and equipment needed to service the proposed Project, and no new or expanded fire protection facilities are needed. Thus, the Project would have less-than-significant impacts on fire protection service facilities.

Threshold b: Less-than-Significant Impact. The Project site is served by the IPD from its police station, which has adequate physical capacity to house the personnel and equipment needed to service the proposed Project. Impacts to police service facilities would be less than significant.

Threshold c: Less-than-Significant Impact. The Project would not generate a student population requiring public education services. With mandatory payment of fees in accordance with California Senate Bill 50 (Greene) and California Government Code §§ 65995.5–65998, indirect effects to public schools would be less than significant.

Threshold d: Less-than-Significant Impact. The Project would not generate a resident population requiring public parks and recreation facilities. Therefore, the Project would not result in a substantial or measurable increase in demand for park facilities and therefore would not advance the physical deterioration of any park or recreation facility from overuse. Impacts would be less than significant.

Threshold e: Less-than-Significant Impact. The Project would not generate a resident population requiring public library services or other public services. Impacts to libraries and other public services would be less than significant.

4.10.7 MITIGATION

Impacts would be less than significant. Therefore, no mitigation is required.



4.11 TRANSPORTATION

The following analysis is based primarily on a technical traffic study prepared by Urban Crossroads, titled “The Park @ Live Oak Traffic Impact Analysis, City of Irwindale” dated December 12, 2018. This Traffic Impact Analysis (TIA) is included as *Technical Appendix II* to this EIR (Urban Crossroads, 2018f). “The Park @ Live Oak Access Evaluation” (included as EIR *Technical Appendix I2*) (Urban Crossroads, 2018g) also was relied upon. Other information sources referenced to prepare this Subsection included the City of Irwindale General Plan (City of Irwindale, 2008), the City of Irwindale General Plan EIR (City of Irwindale, 2006), and the Los Angeles County Metropolitan Transportation Authority’s Congestion Management Program (CMP) (LACMTA, 2010). Refer to Section 7.0 for a complete list of references.

This Subsection evaluates the potential of the proposed Project’s vehicular traffic to affect the performance of the surrounding street and highway network. Also provided is an analysis of potential effects on other modes of travel, including public transit, pedestrian, and bicycle modes. Transportation impacts are examined with respect to performance standards established by the City of Irwindale, the City of Baldwin Park, and the California Department of Transportation (Caltrans), based on the locations of affected roadway segments and intersections. Roadway segments and intersections in other cities have no potential to be significantly impacted by the Project because they would receive fewer than 50 peak hour Project-related trips, as discussed herein.

Note that all references to Project-generated truck trips in this Subsection are based on passenger car equivalents (PCEs). Because vehicles like large trucks, buses, and recreational vehicles take a longer period of time to pass through an intersection than passenger cars, all large vehicles have been converted into PCEs for analysis purposes. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow down is also longer than for passenger cars, and varies depending on the type of vehicle and number of axles. For the purpose of analysis, a PCE factor of 1.5 was applied to 2-axle trucks, a factor 2.0 was applied for 3-axle trucks and a factor of 3.0 was applied for 4+-axle trucks. Because Los Angeles County and the Southern California Association of Governments (SCAG) do not have readily available PCE factor recommendations, the PCE factors used herein are based on recommendations from San Bernardino County Transportation Authority (SBCTA), which is consistent with standard engineering practice throughout the Southern California region and appropriate based on the City of Irwindale’s and Urban Crossroads’ professional engineering judgment. (Urban Crossroads, 2018f, p. 54)

On December 28, 2018, updates to the CEQA Guidelines were approved by the Office of Administrative Law. As part of the updates, thresholds of significance for evaluation of impacts to transportation changed. The CEQA Guidelines update eliminated the threshold of significance for evaluating impacts due to changes to air traffic patterns, and consolidated the evaluation of impacts due to a conflict with adopted policies, plans, or programs into an analysis of impacts due to a conflict with programs, plans, ordinances, or policies addressing the circulation system (i.e., revised Threshold a). Threshold b for the topic of Transportation addresses California Senate Bill (SB) 743 and requires an evaluation of transportation impacts based on Vehicle Miles Travelled (VMTs); this methodology



replaces a previous methodology based on Level of Service (LOS) criteria. LOS has been used as the basis for determining the significance of traffic impacts as standard practice in CEQA documents for decades. In 2013, SB 743 was passed, which is intended to balance the need for an LOS evaluation for traffic planning purposes with the State's desire to encourage infill housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers and to provide greater flexibility to local governments to balance these sometimes-competing needs. As a component of OPR's revisions to the CEQA Guidelines in December 2018, lead agencies will be required to adopt VMT thresholds of significance by July 2020. At the time this EIR was prepared, a VMT metric was not published by OPR, and the City of Irwindale in its capacity as Lead Agency, as well as surrounding local agencies in which the Project's traffic would circulate, use LOS as the significance criteria for evaluating a project's traffic impacts. Further, VMT studies only automobile trips whereas an LOS evaluation considers all vehicle types, including the trucks and commerce vehicles that would be a considerable component of the Project's traffic mix. For this reason, a LOS metric and not a VMT metric is appropriately used in this EIR.

4.11.1 STUDY AREA DESCRIPTION

A. Regional Context

The Project site is located in the western portion of the City of Irwindale and is abutted to the east by Interstate 605 (I-605). Live Oak Avenue forms the southerly Project site boundary and Arrow Highway forms the northerly Project site boundary. Additionally, Interstate 210 (I-210) is located approximately 1.5 mile to the north of the Project site and Interstate 10 (I-10) is located approximately 2.9 miles to the south. (Google Earth Pro, 2018)

B. Intersections and Local Roads

Based on City of Irwindale requirements for the preparation of traffic reports and CMP requirements, the appropriate geographic area of study to evaluate a project's potential impacts to roads and intersections is an area in which the project would contribute 50 or more PCE peak hour trips to any intersection. Using this criterion, 20 existing and 10 anticipated future intersection locations are analyzed in detail in the Project's Traffic Impact Analysis (TIA) contained as *Technical Appendix II* to this EIR. Refer to Figure 4.11-1, *Traffic Study Intersection Locations*, for a map of the study area intersection locations and their identification numbers (ID #) used for reference in the TIA and this Subsection. Twenty-four (24) study area intersections are wholly located in the City of Irwindale; one intersection is located in Irwindale, Monrovia, and County of Los Angeles; five study area intersections are located in the cities of Irwindale and Baldwin Park. Two of the 30 study area intersections are CMP intersections under the authority of Caltrans, listed as Intersections ID #20 and ID #22 in Figure 4.11-1, *Traffic Study Intersection Locations*.

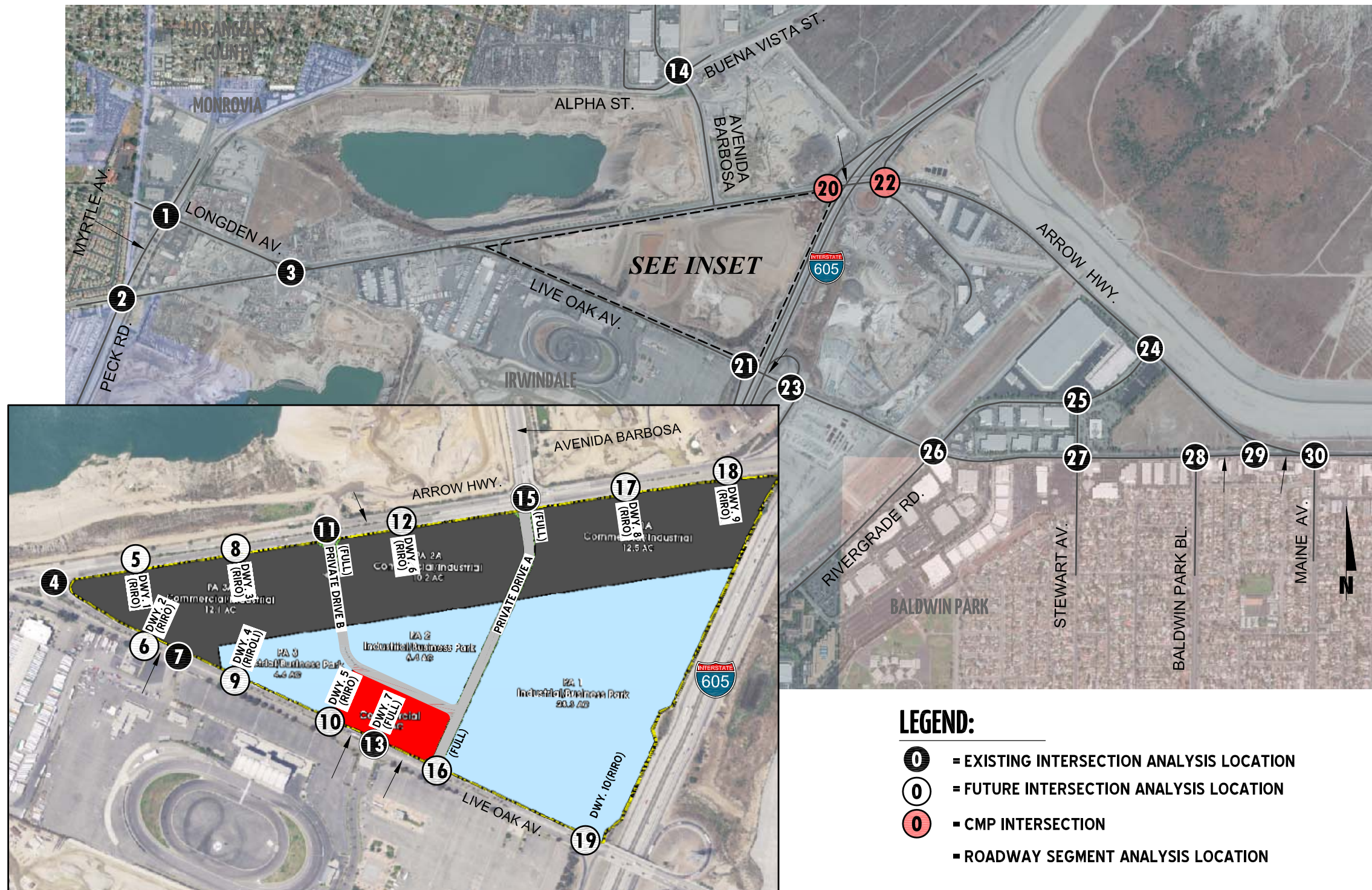
As described in EIR Section 3.0, *Project Description*, the proposed The Park @ Live Oak Specific Plan conceptual vehicular circulation plan includes two (2) backbone roadways (Private Drive A and Private Drive B). Private Drive A is planned to traverse the Specific Plan area and intersect with both Arrow Highway and Live Oak Avenue. Private Drive B is planned to intersect with Arrow Highway.



Although the proposed Specific Plan does not specify the exact locations of other access driveways that would serve buildings within the interior of the Specific Plan area, as stated in Chapter 2, *Development Plan*, of The Park @ Live Oak Specific Plan, driveway connections to Live Oak Avenue and Arrow Highway would be permitted with proper spacing and in conjunction with implementing development projects (T&B Planning, Inc., 2018, p. II-5). Thus, to ensure that all potential future driveway locations are adequately studied, the TIA (EIR *Technical Appendix II*) and this Subsection analyze the potential for 11 additional intersection locations at the Project site's frontage with Arrow Highway and Live Oak Avenue. Refer to Figure 4.11-1 for locations. Notations of "RIRO" on Figure 4.11-1 indicate that the driveway is assumed to have right-in/right-out turn movements only; left turns would not be feasible in these locations. Notations of "Full" on Figure 4.11-1 indicate that the driveway is assumed to have full right and left turning movements.

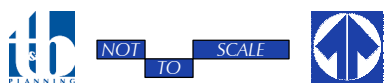
The assumed driveway locations at the Project site's frontage with Arrow Highway and Live Oak Avenue that are studied in the Project's TIA are based on reasonable assumptions about providing site access in a manner that would comport with the roadway standards and specifications established by the City of Irwindale. The exact locations of these driveways are subject to change pursuant to future implementing development within The Park @ Live Oak Specific Plan.

In addition to an analysis of intersection locations, the study area includes the roadway segments listed in Table 4.11-2, *Study Area Roadway Segment Analysis Locations*, which were evaluated because the Project is anticipated to contribute 50 or more PCE peak hour trips to these locations.



Source(s): Urban Crossroads (05-11-2018)

Figure 4.11-1



TRAFFIC STUDY INTERSECTION LOCATIONS



Table 4.11-1 Study Area Intersection Analysis Locations

ID	Intersection Location	Jurisdiction
1	Myrtle Avenue & Longden Avenue	Irwindale
2	Myrtle Avenue/Peck Road & Live Oak Avenue	Irwindale, Monrovia, County of LA
3	Longden Avenue & Live Oak Avenue/Driveway	Irwindale
4	Live Oak Avenue & Arrow Highway (West)	Irwindale
5	Driveway 1 & Arrow Highway – Future Intersection	Irwindale
6	Driveway 2 & Live Oak Avenue – Future Intersection	Irwindale
7	Speedway Driveway & Live Oak Avenue	Irwindale
8	Driveway 3 & Arrow Highway – Future Intersection	Irwindale
9	Driveway 4 & Live Oak Avenue – Future Intersection	Irwindale
10	Driveway 5 & Live Oak Avenue – Future Intersection	Irwindale
11	Driveway/Private Drive B & Arrow Highway	Irwindale
12	Driveway 6 & Arrow Highway – Future Intersection	Irwindale
13	Driveway 7/Speedway Drive & Live Oak Avenue	Irwindale
14	Avenida Barbosa & Alpha Street/Buena Vista Street	Irwindale
15	Avenida Barbosa/Private Drive A & Arrow Highway	Irwindale
16	Private Drive A & Live Oak Avenue – Future Intersection	Irwindale
17	Driveway 8 & Arrow Highway – Future Intersection	Irwindale
18	Driveway 9 & Arrow Highway – Future Intersection	Irwindale
19	Driveway 10 & Live Oak Avenue – Future Intersection	Irwindale
20	I-605 Southbound Ramps & Arrow Highway	Irwindale, Caltrans
21	I-605 Southbound On-Ramp & Live Oak Avenue	Irwindale, Caltrans
22	I-605 Northbound On-Ramp/Live Oak Lane & Arrow Highway	Irwindale, Caltrans
23	I-605 Northbound Off-Ramp & Live Oak Avenue	Irwindale, Caltrans
24	Rivergrade Road & Arrow Highway	Irwindale
25	Stewart Avenue/Driveway & Rivergrade Road	Irwindale
26	Rivergrade Road & Live Oak Avenue	Irwindale, Baldwin Park
27	Stewart Avenue & Live Oak Avenue	Irwindale, Baldwin Park
28	Baldwin Park Boulevard & Live Oak Avenue	Irwindale, Baldwin Park
29	Arrow Highway & Live Oak Avenue (East)	Irwindale
30	Maine Avenue & Arrow Highway	Irwindale, Baldwin Park

Source: (Urban Crossroads, 2018f, Table 1-1)



Table 4.11-2 Study Area Roadway Segment Analysis Locations

ID	Roadway	Segment Limits
1	Longden Avenue	Myrtle Avenue to Live Oak Avenue
2	Live Oak Avenue	Peck Road to Longden Avenue
3	Live Oak Avenue	Longden Avenue to Live Oak Avenue
4	Arrow Highway	Live Oak Avenue to Driveway 1
5	Arrow Highway	Driveway 1 to Driveway 3
6	Arrow Highway	Driveway 3 to Driveway/Private Drive B
7	Arrow Highway	Driveway/Private Drive B to Driveway 6
8	Arrow Highway	Driveway 6 to Avenida Barbosa/Private Drive A
9	Arrow Highway	Avenida Barbosa/Private Drive A to Driveway 8
10	Arrow Highway	Driveway 8 to Driveway 9
11	Arrow Highway	Driveway 9 to I-605 Southbound Off-Ramp
12	Arrow Highway	I-605 Southbound Off-Ramp to I-605 Northbound On-Ramp/Live Oak Lane
13	Arrow Highway	I-605 Northbound On-Ramp/Live Oak Lane to Rivergrade Road
14	Arrow Highway	Rivergrade Road to Live Oak Avenue
15	Private Drive B	South of Arrow Highway
16	Avenida Barbosa	Alpha Street/Buena Vista Street to Arrow Highway
17	Private Drive A	South of Arrow Highway
18	Private Drive A	North of Live Oak Avenue
19	Live Oak Avenue	Live Oak Avenue/Arrow Highway to Driveway 2
20	Live Oak Avenue	Driveway 2 to Speedway Driveway
21	Live Oak Avenue	Speedway Driveway to Driveway 4
22	Live Oak Avenue	Driveway 4 to Driveway 5
23	Live Oak Avenue	Driveway 5 to Driveway 7
24	Live Oak Avenue	Driveway 7 to Private Drive A
25	Live Oak Avenue	Private Drive A to Driveway 10
26	Live Oak Avenue	Driveway 10 to I-605 Southbound On-Ramp
27	Live Oak Avenue	I-605 Southbound On-Ramp to I-605 Northbound Off-Ramp
28	Live Oak Avenue	I-605 Northbound Off-Ramp to Rivergrade Road
29	Live Oak Avenue	Rivergrade Road to Stewart Avenue
30	Live Oak Avenue	Stewart Avenue to Baldwin Park Boulevard
31	Live Oak Avenue	Baldwin Park Boulevard to Arrow Highway
32	Live Oak Avenue	Arrow Highway to Maine Avenue
33	Rivergrade Road	Arrow Highway to Stewart Avenue
34	Rivergrade Road	Stewart Avenue to Live Oak Avenue

Source: (Urban Crossroads, 2018f, Table 1-2)



C. Freeway Mainline Segments and Ramp Junctions

The proposed Project is calculated to contribute 50 or more PCE peak hour trips to five (5) segments of the I-605 freeway. Table 4.11-3, *Freeway Mainline Segment Analysis Locations*, lists the freeway segments that are included in the study area, and their identification numbers (ID #) used for reference in the TIA and this Subsection.

The study area also encompasses the merge/diverge ramp junctions for the northbound and southbound on-ramps and off-ramps at I-605, Arrow Highway, and Live Oak Avenue, which are the ramp locations where a large majority of the Project’s traffic is expected to enter and exit the freeway system. Table 4.11-4, *Freeway Ramp Junction Analysis Locations*, lists the merge/diverge ramp junction locations that are included in the study area as well as their identification numbers (ID #) used for reference in the TIA and this Subsection.

Table 4.11-3 Freeway Mainline Segment Analysis Locations

ID	Freeway Mainline Segments
1	I-605 Freeway Southbound, North of Arrow Highway
2	I-605 Freeway Southbound, Arrow Highway to Live Oak Avenue
3	I-605 Freeway Southbound, South of Live Oak Avenue
4	I-605 Freeway Northbound, North of Arrow Highway
5	I-605 Freeway Northbound, Arrow Highway to Live Oak Avenue
6	I-605 Freeway Northbound, South of Live Oak Avenue

Source: (Urban Crossroads, 2018f, Table 1-3)

Table 4.11-4 Freeway Ramp Junction Analysis Locations

ID	Freeway Merge/Diverge Ramp Junctions
1	I-605 Freeway – Southbound, Off-Ramp at Arrow Highway (Diverge)
2	I-605 Freeway – Southbound, On-Ramp at Live Oak Avenue (Merge)
3	I-605 Freeway – Northbound, On-Ramp at Arrow Highway (Merge)
4	I-605 Freeway – Northbound, Loop On-Ramp at Arrow Highway (Merge)
5	I-605 Freeway – Northbound, Off-Ramp at Live Oak Avenue (Diverge)

Source: (Urban Crossroads, 2018f, Table 1-4)

D. Truck Routes

The City of Irwindale designated truck route map is shown on Exhibit 3-8 of the Project’s TIA (EIR *Technical Appendix II*). The City of Irwindale designates Arrow Highway and Live Oak as truck routes. The City of Baldwin Park designated truck route map is shown on Exhibit 3-9 of the Project’s TIA (EIR *Technical Appendix II*). The City of Baldwin Park designates Baldwin Park Boulevard as a truck route. Lastly, Exhibit 3-10 of the Project’s TIA (EIR *Technical Appendix II*) shows the City of Monrovia Truck Routes, which identifies Myrtle Avenue/Peck Road as a truck route. The designated truck route maps have been utilized to route truck traffic from both the proposed Project and future cumulative development projects throughout the study area.



4.11.2 METHODOLOGIES FOR DETERMINING TRANSPORTATION FACILITY DEFICIENCIES

A. *Level of Service (LOS)*

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow. (Urban Crossroads, 2018f, p. 31)

LOS has been used as the basis for determining the significance of traffic impacts as standard practice in CEQA documents for decades. In 2013, California Senate Bill (SB) 743 was passed, which is intended to balance the need for LOS for traffic planning with the need to build infill housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers and to provide greater flexibility to local governments to balance these sometimes-competing needs. At full implementation of SB 743, the California Governor's Office of Planning and Research (OPR) is expected to replace LOS as the metric against which traffic impacts are evaluated, with a metric based on vehicle miles traveled (VMT). At the time the NOP for this EIR was released (April 2018), a VMT metric was not published by OPR, and the City of Irwindale in its capacity as Lead Agency, as well as surrounding local agencies in which the Project's traffic would circulate, use LOS as the significance criteria for evaluating a Project's traffic impacts. For this reason, a LOS metric and not a VMT metric is appropriately used in this EIR.

The LOS criteria applicable to facilities located within the City of Irwindale and within each of the applicable surrounding jurisdictions is summarized below.

1. *City of Irwindale*

The City of Irwindale has established LOS D as a target LOS standard and LOS E as a threshold standard. The City recognizes that not all intersections within the City can meet the target LOS D. In these instances, the City Council must find the improvements necessary to meet the target LOS D are not feasible because of one or more of the following reasons:

- 1) The cost of the necessary improvements exceeds available funding sources;
- 2) The design of the necessary improvements is not compatible with the surrounding land uses; or,
- 3) The design of the necessary improvements is contrary to other established City policies.

For individual roadway segments, the City of Irwindale uses a LOS C standard to monitor capacity needs. (Urban Crossroads, 2018f, pp. 37-38)

2. *City of Baldwin Park*

Per the City of Baldwin Park's General Plan Policy 1.4, the City of Baldwin Park's goal is to maintain a LOS D or better at intersections along arterial highways during morning and evening peak hours.

The City's General Plan recognizes that the following facilities within the City of Baldwin Park are expected to experience decline in service levels, meaning increased congestion and delays with the future increase in traffic demand:

- Dalewood Street, north of Judith Street
- Francisquito Avenue, east of Big Dalton Avenue and east of Maine Avenue
- Live Oak Avenue, east of Steward Avenue
- Maine Avenue, south of Clark Street
- Puente Avenue, north of Dalewood Street
- Ramona Avenue, east of Maine Avenue and west of Merced Avenue
- Ramona Avenue, east of Syracuse Avenue and east of I-605 Freeway (Urban Crossroads, 2018f, p. 38)

3. *City of Monrovia*

The City of Monrovia has established LOS D as the minimum level of service standard for both intersections and roadway segments to be maintained, except at intersection and roadway segment locations where LOS F conditions currently exist. (Urban Crossroads, 2018f, p. 38)

4. *Los Angeles County CMP*

The Los Angeles County CMP definition of deficiency is based on maintaining a level of service standard of LOS E or better. The only two CMP intersections identified in the 2010 CMP within the study area are the I-605 Freeway ramps on Arrow Highway (Intersection #20 – I-605 Southbound Ramps & Arrow Highway and Intersection #22 – I-605 Northbound On-Ramp/Live Oak Avenue & Arrow Highway). The Project's TIA utilized the more conservative LOS criteria of LOS D to identify traffic deficiencies at the two CMP study area intersections, which is consistent with Caltrans LOS criteria methodology. (Urban Crossroads, 2018f, p. 38)

5. *Caltrans*

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway System (SHS) facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. The City of Irwindale consulted with Caltrans through this EIR's Notice of Preparation (NOP) process and the Caltrans comment letter is included in EIR *Technical Appendix A*. Caltrans' comments related to total vehicle miles traveled, alternative modes of mobility, and requests for study at the Live Oak Avenue and Arrow Highway ramps with I-605. Caltrans had no comment on LOS thresholds. For purposes of analysis herein, and consistent with professional traffic impact methodology in Southern California, the region-wide goal for an acceptable LOS on all freeways, roadway segments, and intersections is LOS D. Consistent with the City of Irwindale LOS threshold of LOS D, and in excess of the LA County CMP stated LOS threshold of LOS E, the Project's TIA (EIR *Technical Appendix II*) and the analysis herein utilizes LOS D as the target LOS for freeway ramps, freeway segments, and freeway merge/diverge ramp junctions. (Urban Crossroads, 2018f, p. 38)



B. Traffic Signal Warrant Analysis Methodology

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. The signal warrant criteria presented in the Caltrans 2014 *California Manual on Uniform Traffic Control Devices (CA MUTCD)* is used herein for all study area intersections. (Urban Crossroads, 2018f, p. 34)

The signal warrant criteria for Existing conditions are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The 2014 *CAMUTCD* indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. Specifically, the Peak Hour Volume-based Warrant 3 is used in this analysis as the appropriate representative traffic signal warrant analysis for Existing traffic conditions. Warrant 3 is appropriate to use because it provides specialized warrant criteria for intersections with adjacent major streets operating above 40 miles per hour. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. (Urban Crossroads, 2018f, p. 34)

Future unsignalized intersections have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT based signal warrant analysis worksheets. Traffic signal warrant analyses were performed for the following unsignalized study area intersections:

- Intersection #7 – Speedway Driveway & Live Oak Avenue
- Intersection #11 – Driveway/Private Drive B & Arrow Highway (future intersection)
- Intersection #16 – Private Drive A & Live Oak Avenue (future intersection)

(Urban Crossroads, 2018f, pp. 34-35)

Signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. Signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant. (Urban Crossroads, 2018f, p. 35)

C. Freeway Ramp Queuing Analysis

The study area for analysis includes the I-605 freeway ramps at Arrow Highway and Live Oak Avenue. Consistent with Caltrans requirements, the freeway ramp queuing is assessed to determine potential queuing impacts. Specifically, the off-ramp queuing analysis is utilized to identify any potential queuing and “spill back” onto the I-605 freeway mainline from the off-ramps. The TIA utilized the traffic progression analysis tool and HCM intersection analysis program, Synchro, to assess the potential impacts/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps are based upon the 95th percentile queue resulting



from the Synchro progression analysis. The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. (Urban Crossroads, 2018f, p. 35)

4.11.3 EXISTING CONDITIONS

The Project site is located immediately north of Live Oak Avenue; immediately east of the intersection of Live Oak Avenue and Arrow Highway; immediately south of Arrow Highway; and immediately west of I-605. Additionally, I-210 is located approximately 1.5 mile to the north of the Project site and I-10 is located approximately 2.9 miles to the south of the Project site. Under existing conditions, the Project site currently operates as an inert debris engineered fill operation (IDEFO) as part of the site's quarry reclamation process, while a small area on the northeast portion of the Project site is used by Cal-Blend for processing mulch, sediment, and other organics. The Project site does not include any roadways or transportation facilities, with the exception of two private driveway entrances to the northern portion of the site from Arrow Highway. A description of the existing circulation network surrounding the Project site is provided below.

A. Existing Circulation Network

1. City of Irwindale

The City of Irwindale General Plan Circulation Network is shown on Exhibit 3-2 of the Project's TIA (*Technical Appendix II*), while Exhibit 3-3 of the TIA illustrates the City of Irwindale General Plan roadway cross-sections. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Irwindale General Plan Circulation Network, are described subsequently.

Arrow Highway: Arrow Highway is designated as a Secondary Highway in the City of Irwindale General Plan Circulation Network. The City of Irwindale roadway cross-sections indicate a right-of-way of 80 feet with a curb-to-curb measurement of 64-feet. Although the City's General Plan indicates that Secondary Highways are 4-lane roadways, some portions of Arrow Highway near the Project are currently striped to accommodate 3 lanes in each direction of travel. Arrow Highway along the Project frontage is currently built to its ultimate pavement width. (Urban Crossroads, 2018f, p. 41)

Live Oak Avenue: Live Oak Avenue is designated as a Major Highway in the City of Irwindale General Plan Circulation Network, east of Live Oak Avenue/Arrow Highway (West). The City of Irwindale roadway cross-sections indicate a right-of-way of 100 feet with a curb-to-curb measurement of 84 feet. Live Oak Avenue along the Project frontage is currently built to its ultimate pavement width. (Urban Crossroads, 2018f, p. 41)

Myrtle Avenue/Peck Road, Avenida Barbosa, Rivergrade Road: Myrtle Avenue/Peck Road, Avenida Barbosa, and Rivergrade Road are designated as Collector Roads/Local Streets in the City of Irwindale General Plan Circulation Network. The City of Irwindale roadway cross-sections indicate a right-of-way of 60 feet with a curb-to-curb measurement of 40 feet. (Urban Crossroads, 2018f, p. 41)



2. *City of Baldwin Park*

As shown on Figure 4.11-1, *Traffic Study Intersection Locations*, and Table 4.11-1, *Study Area Intersection Analysis Locations*, five of the 30 study area intersection locations are located within the jurisdictions of both the City of Irwindale and the City of Baldwin Park. Exhibit 3-4 of the Project's TIA (*Technical Appendix II*) shows the City of Baldwin Park General Plan Circulation Element, and Exhibit 3-5 of the Project's TIA illustrates the City of Baldwin Park General Plan roadway cross-sections. Descriptions of the roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area as identified on the City of Baldwin Park General Plan Circulation Element are provided below.

Live Oak Avenue/Arrow Highway: Live Oak Avenue/Arrow Highway is designated as an Arterial in the City of Baldwin Park Circulation Element. The City of Baldwin Park roadway cross-sections indicate a right-of-way of 100 feet. (Urban Crossroads, 2018f, p. 46)

Baldwin Park Boulevard: Baldwin Park Boulevard is designated as an Arterial in the City of Baldwin Park Circulation Element. The City of Baldwin Park roadway cross-sections indicate a right-of-way of 100 feet. (Urban Crossroads, 2018f, p. 46)

Maine Avenue: Maine Avenue is designated as a Collector/Industrial in the City of Baldwin Park Circulation Element. The City of Baldwin Park roadway cross-sections indicate a right-of-way of 80 feet. (Urban Crossroads, 2018f, p. 46)

3. *City of Monrovia*

As shown on Figure 4.11-1, *Traffic Study Intersection Locations*, and Table 4.11-1, *Study Area Intersection Analysis Locations*, Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue is located within the jurisdictions of both the City of Irwindale and the City of Baldwin Park. Exhibit 3-6 from the Project's TIA (*Technical Appendix II*) shows the City of Monrovia General Plan Circulation Element, and Exhibit 3-7 from the Project's TIA illustrates the City of Monrovia General Plan roadway cross-sections.

Myrtle Avenue/Peck Road: Myrtle Avenue/Peck Road is designated as a Primary Arterial in the City of Monrovia General Plan Circulation Element. The City of Monrovia roadway cross-sections indicate a right-of-way of 100-120 feet. (Urban Crossroads, 2018f, p. 46)

B. Existing Bicycle and Pedestrian Facilities

The City of Baldwin Park bike routes are shown on Exhibit 3-11 of the Project's TIA (*Technical Appendix II*). Class II bikeways are on-road bike paths. As shown on Exhibit 3-11 of *Technical Appendix II*, there is a Class II bike lane proposed along Baldwin Park Boulevard approximately 0.9 mile east of the Project site. Exhibit 3-12 from *Technical Appendix II* depicts the City of Monrovia bike routes. As shown on Exhibit 3-12 of *Technical Appendix II*, there are no bike lanes within the vicinity of the Project in the City of Monrovia. The nearest bike lane to the Project site is the bike path



located in the San Gabriel River Trail located approximately 0.3 mile to the northeast of the Project site. (Urban Crossroads, 2018f, pp. 54-57; Google Earth Pro, 2018)

Urban Crossroads conducted field observations in December 2017 which indicated nominal pedestrian and bicycle activity within the Project site's vicinity. Existing pedestrian facilities (sidewalk and crosswalk) and bus stop locations within the study area are shown on Exhibit 3-13 of *Technical Appendix II*. As shown on Exhibit 3-13 of *Technical Appendix II*, sidewalks are located along on the south side of the Arrow Highway right-of-way (including along the Project site's frontage with Arrow Highway), and on both the east and west sides of the Avenida Barbosa right-of-way (directly north of the Project site). (Urban Crossroads, 2018f, pp. 54-57; Google Earth Pro, 2018)

C. Existing Transit Service

The Project area is currently served by Foothill Transit, a public transit agency serving 21-member cities in the San Gabriel and Pomona Valleys, including Irwindale and Baldwin Park. The existing transit routes in the Project area are shown on Exhibit 3-14 of *Technical Appendix II*. Currently, the Project area is served by Foothill Transit Route 492 along Live Oak Avenue/Arrow Highway, 272 along Buena Vista Street, Avenida Barbosa, Arrow Highway, and Baldwin Park Boulevard, and Foothill Transit Route 270 along Myrtle Avenue/Peck Road. (Urban Crossroads, 2018f, p. 54)

The nearest bus stop to the Project site is located at the intersection of Avenida Barbosa and Buena Vista Street, approximately 0.3 mile north of the Project site. Additionally, the Duarte Metro Gold Line Light Rail Station is located approximately 1.4 mile north of the Project site. (Google Earth Pro, 2018)

D. Existing (2017) Conditions Traffic Counts

Manual weekday AM and PM peak hour turning movement counts were conducted by Urban Crossroads in November 2017 while surrounding area schools were in session. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1 of *Technical Appendix II*. To represent the impact large trucks, buses and recreational vehicles have on traffic flow; all trucks were converted into PCEs based on recommendations from San Bernardino County Transportation Authority (SBCTA) which is consistent with standard engineering practice throughout the southern California region. Furthermore, the use of the SBCTA PCE factors was reviewed by the City of Irwindale staff during the traffic study scoping process and is appropriate based on Urban Crossroads' professional engineering judgment. Existing average daily traffic (ADT) volumes on arterial highways throughout the TIA's study area are shown on Exhibit 3-15 of *Technical Appendix II*. Existing AM and PM peak hour intersection volumes are shown on Exhibit 3-16 of *Technical Appendix II*. (Urban Crossroads, 2018f, p. 54)

E. Existing (2017) Conditions Intersection Operations Analysis

The intersection operations analysis results are summarized in Table 4.11-5, *Intersection Analysis for Existing (2017) Conditions*. The existing count data and ADT volumes indicate that all intersections



in the Project's study area operate at acceptable LOS during the peak hours, with the exception of the following seven (7) intersections:

- Intersection #1 – Myrtle Avenue & Longden Avenue: LOS E PM peak hour only
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue: LOS E PM peak hour only
- Intersection #4 – Live Oak Avenue & Arrow Highway (West): LOS E AM peak hour only
- Intersection #7 – Speedway Driveway & Live Oak Avenue: LOS F PM peak hour only
- Intersection #15 – Avenida Barbosa & Arrow Highway: LOS F AM peak hour only
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue: LOS F AM and PM peak hours
- Intersection #26 – Rivergrade Road & Live Oak Avenue: LOS F PM peak hour only

(Urban Crossroads, 2018f, p. 59)

F. Existing (2017) Conditions Roadway Segment Capacity Analysis

Table 4.11-6, *Roadway Segment Analysis for Existing (2017) Conditions*, provides a summary of the Existing (2017) conditions roadway segment capacity analysis based on the City of Irwindale Roadway Segment Capacity Thresholds. As shown on Table 4.11-6, the following study area roadway segments are currently operating at an unacceptable LOS based on the City's peak hour planning level roadway capacity thresholds:

- Roadway Segment #1 – Longden Avenue, Myrtle Avenue to Live Oak Avenue: LOS D
- Roadway Segment #12 – Arrow Highway, I-605 Southbound Off-Ramp to I-605 Northbound On-Ramp/Live Oak Lane: LOS D
- Roadway Segment #13 – Arrow Highway, I-605 Northbound On-Ramp/Live Oak Lane to Rivergrade Road: LOS D
- Roadway Segment #32 – Live Oak Avenue, Arrow Highway to Maine Avenue: LOS F

(Urban Crossroads, 2018f, Table 3-2)

G. Existing (2017) Conditions Traffic Signal Warrants Analysis

Traffic signal warrants for Existing (2017) traffic conditions are based on existing peak hour intersection turning volumes (refer to Appendix 3.3 of the Project's TIA). For Existing (2017) traffic conditions, the following study area intersection currently warrants a traffic signal:

- Intersection #7 – Speedway Drive & Live Oak Avenue



Table 4.11-5 Intersection Analysis for Existing (2017) Conditions

#	Intersection	Traffic Control ⁴	Intersection Approach Lanes ¹								HCM Delay ² (secs.)		Level of Service		ICU ³ (v/c)		Level of Service	
			Northbound		Southbound		Eastbound		Westbound		AM	PM	AM	PM	AM	PM	AM	PM
			L	T R	L	T R	L	T R	L	T R								
1	Myrtle Av. & Longden Av.	TS	1	2 0	1	2 d	1	1 1	1	2 0	Not Applicable ⁷		0.81	0.92	D	E		
2	Myrtle Av./Peck Rd. & Live Oak Av.	TS	1	2 d	1	2 d	1	2 1	1	2 0	Not Applicable ⁷		0.88	0.94	D	E		
3	Longden Av. & Live Oak Av./Driveway	TS	0	1 0	1	1 1	1	2 d	1	2 1>>	Not Applicable ⁷		0.74	0.88	C	D		
4	Live Oak Av. & Arrow Hwy. (West)	TS	2	0 1>>	0	0 0	0	2 1>>	2	2 0	Not Applicable ⁷		0.99	0.69	E	B		
5	Dwy. 1 & Arrow Hwy.		Future Intersection															
6	Dwy. 2 & Live Oak Av.		Future Intersection															
7	Speedway Dwy. & Live Oak Av.	CSS	0	1 0	0	0 0	0	3 0	1	2 0	20.8	>100.0	C	F	Not Applicable ⁵			
8	Dwy. 3 & Arrow Hwy.		Future Intersection															
9	Dwy. 4 & Live Oak Av.		Future Intersection															
10	Dwy. 5 & Live Oak Av.		Future Intersection															
11	Driveway/Private Drive B & Arrow Hwy.	CSS	0	0 0	0	0 1	0	2 0	0	3 0	0.0	15.0	A	C	Not Applicable ⁵			
12	Dwy. 6 & Arrow Hwy.		Future Intersection															
13	Dwy. 7/Driveway & Live Oak Av.	TS	2	0 1	0	0 0	0	3 0	1	2 0	Not Applicable ⁷		0.49	0.59	A	A		
14	Avenida Barbosa & Alpha St./Buena Vista St.	TS	0	1 2>	0	1 d	1	2 d	1	2 d	Not Applicable ⁷		0.51	0.72	A	C		
15	Avenida Barbosa/Private Drive A & Arrow Hwy.	TS	0	0 0	2	0 1	1	2 0	0	2 1	Not Applicable ⁷		1.02	0.69	F	B		
16	Private Drive A & Live Oak Av.		Future Intersection															
17	Dwy. 8 & Arrow Hwy.		Future Intersection															
18	Dwy. 9 & Arrow Hwy.		Future Intersection															
19	Dwy. 10 & Live Oak Av.		Future Intersection															
20	I-605 SB Off-Ramp & Arrow Hwy.	TS	0	0 0	1	0 1>>	0	3 0	0	2 0	17.7	7.6	B	A	Not Applicable ⁵			
21	I-605 SB On-Ramp & Live Oak Av.	TS	0	0 0	0	0 0	0	2 1>>	1	2 0	6.0	14.3	B	B	Not Applicable ⁶			
22	I-605 NB On-Ramp/Live Oak Ln. & Arrow Hwy.	CSS	0	0 1	0	0 0	0	2 d	0	2 1	11.2	16.7	B	C	Not Applicable ^{5,6}			
23	I-605 NB Off-Ramp & Live Oak Av.	CSS	0	0 1	0	0 1	0	2 0	0	2 0	>100.0	>100.0	F	F	Not Applicable ^{5,6}			
24	Rivergrade Rd. & Arrow Hwy.	TS	2	0 1	0	0 0	0	2 1	1	2 0	Not Applicable ⁷		0.79	0.61	C	B		
25	Stewart Av./Driveway & Rivergrade Rd.	TS	1	1 0	0	2 0	1	2 0	1	2 0	Not Applicable ⁷		0.37	0.32	A	A		
26	Rivergrade Rd. & Live Oak Av.	TS	1	1 1	1	2 1	1	2 1	1	2 1	Not Applicable ⁷		0.71	1.04	C	F		
27	Stewart Av. & Live Oak Av.	TS	0	1 0	1	1 1	1	2 1	1	2 d	Not Applicable ⁷		0.90	0.80	D	C		
28	Baldwin Park Bl. & Live Oak Av.	TS	2	0 1	0	0 0	0	2 d	1	2 0	Not Applicable ⁷		0.67	0.78	B	C		
29	Arrow Hwy. & Live Oak Av. (East)	TS	0	0 0	2	0 1	1	2 0	0	2 1>>	Not Applicable ⁷		0.69	0.90	B	D		
30	Maine Av. & Arrow Hwy.	TS	2	0 1	0	0 0	0	2 d	1	3 0	Not Applicable ⁷		0.86	0.82	D	D		

¹ **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

³ Per the Highway Capacity Manual (HCM) (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

⁴ Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio.

⁵ TS = Traffic Signal; CSS = Cross-street Stop

⁶ ICU not reported for intersections without a signal.

⁷ ICU not reported for intersections under Caltrans' jurisdiction.

⁸ HCM not reported for signalized intersections.

Source: (Urban Crossroads, 2018f, Table 3-1)



Table 4.11-6 Roadway Segment Analysis for Existing (2017) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing 2017	V/C ²	LOS ³
1	Longden Av.	Myrtle Av. to Live Oak Av.	4D	20,000	17,118	0.86	D
2	Live Oak Av.	Peck Rd. to Longden Av.	4D	30,000	23,789	0.79	C
3		Longden Av. to Live Oak Av.	6D	53,000	41,218	0.78	C
4	Arrow Hwy.	Live Oak Av. to Dwy. 1	4D	30,000	23,304	0.78	C
5		Dwy. 1 to Dwy. 3	4D	30,000	23,304	0.78	C
6		Dwy. 3 to Driveway/Private Drive B	4D	30,000	23,304	0.78	C
7		Driveway/Private Drive B to Dwy. 6	5D	37,500	23,304	0.62	B
8		Dwy. 6 to Avenida Barbosa/Private Drive A	5D	37,500	23,304	0.62	B
9		Avenida Barbosa/Private Drive A to Dwy. 8	4D	30,000	23,035	0.77	C
10		Dwy. 8 to Dwy. 9	4D	30,000	23,035	0.77	C
11		Dwy. 9 to I-605 SB Off-Ramp	4D	30,000	23,035	0.77	C
12		I-605 SB Off-Ramp to I-605 NB On-Ramp/Live Oak Ln.	4D	30,000	25,255	0.84	D
13		I-605 NB On-Ramp/Live Oak Ln. to Rivergrade Rd.	4D	30,000	24,237	0.81	D
14	Rivergrade Rd. to Live Oak Av.	4D	30,000	21,137	0.70	B	
15	Private Drive B	South of Arrow Hwy.	2U	10,000	Future Segment		
16	Avenida Barbosa	Alpha St./Buena Vista St. to Arrow Hwy.	4D	20,000	15,981	0.80	C
17	Private Drive A	South of Arrow Hwy.	2U	10,000	Future Segment		
18		North of Live Oak Av.	2U	10,000	Future Segment		
19	Live Oak Av.	Live Oak Av./Arrow Hwy. to Dwy. 2	5D	46,700	35,519	0.76	C
20		Dwy. 2 to Speedway Dwy.	5D	46,700	35,519	0.76	C
21		Speedway Dwy. to Dwy. 4	5D	46,700	29,664	0.64	B
22		Dwy. 4 to Dwy. 5	5D	46,700	29,664	0.64	B
23		Dwy. 5 to Dwy. 7	5D	46,700	29,664	0.64	B
24		Dwy. 7 to Private Drive A	5D	46,700	29,664	0.64	B
25		Private Drive A to Dwy. 10	5D	46,700	29,664	0.64	B
26		Dwy. 10 to I-605 SB On-Ramp	5D	46,700	29,664	0.64	B
27		I-605 SB On-Ramp to I-605 NB Off-Ramps	4D	40,400	29,982	0.74	C
28		I-605 NB Off-Ramps to Rivergrade Rd.	4D	40,400	27,508	0.68	B
29		Rivergrade Rd. to Stewart Av.	5D	46,700	32,254	0.69	B
30		Stewart Av. to Baldwin Park Bl.	4D	40,400	29,466	0.73	C
31	Baldwin Park Bl. to Arrow Hwy.	4D	40,400	26,310	0.65	B	
32	Arrow Hwy. to Maine Av.	4D	40,400	44,296	1.10	F	
33	Rivergrade Rd.	Arrow Hwy. to Stewart Av.	4D	20,000	5,363	0.27	A
34		Stewart Av. to Live Oak Av.	4D	20,000	3,699	0.18	A

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Irwindale General Plan Update (Table 4-10).

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 3-2)



H. Existing (2017) Conditions Freeway Off-Ramp Queuing Analysis

An off-ramp queuing analysis was performed for the I-605 off-ramps at Arrow Highway and Live Oak Avenue to assess vehicle queues that may potentially impact peak hour operations at the ramp-to-arterial intersections and “spill back” onto the I-605 freeway mainline. Off-ramp queuing analysis findings are presented in Table 4.11-7, *Peak Hour Freeway Off-Ramp Queuing Summary for Existing (2017) Conditions*. As shown on Table 4.11-7, there are no queuing issues on the I-605 freeway off-ramps during the peak hours. Worksheets for existing conditions queuing analysis are provided in Appendix 3.4 of *Technical Appendix II*. (Urban Crossroads, 2018f, p. 64)

I. Existing (2017) Conditions Basic Freeway Segment Analysis

Existing mainline directional volumes for the weekday AM and PM peak hours are provided on Exhibit 3-18 of *Technical Appendix II* for the I-605 freeway north of Arrow Highway Avenue to south of Live Oak Avenue. As shown on Table 4.11-8, *Basic Freeway Segment Analysis for Existing (2017) Conditions*, the I-605 freeway segments analyzed as part of the TIA were found to operate at an acceptable LOS (i.e., LOS D or better) during the peak hours for Existing (2017) traffic conditions. Existing basic freeway segment analysis worksheets are provided in Appendix 3.5 of *Technical Appendix II*. (Urban Crossroads, 2018f, p. 64)

Table 4.11-7 Peak Hour Freeway Off-Ramp Queuing Summary for Existing (2017) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
I-605 SB Off-Ramp / Arrow Hwy.	SBLT	960	377	151	Yes	Yes
I-605 NB Off-Ramps / Live Oak Av.	NBR	1,920	148	588	Yes	Yes
	SBR	2,650	488	328	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

Source: (Urban Crossroads, 2018f, Table 3-3)

It should be noted that although the I-605 Northbound Freeway mainline is found to operate at an acceptable LOS, according to Caltrans Performance Measurement System (PeMS), the average speed along these freeway segments is 17 miles per hour (mph) during the PM peak hour. However, the reported LOS is acceptable due to constrained traffic flow conditions. In other words, the freeway is slow moving at 17 mph during the PM peak hours; therefore, not as many vehicles are passing by and being reported in the PeMS data. As a result, the LOS is reported as acceptable; however, the freeway is considered at capacity during the evening peak commute hours (i.e., LOS E or worse). (Urban Crossroads, 2018f, p. 64)



Table 4.11-8 Basic Freeway Segment Analysis for Existing (2017) Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Volume		Truck %		Density ²		LOS ³	
				AM	PM	AM	PM	AM	PM	AM	PM
I-605	SB	North of Arrow Hwy.	4	5,922	4,987	5%	4%	25.1	20.3	C	C
		Arrow Hwy. to Live Oak Av.	4	4,897	4,449	5%	4%	20.1	18.0	C	B
		South of Live Oak Av.	4	5,820	6,130	8%	5%	25.5	26.3	C	D
	NB	North of Arrow Hwy.	4	4,568	4,330	10%	14%	19.6	19.2	C	C
		Arrow Hwy. to Live Oak Av.	4	3,981	3,977	10%	15%	17.0	17.7	B	B
		South of Live Oak Av.	4	4,883	5,121	10%	13%	21.1	23.0	C	C

* **BOLD** = Unacceptable Level of Service

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 3-4)

J. Existing (2017) Conditions Freeway Merge/Diverge Analysis

As shown in Table 4.11-9, *Freeway Ramp Junction Merge/Diverge Analysis for Existing (2017) Conditions*, the I-605 freeway ramp merge/diverge ramp junctions are currently operating at acceptable levels of service (i.e., LOS D or better) during the peak hours under Existing (2017) traffic conditions. Existing freeway ramp junction operations worksheets are provided in Appendix 3.6 of *Technical Appendix II*. (Urban Crossroads, 2018f, p. 69)

Table 4.11-9 Freeway Ramp Junction Merge/Diverge Analysis for Existing (2017) Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway ¹	AM Peak Hour		PM Peak Hour	
				Density ²	LOS ³	Density ²	LOS ³
I-605	SB	Off-Ramp at Arrow Hwy.	4	25.6	D	20.7	C
		On-Ramp at Live Oak Av.	4	25.9	D	27.2	D
	NB	On-Ramp at Arrow Hwy.	4	20.2	C	19.8	C
		Loop On-Ramp at Arrow Hwy.	4	18.6	B	18.5	B
		Off-Ramp at Live Oak Av.	4	22.0	D	24.0	D

* **BOLD** = Unacceptable Level of Service

¹ Number of lanes are in the specified direction and is based on existing conditions

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 3-5)



K. Applicable Transportation-Related Plans and Policies

1. Federal Regulations

There are no federal transportation-related plans and/or policies that apply to the Project.

2. State Regulations

There are no State transportation-related plans and/or policies that apply to the Project.

3. Regional Regulations

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 planning authority. On April 2016, SCAG adopted the *2016-2040 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS)* with goals to: 1) preserve the existing transportation system; 2) expand the regional transit system; 3) expand passenger rail; 4) improve highway and arterial capacity; 5) managing demands on the transportation system; 6) optimizing the performance of the transportation system; 7) promoting forms of active transportation; 8) strengthening the regional transportation network for goods movement; 9) leveraging technology; 10) improving airport access; and 11) focusing new growth around transit (SCAG, 2016, pp. 6-8).

County of Los Angeles Congestion Management Program

As the Congestion Management Agency for Los Angeles County, the Los Angeles County Metropolitan Transportation Authority (Metro) is responsible for implementing the Los Angeles Congestion Management Program (CMP). The Los Angeles County CMP was prepared by Metro in accordance with Proposition 111, which was passed by voters in June 1990. The intent of the CMP is to more directly link land use, transportation, and air quality planning and to prompt reasonable growth management programs that would more effectively utilize new and existing transportation funds to alleviate traffic congestion and related impacts and improve air quality.

The most recent CMP for Los Angeles County was adopted by Metro in 2010. The 2010 CMP includes a summary of 18 years of CMP highway and transit monitoring and 15 years of monitoring local growth. It also includes implementation guidelines for local jurisdictions. As companion documents, Metro published a CMP Congestion Mitigation Fee Study followed by nexus studies and economic analysis reports detailing how a regional CMP mitigation fee could work. To date, a regional congestion mitigation fee has not yet been adopted.



4. *Local Regulations*

City of Irwindale General Plan Infrastructure Element

The City of Irwindale General Plan Infrastructure Element complies with the State requirements for a Circulation Element. The Infrastructure Element provides information on the location and extent of existing and proposed streets and roadways, intersection improvements, public transit facilities, railroads, transportation terminals, and other transportation facilities. The Infrastructure Element is responsive to regional transportation plans, including the Los Angeles County CMP, which relate to the development of a regional transportation system to accommodate the future traffic demands within the greater metropolitan area.

Cities of Baldwin Park and Monrovia General Plan Circulation Elements

The General Plans for the Cities of Baldwin Park and Monrovia each contain a Circulation Element that is intended to guide the development of the local circulation system in a manner that is compatible with the respective General Plan Land Use Element. To help meet traffic demands and achieve balanced growth, each City has adopted specific goals and policies, which serve as the basis for their Circulation Element. Refer to Subsections 3.3 and 3.4 of the Project's TIA for a detailed summary of the General Plan Circulation Elements for the Cities of Baldwin Park and Monrovia.

4.11.4 BASIS FOR DETERMINING SIGNIFICANCE

Section XVII of Appendix G to the CEQA Guidelines addresses typical adverse effects to Transportation and includes the following thresholds to evaluate a project's impacts on Transportation (OPR, 2018). The proposed Project would result in a significant impact related to transportation if the Project or any Project component would:

- a. *Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;*
- b. *Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);*
- c. *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment); or,*
- d. *Result in inadequate emergency access.*

A. Determining Significance of Impacts

A variety of analytical methods have been applied in the assessment of the proposed Project's vehicular traffic impacts, as described below. These methods are derived from standard traffic engineering practice, as well as standard practices employed by each of the affected jurisdictions.

Refer to Section 2 of the Project's TIA (*Technical Appendix II*) for a detailed description of the analysis methodologies applied. In summary, LOS analysis uses the Intersection Capacity Utilization (ICU) methodology (which compares peak hour traffic volumes to intersection capacity) for signalized study



intersections in the Cities of Irwindale and Baldwin Park. The 6th Edition Highway Capacity Manual (HCM) methodology is used to determine LOS for unsignalized intersections in those cities, under which the LOS rating is based on the weighted average control delay expressed in seconds per vehicle: at two-way or side-street stop-controlled intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street; for all-way stop controlled intersections, LOS is based solely on control delay for assessment of LOS at the approach and intersection levels. In accordance with Caltrans' guidelines, 6th Edition HCM methodology is also used for all ramp-to-arterial study area intersections. (Urban Crossroads, 2018f, p. 31)

1. *Basis for Determining Impacts to Intersections*

City of Irwindale Intersections

For purposes of determining the significance of traffic impacts in this Subsection and in accordance with the applicable City of Irwindale roadway performance standards, a significant traffic impact would occur under the following circumstances:

- When a signalized intersection operates at LOS D or better under existing or future baseline conditions, and the addition of Project trips degrades the intersection operations to LOS E or F.
- When a signalized intersection operates at LOS E or better under existing or future baseline conditions, and the addition of the Project trips degrades the intersection operations to LOS F or increases the V/C ratio by 0.02 or greater.
- When a signalized intersection operates at LOS F under existing or future baseline conditions, and the addition of more than 50 peak hour Project trips increases the V/C ratio by 0.02 or greater.
- When an unsignalized intersection operates at LOS D or better under existing or future baseline conditions and the addition of more than 50 peak hour Project trips would cause an intersection that operates at an acceptable LOS under existing conditions to degrade to an unacceptable LOS (LOS E or F).

(Urban Crossroads, 2018f, p. 39)

For individual roadway segments, a LOS C standard is used to monitor capacity needs.

City of Monrovia Intersections

For purposes of determining the significance of traffic impacts in this Subsection and in accordance with the applicable City of Monrovia roadway performance standards, a significant traffic impact would occur under the following circumstances:

- When an intersection operates at LOS A under existing or future baseline conditions and the addition of more than 50 peak hour Project trips would increase the V/C ratio by 0.06 or greater.
- When an intersection operates at LOS B under existing or future baseline conditions and the addition of more than 50 peak hour Project trips would increase the V/C ratio by 0.05 or greater.
- When an intersection operates at LOS C under existing or future baseline conditions and the addition of more than 50 peak hour Project trips would increase the V/C ratio by 0.04 or greater.



- When an intersection operates at LOS D under existing or future baseline conditions and the addition of more than 50 peak hour Project trips would increase the V/C ratio by 0.03 or greater.
- When an intersection operates at LOS E under existing or future baseline conditions and the addition of more than 50 peak hour Project trips would increase the V/C ratio by 0.02 or greater.
- When an intersection operates at LOS F under existing or future baseline conditions and the addition of more than 50 peak hour Project trips would increase the V/C ratio by 0.01 or greater.

(Urban Crossroads, 2018f, p. 39)

City of Baldwin Park and Los Angeles County CMP Intersections

A significant traffic impact would occur if the addition of Project trips would increase the V/C ratio by 0.02 or greater at intersections that operate at LOS E or F under existing or future baseline conditions. (Urban Crossroads, 2018f, p. 39)

Caltrans Intersections

It should be noted that while Caltrans specifies target LOS, it does not specify thresholds of significance criteria for their facilities. For the purposes of the Project's TIA (*Technical Appendix II*) and this Subsection, an impact is considered significant if the Project causes the level of service of a Caltrans facility to go from acceptable (LOS D or better) to unacceptable (LOS E or F) or adds 50 or more peak hour trips to a facility already operating at unacceptable level of service (LOS E or F). (Urban Crossroads, 2018f, p. 39)

The correlation between average control delay (in seconds) and LOS designation for signalized and unsignalized intersections are summarized below in Table 4.11-10, *Signalized Intersection HCM LOS Thresholds*, and Table 4.11-11, *Unsignalized Intersection HCM LOS Thresholds*, respectively.



Table 4.11-10 Signalized Intersection HCM LOS Thresholds

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up	F	F

Source: HCM (6th Edition)

Source: (Urban Crossroads, 2018f, Table 2-2)

Table 4.11-11 Unsignalized Intersection HCM LOS Thresholds

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM (6th Edition)

Source: (Urban Crossroads, 2018f, Table 2-3)

2. Basis for Determining Impacts to Freeway Mainline Segments

As previously stated above, an impact is considered significant if the Project causes the level of service of a Caltrans facility to go from acceptable (LOS D or better) to unacceptable (LOS E or F) or adds 50 or more peak hour trips to a facility already operating at unacceptable level of service (LOS E or F) (Urban Crossroads, 2018f, p. 39). In accordance with HCM (6th edition) methodology and Caltrans’s preference, the performance measure utilized to calculate LOS at freeway segments is density, which is expressed in terms of passenger cars per mile per lane. Table 4.11-12, *Freeway Mainline LOS Thresholds*, illustrates the freeway segment LOS thresholds for each density range utilized.



Table 4.11-12 Freeway Mainline LOS Thresholds

Level of Service	Description	Density Range (pc/mi/ln) ¹
A	Free-flow operations in which vehicles are relatively unimpeded in their ability to maneuver within the traffic stream. Effects of incidents are easily absorbed.	0.0 – 11.0
B	Relative free-flow operations in which vehicle maneuvers within the traffic stream are slightly restricted. Effects of minor incidents are easily absorbed.	11.1 – 18.0
C	Travel is still at relative free-flow speeds, but freedom to maneuver within the traffic stream is noticeably restricted. Minor incidents may be absorbed, but local deterioration in service will be substantial. Queues begin to form behind significant blockages.	18.1 – 26.0
D	Speeds begin to decline slightly and flows and densities begin to increase more quickly. Freedom to maneuver is noticeably limited. Minor incidents can be expected to create queuing as the traffic stream has little space to absorb disruptions.	26.1 – 35.0
E	Operation at capacity. Vehicles are closely spaced with little room to maneuver. Any disruption in the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce a serious disruption in traffic flow and extensive queuing.	35.1 – 45.0
F	Breakdown in vehicle flow. Demand exceeds capacity.	>45.0

¹ pc/mi/ln = passenger cars per mile per lane. Source: HCM (6th Edition)

Source: (Urban Crossroads, 2018f, Table 2-5)

3. *Basis for Determining Impacts to Ramp Queuing*

To determine whether the addition of Project traffic at a study area ramp results in a significant impact, the stacking distance is measured to determine if the addition of Project traffic would result in a deficiency. Stacking distance on freeway ramps is acceptable if the required 95th percentile stacking distance is less than or equal to the stacking distance provided. Therefore, a significant impact would occur if the required 95th percentile stacking distance need was greater than the stacking distance provided.

4. *Basis for Determining Impacts to Freeway Merge/Diverge Ramp Junctions*

The merge/diverge analysis is based on the HCM 6th Edition Freeway Merge and Diverge Segments analysis method and performed using HCS7 software. The measure of effectiveness (reported in passenger car/mile/lane) are calculated based on the existing number of travel lanes, number of lanes at the on and off ramps both at the analysis junction and at upstream and downstream locations (if applicable) and acceleration/deceleration lengths at each merge/diverge point. Table 4.11-13, *Freeway Merge and Diverge LOS Thresholds*, presents the merge/diverge area LOS thresholds for each density range utilized in the Project’s TIA.



Table 4.11-13 Freeway Merge and Diverge LOS Thresholds

Level of Service	Density Range (pc/mi/ln) ¹
A	≤10.0
B	10.0 – 20.0
C	20.0 – 28.0
D	28.0 – 35.0
E	>35.0
F	Demand Exceeds Capacity

¹ pc/mi/ln = passenger cars per mile per lane. Source: HCM (6th Edition)
Source: (Urban Crossroads, 2018f, Table 2-6)

5. Cumulative Traffic Impacts

Cumulative traffic impacts are deficiencies that are not directly caused by the Project, but occur as a result of regional growth combined with that or other nearby cumulative development projects. The Project’s contribution of traffic to a particular cumulative transportation deficiency is deemed cumulatively considerable if the Project adds substantial traffic to the forecasted deficiency (as measured by the 50 or more peak hour trip threshold). A Project’s contribution to a cumulative impact can be reduced to less than significant if the Project is required to implement or fund its fair share of physical improvements designed to alleviate the potential cumulative impact. If full funding of future physical improvements is not reasonably assured, a short-term unmitigated cumulative impact may occur until the needed improvement is fully funded and constructed.

4.11.5 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

Trip generation represents the amount of traffic that is both attracted to and produced by a development project. Determining traffic generation for a specific project is based upon forecasting the amount of traffic that is expected to be attracted to and produced by the specific land uses being proposed for a given development.

The Park @ Live Oak Specific Plan proposes to develop the Project site with up to 1,550,000 square feet(s.f.) of industrial and commercial business park building floor space. The number of buildings, configuration of buildings, and the occupants of those building are not yet known, but the proposed The Park @ Live Oak Specific Plan includes a list of permitted uses. The TIA (EIR *Technical Appendix II*) evaluated several different mixes of building user types based on the proposed Specific Plan’s list of permitted uses and determined that the most reasonably foreseeable traffic-intensive mix, as would be permitted by the proposed Specific Plan, which is shown in Table 4.11-14, *Project Trip*



Generation Rates. This is a conservative assumption and likely results in the over-estimation of traffic that would be generated by the Project.

The Institute of Transportation Engineers (ITE) Trip Generation Manual is a nationally recognized source for estimating site-specific trip generation. The trip generation rates used for the Project are based upon data collected by ITE in their Trip Generation Manual, 10th Edition, 2017. (Urban Crossroads, 2018f, p. 72)

As shown in Table 4.11-15, *Project Trip Generation Summary (Actual Vehicles)*, the proposed Project is calculated to generate a gross total of 14,607 trip ends per day with 1,198 AM peak hour trips and 1,562 PM peak hour trips. With the PCE factors, this translates to approximately 15,867 PCE trip ends per day with 1,280 PCE AM peak hour trips and 1,644 PCE PM peak hour trips as shown in Table 4.11-16, *Project Trip Generation Summary (PCE)*.

Table 4.11-14 Project Trip Generation Rates

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
General Light Industrial ⁵	TSF	110	0.616	0.084	0.700	0.082	0.548	0.630	4.960
Passenger Cars (78.6%)			0.484	0.066	0.550	0.064	0.431	0.495	3.899
2-Axle Trucks (8.0%)			0.049	0.007	0.056	0.007	0.044	0.050	0.397
3-Axle Trucks (3.9%)			0.024	0.003	0.027	0.003	0.021	0.025	0.193
4-Axle+ Trucks (9.5%)			0.059	0.008	0.067	0.008	0.052	0.060	0.471
Manufacturing ⁵	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars (79.57%)			0.380	0.113	0.493	0.165	0.368	0.533	3.127
2-Axle Trucks (3.46%)			0.017	0.005	0.021	0.007	0.016	0.023	0.136
3-Axle Trucks (4.64%)			0.022	0.007	0.029	0.010	0.021	0.031	0.182
4-Axle+ Trucks (12.33%)			0.059	0.018	0.076	0.026	0.057	0.083	0.485
Warehousing ³	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars (80.0%)			0.105	0.031	0.136	0.041	0.111	0.152	1.392
2-Axle Trucks (3.34%)			0.004	0.001	0.005	0.002	0.005	0.007	0.058
3-Axle Trucks (4.14%)			0.005	0.002	0.007	0.002	0.006	0.008	0.072
4-Axle+ Trucks (12.52%)			0.016	0.005	0.021	0.006	0.017	0.023	0.218
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage) ⁴	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars (AM-69.2%; PM-78.3%; Daily-67.8%)			0.043	0.013	0.055	0.022	0.056	0.078	0.949
2-Axle Trucks (AM-5.14%; PM-3.62%; Daily-5.38%)			0.003	0.001	0.004	0.001	0.003	0.004	0.075
3-Axle Trucks (AM-6.38%; PM-4.49%; Daily-6.67%)			0.004	0.001	0.005	0.001	0.003	0.004	0.093
4-Axle+ Trucks (AM-19.25%; PM-13.56%; Daily-20.13%)			0.012	0.004	0.015	0.004	0.010	0.014	0.282
High-Cube Fulfillment Center Warehouse ⁴	TSF	155	0.454	0.136	0.590	0.384	0.986	1.370	8.180
Passenger Cars (AM-97.2%; PM-98.2%; Daily-91.2%)			0.442	0.132	0.573	0.377	0.969	1.345	7.460
2-Axle Trucks (AM-0.47%; PM-0.30%; Daily-1.47%)			0.002	0.001	0.003	0.001	0.003	0.004	0.120
3-Axle Trucks (AM-0.58%; PM-0.37%; Daily-1.82%)			0.003	0.001	0.003	0.001	0.004	0.005	0.149
4-Axle+ Trucks (AM-1.75%; PM-1.13%; Daily-5.50%)			0.008	0.002	0.010	0.004	0.011	0.015	0.450
Retail	TSF	820	0.583	0.357	0.940	1.829	1.981	3.810	37.750
Retail ⁶	TSF	820	2.310	1.420	3.730	3.170	3.440	6.610	76.550
Fast Food w/o Drive Thru	TSF	933	15.060	10.040	25.100	14.170	14.170	28.340	346.230
Fast Food w/ Drive Thru	TSF	934	20.497	19.693	40.190	16.988	15.682	32.670	470.950
Coffee/Donut Shop w/ Drive Thru	TSF	937	45.385	43.605	88.990	21.690	21.690	43.380	820.380
Gasoline Station w/ Market	VFP	945	10.135	10.130	20.270	11.180	11.180	22.360	198.160

Source: (Urban Crossroads, 2018f, Table 4-1)



Table 4.11-14 Project Trip Generation Rates (Continued)

Land Use ¹	Units ²	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Passenger Car Equivalent (PCE) Trip Generation Rates⁵									
General Light Industrial ⁵	TSF	110	0.616	0.084	0.700	0.082	0.548	0.630	4.960
Passenger Cars (78.6%)			0.484	0.066	0.550	0.064	0.431	0.495	3.899
2-Axle Trucks (8.0%) (PCE = 1.5)			0.074	0.010	0.084	0.010	0.066	0.076	0.595
3-Axle Trucks (3.9%) (PCE = 2.0)			0.048	0.007	0.055	0.006	0.043	0.049	0.387
4-Axle+ Trucks (9.5%) (PCE = 3.0)			0.176	0.024	0.200	0.023	0.156	0.180	1.414
Manufacturing ⁵	TSF	140	0.477	0.143	0.620	0.208	0.462	0.670	3.930
Passenger Cars (79.57%)			0.380	0.113	0.493	0.165	0.368	0.533	3.127
2-Axle Trucks (3.46%) (PCE = 1.5)			0.025	0.007	0.032	0.011	0.024	0.035	0.204
3-Axle Trucks (4.64%) (PCE = 2.0)			0.044	0.013	0.058	0.019	0.043	0.062	0.365
4-Axle+ Trucks (12.33%) (PCE = 3.0)			0.177	0.053	0.229	0.077	0.171	0.248	1.454
Warehousing ³	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars (80.0%)			0.105	0.031	0.136	0.041	0.111	0.152	1.392
2-Axle Trucks (3.34%) (PCE = 1.5)			0.006	0.002	0.008	0.003	0.008	0.011	0.087
3-Axle Trucks (4.14%) (PCE = 2.0)			0.010	0.004	0.014	0.004	0.012	0.016	0.144
4-Axle+ Trucks (12.52%) (PCE = 3.0)			0.048	0.015	0.063	0.018	0.051	0.069	0.654
High-Cube Transload and Short-Term Storage Warehouse (Without Cold Storage) ⁴	TSF	154	0.062	0.018	0.080	0.028	0.072	0.100	1.400
Passenger Cars (AM-69.2%; PM-78.3%; Daily-67.8%)			0.043	0.013	0.055	0.022	0.056	0.078	0.949
2-Axle Trucks (AM-5.14%; PM-3.62%; Daily-5.38%) (PCE = 1.5)			0.005	0.001	0.006	0.002	0.004	0.005	0.113
3-Axle Trucks (AM-6.38%; PM-4.49%; Daily-6.67%) (PCE = 2.0)			0.008	0.002	0.010	0.003	0.006	0.009	0.187
4-Axle+ Trucks (AM-19.25%; PM-13.56%; Daily-20.13%) (PCE = 3.0)			0.036	0.011	0.046	0.011	0.029	0.041	0.845
High-Cube Fulfillment Center Warehouse ⁴	TSF	155	0.454	0.136	0.590	0.384	0.986	1.370	8.180
Passenger Cars (AM-97.2%; PM-98.2%; Daily-91.2%)			0.442	0.132	0.573	0.377	0.969	1.345	7.460
2-Axle Trucks (AM-0.47%; PM-0.30%; Daily-1.47%) (PCE = 1.5)			0.003	0.001	0.004	0.002	0.004	0.006	0.180
3-Axle Trucks (AM-0.58%; PM-0.37%; Daily-1.82%) (PCE = 2.0)			0.007	0.002	0.009	0.004	0.009	0.013	0.373
4-Axle+ Trucks (AM-1.75%; PM-1.13%; Daily-5.50%) (PCE = 3.0)			0.024	0.007	0.031	0.013	0.033	0.046	1.350

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

² TSF = thousand square feet; VFP = Vehicle Fueling Position

³ Vehicle Mix Source: Truck mix (by axle type) source from City of Fontana Truck Trip Generation Study (August 2003). PCE rates are per SBCTA.

⁴ Vehicle Mix Source: High-Cube Warehouse Vehicle Trip Generation Analysis, October 2016, ITE.

Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type for high-cube warehouse. PCE rates are per SBCTA.

⁵ Vehicle Mix Source: Truck mix (by axle type) source from City of Fontana Truck Trip Generation Study (August 2003). PCE rates are per SBCTA.

⁶ Trip generation rates based on the regression equation for the commercial retail site in PA 4.

Source: (Urban Crossroads, 2018f, Table 4-1)



Table 4.11-15 Project Trip Generation Summary (Actual Vehicles)

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Planning Area 1: High-Cube Fulfillment Center									
Warehouse	412,500	TSF							
Passenger Cars:			182	54	236	155	400	555	3,077
Truck Trips:									
2-axle:			1	0	1	0	1	1	50
3-axle:			1	0	1	1	2	3	61
4+-axle:			3	1	4	2	5	7	186
- Net Truck Trips			5	1	6	3	8	11	297
Planning Area 1: High-Cube Warehouse (Without Cold Storage)	412,500	TSF							
Passenger Cars:			18	5	23	9	23	32	392
Truck Trips:									
2-axle:			1	0	1	0	1	1	31
3-axle:			2	0	2	1	1	2	38
4+-axle:			5	1	6	2	4	6	116
- Net Truck Trips			8	1	9	3	6	9	185
PLANNING AREA 1 TOTAL NET TRIPS (Actual)²			213	61	274	170	437	607	3,951
Planning Area 1A: Fast Food With Drive-Thru	8,700	TSF	178	171	349	148	136	284	4,097
Pass-By (49% AM, 50% PM/Daily):			-84	-84	-168	-68	-68	-136	-2,049
Planning Area 1A: Fast Food Without Drive-Thru	12,000	TSF	181	120	301	170	170	340	4,155
Pass-By (49% AM, 50% PM/Daily):			-59	-59	-118	-83	-83	-166	-2,078
Planning Area 1A: Commercial Retail	12,000	TSF	7	4	11	22	24	46	453
Pass-By (34% PM/Daily):			0	0	0	-7	-7	-14	-154
Planning Area 1A: Gas Station w/ Market & Carwash	8	VFP	81	81	162	89	89	179	1,585
Pass-By (62% am, 56% PM/Daily):			-50	-50	-100	-50	-50	-100	-888
PLANNING AREA 1A TOTAL NET TRIPS			254	183	437	221	211	433	5,122
Planning Area 2: High-Cube Warehouse (Without Cold Storage)	218,400	TSF							
Passenger Cars:			9	3	12	5	12	17	207
Truck Trips:									
2-axle:			1	0	1	0	1	1	16
3-axle:			1	0	1	0	1	1	20
4+-axle:			3	1	4	1	2	3	62
- Net Truck Trips			5	1	6	1	4	5	98
Planning Area 2: General Light Industrial	54,600	TSF							
Passenger Cars:			26	4	30	4	24	28	213
Truck Trips:									
2-axle:			3	0	3	0	2	2	22
3-axle:			1	0	1	0	1	1	11
4+-axle:			3	0	3	0	3	3	26
- Net Truck Trips			7	0	7	0	6	6	59
Planning Area 2: Warehouse	60,000	TSF							
Passenger Cars:			6	2	8	2	7	9	84
Truck Trips:									
2-axle:			0	0	0	0	0	0	3
3-axle:			0	0	0	0	0	0	4
4+-axle:			1	0	1	0	1	1	13
- Net Truck Trips			1	0	1	0	1	1	20
PLANNING AREA 2 TOTAL NET TRIPS (Actual)²			54	10	64	12	54	66	681

Source: (Urban Crossroads, 2018f, Table 4-3)



Table 4.11-15 Project Trip Generation Summary (Actual Vehicles)

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Planning Area 3: Manufacturing	102,000	TSF							
Passenger Cars:			39	12	51	17	38	55	319
Truck Trips:									
2-axle:			2	1	3	1	2	3	14
3-axle:			2	1	3	1	2	3	19
4+-axle:			6	2	8	3	6	9	49
- Net Truck Trips			10	4	14	5	10	15	82
Planning Area 3: Warehouse	191,400	TSF							
Passenger Cars:			20	6	26	8	21	29	266
Truck Trips:									
2-axle:			1	0	1	0	1	1	11
3-axle:			1	0	1	0	1	1	14
4+-axle:			3	1	4	1	3	4	42
- Net Truck Trips			5	1	6	1	5	6	67
PLANNING AREA 3 TOTAL NET TRIPS (Actual)²			74	23	97	31	74	105	734
Planning Area 3A: Coffee Shop	3,000	TSF	136	131	267	65	65	130	2,461
Pass-By (89% AM/PM/Daily):			-117	-117	-234	-58	-58	-116	-2,190
Planning Area 3A: Fast Food Without Drive-Thru	7,000	TSF	105	70	175	99	99	198	2,424
Pass-By (49% AM, 50% PM/Daily):			-34	-34	-68	-49	-49	-98	-1,212
Planning Area 3A: Commercial Retail	10,500	TSF	6	4	10	19	21	40	396
Pass-By (34% PM/Daily):			0	0	0	-6	-6	-12	-135
PLANNING AREA 3A TOTAL NET TRIPS²			96	54	150	70	72	142	1,744
Planning Area 4: Commercial Retail	47,000	TSF	109	67	176	149	162	311	3,598
Pass-By (34% PM/Daily):			0	0	0	-51	-51	-102	-1,223
PLANNING AREA 4 TOTAL NET TRIPS²			109	67	176	98	111	209	2,375
Total Proposed Project			800	398	1,198	602	959	1,562	14,607

¹ TSF = thousand square feet; VFP = Vehicle Fueling Position

² TOTAL NET TRIPS = Passenger Cars + Net Truck Trips.

Source: (Urban Crossroads, 2018f, Table 4-3)



Table 4.11-16 Project Trip Generation Summary (PCE)

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Planning Area 1: High-Cube Fulfillment Center									
Warehouse	412,500	TSF							
Passenger Cars:			182	54	236	155	400	555	3,077
Truck Trips:									
2-axle:			1	0	1	1	2	3	74
3-axle:			3	1	4	1	4	5	154
4+ axle:			10	3	13	5	14	19	557
- Net Truck Trips			14	4	18	7	20	27	785
Planning Area 1: High-Cube Warehouse (Without Cold Storage)	412,500	TSF							
Passenger Cars:			18	5	23	9	23	32	392
Truck Trips:									
2-axle:			2	1	3	1	2	3	47
3-axle:			3	1	4	1	3	4	77
4+ axle:			15	4	19	5	12	17	349
- Net Truck Trips			20	6	26	7	17	24	473
PLANNING AREA 1 TOTAL NET TRIPS (PCE)²			234	69	303	178	460	638	4,727
Planning Area 1A: Fast Food With Drive-Thru	8,700	TSF	178	171	349	148	136	284	4,097
Pass-By (49% AM, 50% PM/Daily):			-84	-84	-168	-68	-68	-136	-2,049
Planning Area 1A: Fast Food Without Drive-Thru	12,000	TSF	181	120	301	170	170	340	4,155
Pass-By (49% AM, 50% PM/Daily):			-59	-59	-118	-83	-83	-166	-2,078
Planning Area 1A: Commercial Retail	12,000	TSF	7	4	11	22	24	46	453
Pass-By (34% PM/Daily):			0	0	0	-7	-7	-14	-154
Planning Area 1A: Gas Station w/ Market	8	VFP	81	81	162	89	89	178	1,585
Pass-By (62% am, 56% PM/Daily):			-50	-50	-100	-50	-50	-100	-888
PLANNING AREA 1A TOTAL NET TRIPS			254	183	437	221	211	432	5,122
Planning Area 2: High-Cube Warehouse (Without Cold Storage)	218,400	TSF							
Passenger Cars:			9	3	12	5	12	17	207
Truck Trips:									
2-axle:			1	0	1	0	1	1	25
3-axle:			2	1	3	1	1	2	41
4+ axle:			8	2	10	2	6	8	185
- Net Truck Trips			11	3	14	3	8	11	251
Planning Area 2: General Light Industrial	54,600	TSF							
Passenger Cars:			26	4	30	4	24	28	213
Truck Trips:									
2-axle:			4	1	5	1	4	5	32
3-axle:			3	0	3	0	2	2	21
4+ axle:			10	1	11	1	9	10	77
- Net Truck Trips			17	2	19	2	15	17	130
Planning Area 2: Warehouse	60,000	TSF							
Passenger Cars:			6	2	8	2	7	9	84
Truck Trips:									
2-axle:			0	0	0	0	0	0	5
3-axle:			1	0	1	0	1	1	9
4+ axle:			3	1	4	1	3	4	39
- Net Truck Trips			4	1	5	1	4	5	53
PLANNING AREA 2 TOTAL NET TRIPS (PCE)²			73	15	88	17	70	87	938

Source: (Urban Crossroads, 2018f, Table 4-2)



Table 4.11-16 Project Trip Generation Summary (PCE)

Land Use	Quantity	Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Planning Area 3: Manufacturing	102,000	TSF							
Passenger Cars:			39	12	51	17	38	55	319
Truck Trips:									
2-axle:			3	1	4	1	2	3	21
3-axle:			5	1	6	2	4	6	37
4+ axle:			18	5	23	8	17	25	148
- Net Truck Trips			26	7	33	11	23	34	206
Planning Area 3: Warehouse	191,400	TSF							
Passenger Cars:			20	6	26	8	21	29	266
Truck Trips:									
2-axle:			1	0	1	1	1	2	17
3-axle:			2	1	3	1	2	3	28
4+ axle:			9	3	12	3	10	13	125
- Net Truck Trips			12	4	16	5	13	18	170
PLANNING AREA 3 TOTAL NET TRIPS (PCE)²			97	29	126	41	95	136	961
Planning Area 3A: Coffee Shop	3,000	TSF	136	131	267	65	65	130	2,461
Pass-By (89% AM/PM/Daily):			-117	-117	-234	-58	-58	-116	-2,190
Planning Area 3A: Fast Food Without Drive-Thru	7,000	TSF	105	70	175	99	99	198	2,424
Pass-By (49% AM, 50% PM/Daily):			-34	-34	-68	-49	-49	-98	-1,212
Planning Area 3A: Commercial Retail	10,500	TSF	6	4	10	19	21	40	396
Pass-By (34% PM/Daily):			0	0	0	-6	-6	-12	-135
PLANNING AREA 3A TOTAL NET TRIPS²			96	54	150	70	72	142	1,744
Planning Area 4: Commercial Retail	47,000	TSF	109	67	176	149	162	311	3,598
Pass-By (34% PM/Daily):			0	0	0	-51	-51	-102	-1,223
PLANNING AREA 4 TOTAL NET TRIPS²			109	67	176	98	111	209	2,375
Total Proposed Project			863	417	1,280	625	1,019	1,644	15,867

¹ TSF = thousand square feet; VFP = Vehicle Fueling Position

² TOTAL NET TRIPS = Passenger Cars + Net Truck Trips.

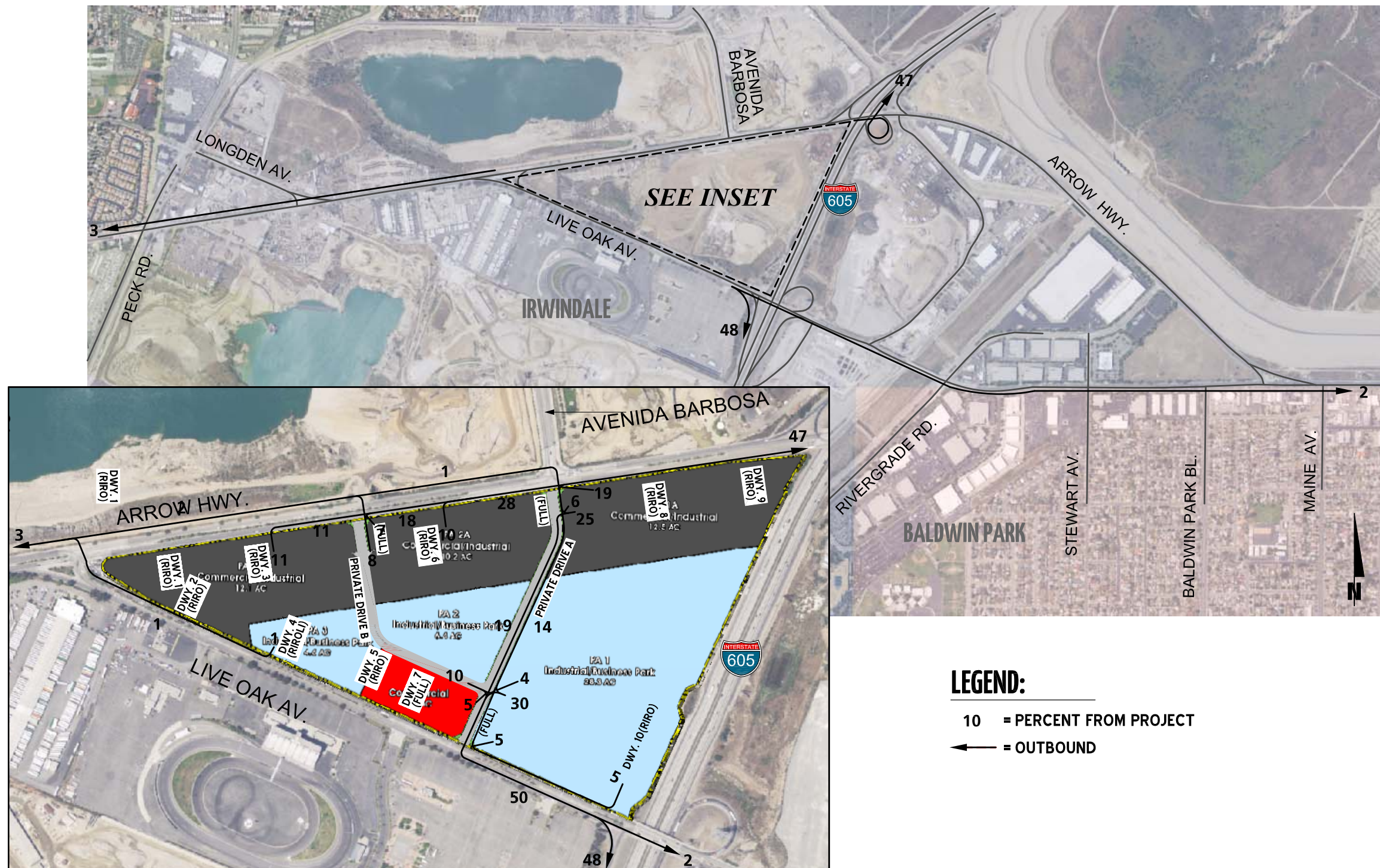
Source: (Urban Crossroads, 2018f, Table 4-2)

In an effort to conduct a conservative analysis, the traffic-reducing potential of public transit, walking or bicycling were not considered in the Project's TIA. However, the Project site is located approximately 1.4 mile south of the Duarte Metro Gold Line Light Rail Station, so it is likely that some transit use will occur. Additionally, the San Gabriel River bike trail is located approximately 1,700 feet to the southeast of the Project site which may facilitate bike transit. (Google Earth Pro, 2018)

B. Project Trip Distribution

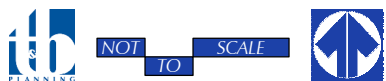
Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land use and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. The Project trip distribution was developed based on anticipated travel patterns to and from the Project site. The existing roadway network and location of regional destinations have been reviewed to develop the Project trip distribution pattern. (Urban Crossroads, 2018f, p. 80)

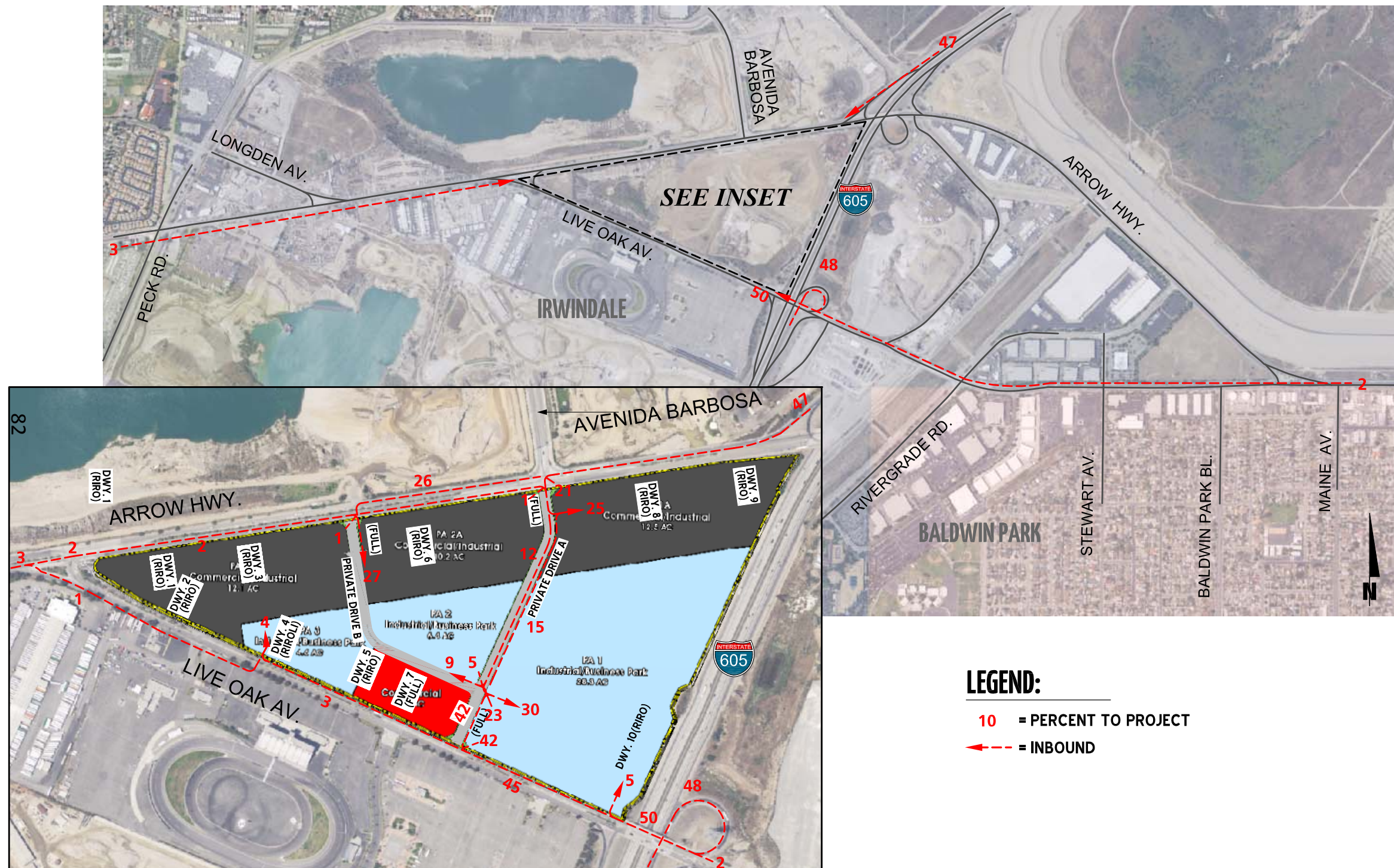
Figure 4.11-2, *Project (Outbound Truck) Trip Distribution*, and Figure 4.11-3, *Project (Inbound Truck) Trip Distribution*, illustrate the outbound and inbound truck trip distribution patterns for the Project,



Source(s): Urban Crossroads (05-11-2018)

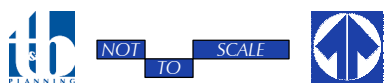
Figure 4.11-2





Source(s): Urban Crossroads (05-11-2018)

Figure 4.11-3





respectively. Figure 4.11-4, *Project (Outbound Warehouse/Industrial Passenger Car) Trip Distribution*, and Figure 4.11-5, *Project (Inbound Warehouse/Industrial Passenger Car) Trip Distribution*, illustrate the outbound and inbound passenger car trip distribution patterns for the industrial/business park component of the Project, respectively. Lastly, Figure 4.11-6, *Project (Outbound Commercial Retail Passenger Car) Trip Distribution*, and Figure 4.11-7, *Project (Inbound Commercial Retail Passenger Car) Trip Distribution*, illustrate the outbound and inbound passenger car trip distribution patterns for the commercial retail component of the Project, respectively. The same trip distribution patterns are utilized for E+P, Opening Year Cumulative, and Horizon Year traffic conditions as the study area roadway network is similar for these analysis scenarios.

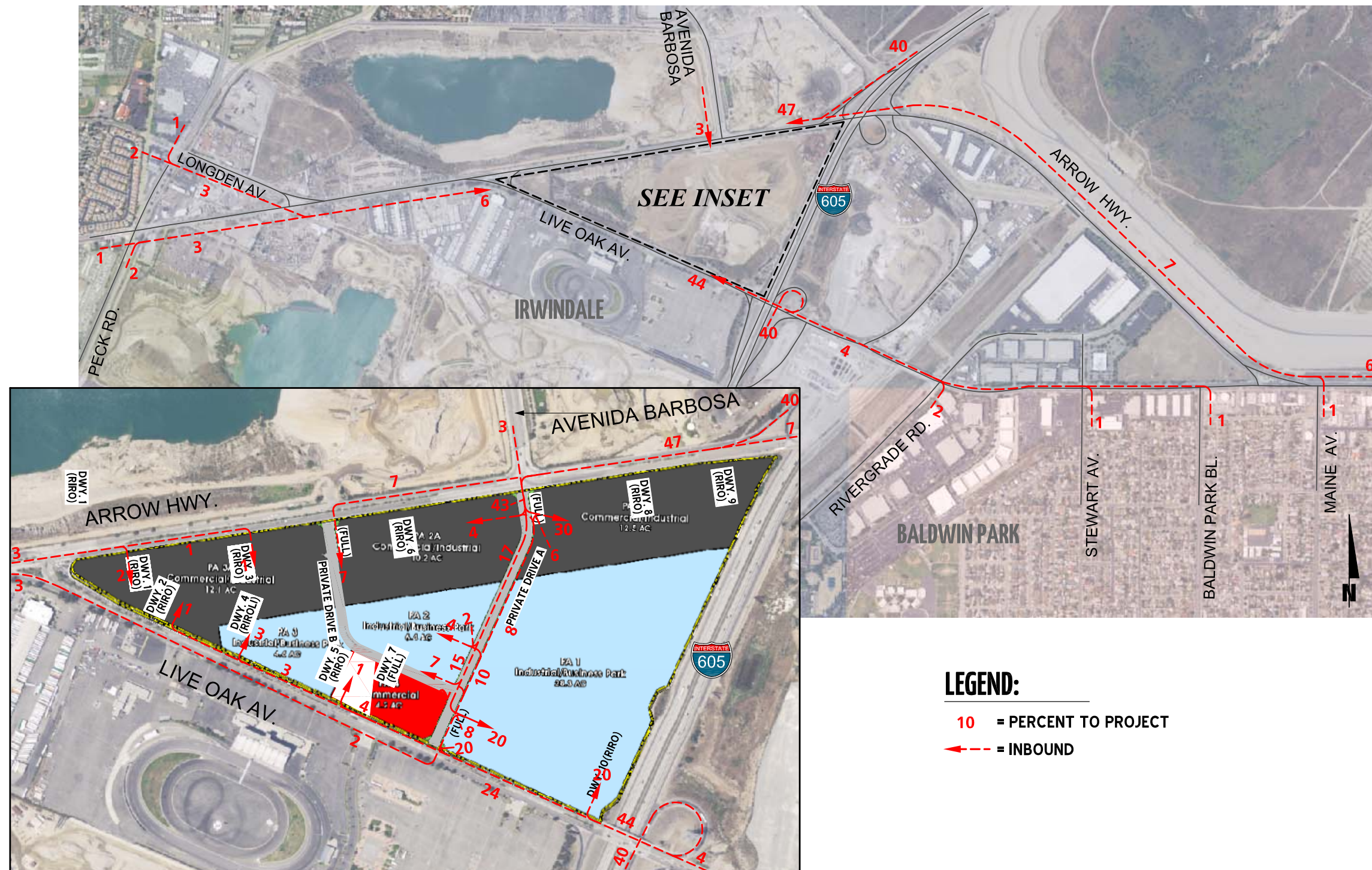
C. Traffic Impact Scenarios

For the purposes of analysis, potential impacts to the transportation system are assessed for the following scenarios:

- **Existing Plus Project (E+P)**: The E+P analysis determines whether or not significant traffic impacts would occur on the existing roadway system with the addition of Project traffic. The E+P analysis is intended to identify the Project-specific impacts and mitigation associated solely with the development of the proposed Project based on a comparison of the E+P traffic conditions to Existing (2017) conditions. (Urban Crossroads, 2018f, p. 3)
- **Opening Year Cumulative (2020)**: The Opening Year Cumulative conditions analysis determines the Project's contribution to near-term cumulative traffic impacts based on a comparison of the "with Project" traffic scenario to the "without Project" traffic scenario. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth from Existing (2017) conditions of 6.12% (2.0% per year, compounded over three years) is included for Opening Year Cumulative, as well as traffic generated by cumulative development projects that could affect the study intersections. (Urban Crossroads, 2018f, pp. 3-4)

The generalized growth factors provided in 2010 Los Angeles County CMP indicates a growth factor of 1.046 for ten years (2010 to 2020) or 0.45% per year for the Regional Statistical Area (RSA) 26 (West Covina) in which the Project is located. As such, the analysis is in excess of the CMP guidelines and consistent with the City of Irwindale's traffic study guidelines. (Urban Crossroads, 2018f, p. 4)

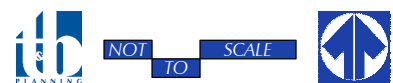
- **Horizon Year (2040) Conditions**: The Horizon Year conditions analysis is utilized to determine if improvements funded through local and regional transportation mitigation fee programs, or other approved funding mechanism can accommodate long-term cumulative traffic growth at the target level of service (LOS) identified by the City of Irwindale and surrounding jurisdictions. (Urban Crossroads, 2018f, p. 4)

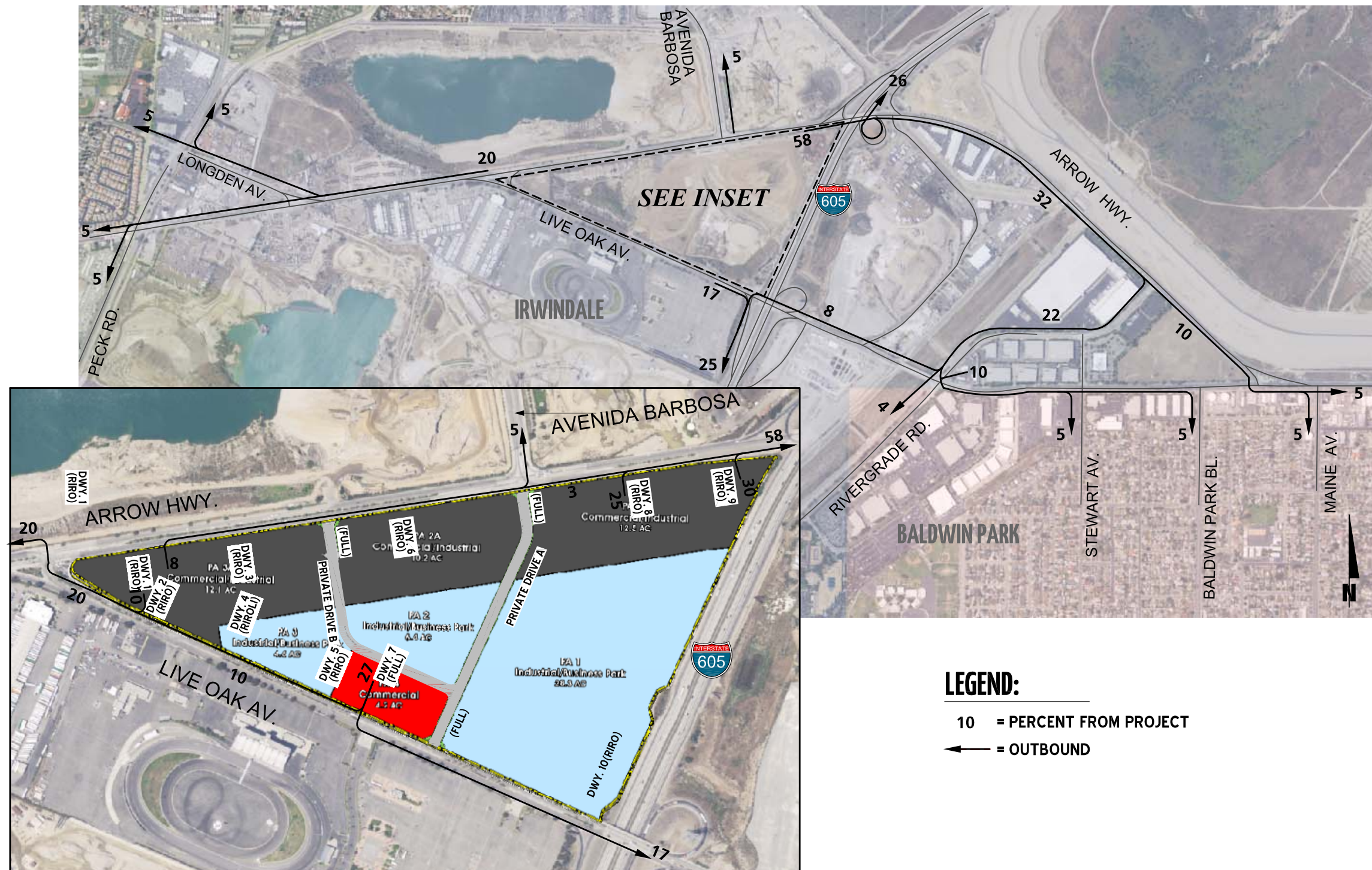


Source(s): Urban Crossroads (05-11-2018)

Figure 4.11-5

PROJECT (INBOUND WAREHOUSE/INDUSTRIAL PASSENGER CAR) TRIP DISTRIBUTION

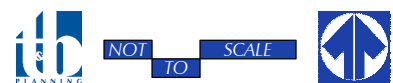




Source(s): Urban Crossroads (05-11-2018)

Figure 4.11-6

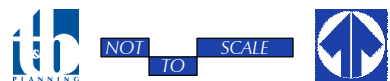
PROJECT (OUTBOUND COMMERCIAL RETAIL PASSENGER CAR) TRIP DISTRIBUTION





Source(s): Urban Crossroads (05-11-2018)

Figure 4.11-7





Horizon Year Without Project traffic conditions include an ambient traffic growth factor of 12.78% (0.524% per year over 23 years) based on the growth factors provided in Los Angeles County CMP for RSA 26. A growth factor of 1.106 was estimated for 25 years (from 2010 to 2035) in Los Angeles County CMP, which is equivalent to 0.404% per year growth. This annual growth was compounded over 5 years and added to the 1.106 from the Los Angeles County CMP to determine the growth factor for Horizon Year (2040) traffic conditions. Lastly, traffic generated by cumulative projects that could affect the study intersections was added on top of the ambient growth. (Urban Crossroads, 2018f, p. 4)

D. Traffic Impact Analysis for Local Roadway Network

1. Existing Plus Project (E+P) Conditions

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those under existing conditions, with the exception of the Project's proposed driveways at Live Oak Avenue and Arrow Highway, and those facilities proposed to be constructed by the Project to provide access to the site, which are also assumed to be in place for E+P conditions (as depicted in Exhibit 1-5 of EIR *Technical Appendix II*). Thus, no other off-site improvements are assumed beyond those that currently exist with the exception of the intersections and roadways that would be improved by the Project for direct site access.

Intersection Operations Analysis

Technical Appendix II to this EIR analyzes existing traffic volumes plus traffic generated by the proposed Project, referred to as (E+P) conditions. As shown on Table 4.11-17, *Intersection Analysis for E+P Conditions*, the following intersections would operate at a deficient LOS (LOS E or F) during the AM and/or PM peak hours under both Existing (2017) and E+P conditions:

- Intersection #1 – Myrtle Avenue & Longden Avenue
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue
- Intersection #4 – Live Oak Avenue & Arrow Highway (west)
- Intersection #7 – Speedway Driveway & Live Oak Avenue
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue
- Intersection #26 – Rivergrade Road & Live Oak Avenue

In accordance with the basis for determining impacts to intersections previously outlined in EIR Subsection 4.11.4, the Project would result in cumulatively considerable impacts to the above-listed intersections under the E+P scenario since it would contribute substantial traffic (50 or more peak hour trips) to these intersections which operate at a deficient level of service (LOS E or F) under pre-Project conditions.



Table 4.11-17 Intersection Analysis for E+P Conditions

#	Intersection	Traffic Control ³	Existing (2017)								E+P							
			HCM Delay ¹ (secs.)		Level of Service		ICU ² (v/c)		Level of Service		HCM Delay ¹ (secs.)		Level of Service		ICU ² (v/c)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Myrtle Av. & Longden Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.81	0.92	D	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.84	0.95	D	E
2	Myrtle Av./Peck Rd. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.88	0.94	D	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.88	0.97	D	E
3	Longden Av. & Live Oak Av./Driveway	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.74	0.88	C	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.77	0.91	C	E
4	Live Oak Av. & Arrow Hwy. (West)	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.99	0.69	E	B	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.01	0.74	F	C
5	Dwy. 1 & Arrow Hwy.	CSS	Future Intersection								14.2	16.4	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
6	Dwy. 2 & Live Oak Av.	CSS	Future Intersection								22.7	19.1	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
7	Speedway Dwy. & Live Oak Av.	CSS	20.8	>100.0	C	F	-- ⁴	-- ⁴	-- ⁴	-- ⁴	18.6	>100.0	C	F	-- ⁴	-- ⁴	-- ⁴	-- ⁴
8	Dwy. 3 & Arrow Hwy.	CSS	Future Intersection								12.2	13.6	B	B	-- ⁴	-- ⁴	-- ⁴	-- ⁴
9	Dwy. 4 & Live Oak Av.	CSS	Future Intersection								20.0	15.9	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
10	Dwy. 5 & Live Oak Av.	CSS	Future Intersection								16.2	14.2	C	B	-- ⁴	-- ⁴	-- ⁴	-- ⁴
11	Driveway/Private Drive B & Arrow Hwy.	CSS	0.0	15.0	A	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴	24.4	16.2	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
12	Dwy. 6 & Arrow Hwy.	CSS	Future Intersection								12.3	13.8	B	B	-- ⁴	-- ⁴	-- ⁴	-- ⁴
13	Dwy. 7/Driveway & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.49	0.59	A	A	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.47	0.68	A	B
14	Avenida Barbosa & Alpha St./Buena Vista St.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.51	0.72	A	C	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.55	0.76	A	C
15	Avenida Barbosa/Private Drive A & Arrow Hwy	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.02	0.69	F	B	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.12	0.89	F	D
16	Private Drive A & Live Oak Av.	TS	Future Intersection								-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.49	0.80	A	C
17	Dwy. 8 & Arrow Hwy.	CSS	Future Intersection								10.7	17.6	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
18	Dwy. 9 & Arrow Hwy.	CSS	Future Intersection								10.7	19.1	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
19	Dwy. 10 & Live Oak Av.	CSS	Future Intersection								17.3	14.6	C	B	-- ⁴	-- ⁴	-- ⁴	-- ⁴
20	I-605 SB Off-Ramp & Arrow Hwy.	TS	17.7	7.6	B	A	-- ⁵	-- ⁵	-- ⁵	-- ⁵	18.3	8.3	B	A	-- ⁵	-- ⁵	-- ⁵	-- ⁵
21	I-605 SB On-Ramp & Live Oak Av.	TS	6.0	14.3	B	B	-- ⁵	-- ⁵	-- ⁵	-- ⁵	7.7	14.5	A	B	-- ⁵	-- ⁵	-- ⁵	-- ⁵
22	I-605 NB On-Ramp/Live Oak Ln. & Arrow Hwy	CSS	11.2	16.7	B	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵	11.8	18.9	B	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵
23	I-605 NB Off-Ramp & Live Oak Av.	CSS	>100.0	>100.0	F	F	-- ⁵	-- ⁵	-- ⁵	-- ⁵	>100.0	>100.0	F	F	-- ⁵	-- ⁵	-- ⁵	-- ⁵
24	Rivergrade Rd. & Arrow Hwy.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.79	0.61	C	B	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.81	0.63	D	B
25	Stewart Av./Driveway & Rivergrade Rd.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.37	0.32	A	A	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.39	0.32	A	A
26	Rivergrade Rd. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.71	1.04	C	F	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.75	1.07	C	F
27	Stewart Av. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.90	0.80	D	C	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.93	0.82	E	D
28	Baldwin Park Bl. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.67	0.78	B	C	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.67	0.78	B	C
29	Arrow Hwy. & Live Oak Av. (East)	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.69	0.90	B	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.70	0.92	C	E
30	Maine Av. & Arrow Hwy.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.86	0.82	D	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.87	0.84	D	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.

For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio.

³ CSS = Cross-street Stop; TS = Traffic Signal

⁴ ICU not reported for intersections without a signal.

⁵ ICU not reported for intersections under Caltrans' jurisdiction.

⁶ HCM not reported for signalized intersections.

Source: (Urban Crossroads, 2018f, Table 5-1)



Additionally, as shown on Table 4.11-17, the addition of Project traffic would result in a deficient level of service (LOS E or F) during the AM and/or PM peak hours at the following intersections:

- Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway: LOS E (PM peak hour only)
- Intersection #27 – Stewart Avenue & Live Oak Avenue: LOS E (AM peak hour only)
- Intersection #29 – Arrow Highway & Live Oak Avenue: LOS E (PM peak hour only)

In accordance with the basis for determining impacts to intersections outlined in EIR Subsection 4.11.4, the Project would result in significant direct impacts at the three (3) above-listed intersections under the E+P condition.

Roadway Segment Analysis

The roadway segment capacities for the E+P conditions scenario are summarized in Table 4.11-18, *Roadway Segment Analysis for E+P Conditions*. As shown on Table 4.11-18, the following roadway segments are calculated to operate at a deficient LOS (LOS D or worse) under both Existing (2017) and E+P conditions:

- Roadway Segment #1 – Longden Avenue, Myrtle Avenue to Live Oak Avenue
- Roadway Segment #32 – Live Oak Avenue, Arrow Highway to Maine Avenue

Because the Project would contribute 50 or more peak hour trips to the above-listed roadway segments that operate at a deficient LOS (LOS D or worse) under Existing (2017) conditions, the Project would have significant cumulatively considerable impacts on these roadway segments.

Although the two additional segments are calculated to operate at a deficient LOS (LOS D or worse) under both Existing (2017) and E+P conditions, and the Project would add 50 or more peak hour trips, the intersections at both legs of the roadway segments operate at acceptable LOS (LOS D or better); therefore, these roadway segments are considered to experience acceptable traffic flow. Accordingly, the Project would result in corresponding less-than-significant impacts to Roadway Segment #12 and Roadway Segment #13.

Additionally, as shown on Table 4.11-18, the addition of Project traffic would result in deficient levels of service (LOS D or worse) at the following roadway segments under the E+P scenario, and therefore result in a significant direct impact to these roadway segments:

- Roadway Segment #2 – Live Oak Avenue, Peck Road to Longden Avenue: LOS D
- Roadway Segment #3 – Live Oak Avenue, Longden Avenue to Live Oak Avenue: LOS D
- Roadway Segment #9 – Arrow Highway, Avenida Barbosa/Private Drive A to Driveway 8: LOS E

Although four additional roadway segments also are calculated to operate at deficient levels of service (LOS D or worse) under the E+P scenario with the addition of Project traffic, both legs of the roadway segments operate at acceptable LOS (LOS D or better); therefore, these roadway segments are considered to experience acceptable traffic flow. Accordingly, the Project would result in



corresponding less-than-significant impacts to Roadway Segment #6, Roadway Segment #10, Roadway Segment #11, and Roadway Segment #27.

Table 4.11-18 Roadway Segment Analysis for E+P Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	Existing 2017	V/C ²	LOS ³	E+P	V/C ²	LOS ³
1	Longden Av.	Myrtle Av. to Live Oak Av.	4D	20,000	17,118	0.86	D	18,180	0.91	E
2	Live Oak Av.	Peck Rd. to Longden Av.	4D	30,000	23,789	0.79	C	24,907	0.83	D
3		Longden Av. to Live Oak Av.	6D	53,000	41,218	0.78	C	42,864	0.81	D
4	Arrow Hwy.	Live Oak Av. to Dwy. 1	4D	30,000	23,304	0.78	C	23,964	0.80	C
5		Dwy. 1 to Dwy. 3	4D	30,000	23,304	0.78	C	23,894	0.80	C
6		Dwy. 3 to Driveway/Private Drive B	4D	30,000	23,304	0.78	C	24,017	0.80	D
7		Driveway/Private Drive B to Dwy. 6	5D	37,500	23,304	0.62	B	24,557	0.65	B
8		Dwy. 6 to Avenida Barbosa/Private Drive A	5D	37,500	23,304	0.62	B	24,675	0.66	B
9		Avenida Barbosa/Private Drive A to Dwy. 8	4D	30,000	23,035	0.77	C	28,822	0.96	E
10		Dwy. 8 to Dwy. 9	4D	30,000	23,035	0.77	C	30,485	1.02	F
11		Dwy. 9 to I-605 SB Off-Ramp	4D	30,000	23,035	0.77	C	30,486	1.02	F
12		I-605 SB Off-Ramp to I-605 NB On-Ramp/Live Oak Ln.	4D	30,000	25,255	0.84	D	30,156	1.01	F
13		I-605 NB On-Ramp/Live Oak Ln. to Rivergrade Rd.	4D	30,000	24,237	0.81	D	26,589	0.89	D
14	Rivergrade Rd. to Live Oak Av.	4D	30,000	21,137	0.70	B	22,381	0.75	C	
15	Private Drive B	South of Arrow Hwy.	2U	10,000	Future Segment			622	0.06	A
16	Avenida Barbosa	Alpha St./Buena Vista St. to Arrow Hwy.	4D	20,000	15,981	0.80	C	16,579	0.83	A
17	Private Drive A	South of Arrow Hwy.	2U	10,000	Future Segment			4,635	0.46	A
18		North of Live Oak Av.	2U	10,000	Future Segment			3,097	0.31	A
19	Live Oak Av.	Live Oak Av./Arrow Hwy. to Dwy. 2	5D	46,700	35,519	0.76	C	37,130	0.80	C
20		Dwy. 2 to Speedway Dwy.	5D	46,700	35,519	0.76	C	37,037	0.79	C
21		Speedway Dwy. to Dwy. 4	5D	46,700	29,664	0.64	B	31,182	0.67	B
22		Dwy. 4 to Dwy. 5	5D	46,700	29,664	0.64	B	31,191	0.67	B
23		Dwy. 5 to Dwy. 7	5D	46,700	29,664	0.64	B	31,191	0.67	B
24		Dwy. 7 to Private Drive A	5D	46,700	29,664	0.64	B	31,838	0.68	B
25		Private Drive A to Dwy. 10	5D	46,700	29,664	0.64	B	34,751	0.74	C
26		Dwy. 10 to I-605 SB On-Ramp	5D	46,700	29,664	0.64	B	35,097	0.75	C
27		I-605 SB On-Ramp to I-605 NB Off-Ramps	4D	40,400	29,982	0.74	C	33,731	0.83	D
28		I-605 NB Off-Ramps to Rivergrade Rd.	4D	40,400	27,508	0.68	B	28,744	0.71	C
29		Rivergrade Rd. to Stewart Av.	5D	46,700	32,254	0.69	B	33,306	0.71	C
30		Stewart Av. to Baldwin Park Bl.	4D	40,400	29,466	0.73	C	30,012	0.74	C
31		Baldwin Park Bl. to Arrow Hwy.	4D	40,400	26,310	0.65	B	26,348	0.65	C
32		Arrow Hwy. to Maine Av.	4D	40,400	44,296	1.10	F	45,576	1.13	F
33	Rivergrade Rd.	Arrow Hwy. to Stewart Av.	4D	20,000	5,363	0.27	A	6,471	0.32	A
34		Stewart Av. to Live Oak Av.	4D	20,000	3,699	0.18	A	4,807	0.24	A

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Irwindale General Plan Update (Table 4-10).

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 5-2)

Traffic Signal Warrant Analysis

Technical Appendix II to this EIR analyzes the E+P condition to determine if any intersections not currently signalized would require a traffic signal with the addition of Project traffic. The traffic signal warrant analysis indicated that the intersection of Live Oak Avenue and the Project's proposed Private Drive A would meet the planning level traffic signal warrant. The Project proposes to install a traffic signal at this location; therefore, the impact is less than significant.

2. Opening Year Cumulative (2020) Traffic Conditions

Technical Appendix II to this EIR analyzes the Opening Year Cumulative (2020) Without and With Project traffic forecasts. Opening Year Cumulative (2020) Without Project traffic volume forecasts are presented in Exhibits 6-1 and 6-2 of the TIA (Technical Appendix II). Opening Year Cumulative



(2020) With Project traffic volume forecasts are presented in Exhibits 6-3 and 6-4 of the TIA (*Technical Appendix II*).

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2020) conditions would be consistent with those shown on Exhibit 3-1 of the TIA with the exception of Project driveways and those facilities assumed to be constructed by the Project to provide site access, which would be in place for Opening Year Cumulative (2020) traffic conditions. (Urban Crossroads, 2018f, p. 115)

Intersection Operations Analysis

As shown in Table 4.11-19, *Intersection Analysis for Opening Year Cumulative (2020) Conditions*, the following study area intersections are calculated to operate at a deficient LOS (LOS E or F) without the Project under Opening Year Cumulative (2020) traffic conditions:

- Intersection #1 – Myrtle Avenue & Longden Avenue: LOS E (PM peak hour only)
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue: LOS E (AM and PM peak hours)
- Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway: LOS E (PM peak hour only)
- Intersection #4 – Live Oak Avenue & Arrow Highway (west): LOS F (AM and PM peak hours)
- Intersection #7 – Speedway Driveway & Live Oak Avenue: LOS F (AM and PM peak hours)
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway: LOS F (AM and PM peak hours)
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue: LOS F (AM and PM peak hours)
- Intersection #26 – Rivergrade Road & Live Oak Avenue: LOS F (PM peak hour only)
- Intersection #27 – Stewart Avenue & Live Oak Avenue: LOS E (AM peak hour only)
- Intersection #29 – Arrow Highway & Live Oak Avenue (East): LOS E (PM peak hour only)

The Project would add 50 or more peak hour trips to the above-listed intersections that would operate at a deficient LOS (LOS E or F) under the Opening Year Cumulative (2020) Without Project scenario, and, as such, would result in cumulatively considerable impacts to the above-listed intersections.

In addition to the above-listed intersections that are calculated to operate at a deficient LOS (LOS E or F) under the Opening Year Cumulative (2020) Without Project scenario, the following additional intersection would operate at an unacceptable level of service (LOS E or F) with the addition of Project traffic:

- Intersection #30 – Maine Avenue & Arrow Highway: LOS E (AM peak hour only)

Based on the significance criteria previously presented in Subsection 4.11.4A.1, the Project would have a significant direct impact on the above-listed intersection under the Opening Year Cumulative (2020) scenario.



Table 4.11-19 Intersection Analysis for Opening Year Cumulative (2020) Conditions

#	Intersection	Traffic Control ³	2020 Without Project								2020 With Project							
			HCM Delay ¹ (secs.)		Level of Service		ICU ² (v/c)		Level of Service		HCM Delay ¹ (secs.)		Level of Service		ICU ² (v/c)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Myrtle Av. & Longden Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.81	0.96	D	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.84	0.98	D	E
2	Myrtle Av./Peck Rd. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.90	0.96	E	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.91	0.98	E	E
3	Longden Av. & Live Oak Av./Driveway	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.78	0.97	C	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.81	0.99	D	E
4	Live Oak Av. & Arrow Hwy. (West)	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.04	1.82	F	F	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.07	1.85	F	F
5	Dwy. 1 & Arrow Hwy.	CSS	Future Intersection								15.3	22.1	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
6	Dwy. 2 & Live Oak Av.	CSS	Future Intersection								27.6	28.1	D	D	-- ⁴	-- ⁴	-- ⁴	-- ⁴
7	Speedway Dwy. & Live Oak Av.	CSS	68.8	>100.0	F	F	-- ⁴	-- ⁴	-- ⁴	-- ⁴	44.7	>100.0	E	F	-- ⁴	-- ⁴	-- ⁴	-- ⁴
8	Dwy. 3 & Arrow Hwy.	CSS	Future Intersection								12.9	16.4	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
9	Dwy. 4 & Live Oak Av.	CSS	Future Intersection								24.4	21.5	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
10	Dwy. 5 & Live Oak Av.	CSS	Future Intersection								18.3	17.2	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
11	Driveway/Private Drive B & Arrow Hwy.	CSS	30.5	16.9	D	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴	30.7	22.0	D	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
12	Dwy. 6 & Arrow Hwy.	CSS	Future Intersection								12.9	16.6	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
13	Dwy. 7/Driveway & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.56	0.79	A	C	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.52	0.88	A	D
14	Avenida Barbosa & Alpha St./Buena Vista St.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.49	0.71	A	C	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.52	0.74	A	C
15	Avenida Barbosa/Private Drive A & Arrow Hwy.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.07	0.86	F	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.16	1.05	F	F
16	Private Drive A & Live Oak Av.	TS	Future Intersection								-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.51	0.84	A	D
17	Dwy. 8 & Arrow Hwy.	CSS	Future Intersection								11.2	23.1	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
18	Dwy. 9 & Arrow Hwy.	CSS	Future Intersection								11.2	26.3	B	D	-- ⁴	-- ⁴	-- ⁴	-- ⁴
19	Dwy. 10 & Live Oak Av.	CSS	Future Intersection								20.8	17.7	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
20	I-605 SB Off-Ramp & Arrow Hwy.	TS	23.8	8.5	C	A	-- ⁵	-- ⁵	-- ⁵	-- ⁵	25.5	10.0	C	A	-- ⁵	-- ⁵	-- ⁵	-- ⁵
21	I-605 SB On-Ramp & Live Oak Av.	TS	7.5	20.1	A	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵	9.2	21.6	A	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵
22	I-605 NB On-Ramp/Live Oak Ln. & Arrow Hwy.	CSS	11.6	18.2	B	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵	12.2	20.8	B	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵
23	I-605 NB Off-Ramp & Live Oak Av.	CSS	>100.0	>100.0	F	F	-- ⁵	-- ⁵	-- ⁵	-- ⁵	>100.0	>100.0	F	F	-- ⁵	-- ⁵	-- ⁵	-- ⁵
24	Rivergrade Rd. & Arrow Hwy.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.82	0.68	D	B	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.84	0.70	D	C
25	Stewart Av./Driveway & Rivergrade Rd.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.37	0.35	A	A	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.39	0.35	A	A
26	Rivergrade Rd. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.72	1.05	C	F	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.76	1.08	C	F
27	Stewart Av. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.92	0.84	E	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.95	0.87	E	D
28	Baldwin Park Bl. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.69	0.83	B	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.69	0.84	B	D
29	Arrow Hwy. & Live Oak Av. (East)	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.74	0.95	C	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.75	0.97	C	E
30	Maine Av. & Arrow Hwy.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.89	0.46	D	A	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.90	0.48	E	A

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.

For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio.

³ TS = Traffic Signal; CSS = Cross-street Stop

⁴ ICU not reported for intersections without a signal.

⁵ ICU not reported for intersections under Caltrans' jurisdiction.

⁶ HCM not reported for signalized intersections.

Source: (Urban Crossroads, 2018f, Table 6-1)



□ **Roadway Segment Analysis**

As shown in Table 4.11-20, *Roadway Segment Analysis for Opening Year Cumulative (2020) Conditions*, the following study area roadway segments are calculated to operate at a deficient LOS (LOS D or worse) without the Project under Opening Year Cumulative (2020) traffic conditions:

- Roadway Segment #1 – Longden Avenue, Myrtle Avenue to Live Oak Avenue: LOS E
- Roadway Segment #2 – Live Oak Avenue, Peck Road to Longden Avenue: LOS D
- Roadway Segment #3 – Live Oak Avenue, Longden Avenue to Live Oak Avenue: LOS D
- Roadway Segment #4 – Arrow Highway, Live Oak Avenue to Driveway 1: LOS F
- Roadway Segment #8 – Arrow Highway, Driveway 6 to Avenida Barbosa/Private Drive A: LOS D
- Roadway Segment #9 – Arrow Highway, Avenida Barbosa/Private Drive A to Driveway 8: LOS F
- Roadway Segment #14 – Arrow Highway, Rivergrade Road to Live Oak Avenue: LOS D
- Roadway Segment #16 – Avenida Barbosa, Alpha Street/Buena Vista Street to Arrow Highway: LOS D
- Roadway Segment #19 – Live Oak Avenue, Live Oak Avenue/Arrow Highway to Driveway 2: LOS E
- Roadway Segment #20 – Live Oak Avenue, Driveway 2 to Speedway Driveway: LOS F
- Roadway Segment #21 – Live Oak Avenue, Speedway Driveway to Driveway 4: LOS D
- Roadway Segment #27 – Live Oak Avenue, I-605 Southbound On-Ramp to I-605 Northbound Off-Ramp: LOS E
- Roadway Segment #30 – Live Oak Avenue, Stewart Avenue to Baldwin Park Boulevard: LOS D
- Roadway Segment #32 – Live Oak Avenue, Arrow Highway to Maine Avenue: LOS F

Because the Project would contribute substantial traffic (50 peak hour trips) to the deficient roadway segments listed above, the Project would result in significant cumulatively considerable impacts to these roadway segments under the Opening Year Cumulative (2020) scenario.

Although 12 additional segments are also calculated to operate at a deficient LOS (LOS D or worse) under the Opening Year Cumulative (2020) scenario and the Project would add 50 or more peak hour trips, the intersections at both legs of the roadway segments are calculated to operate at an acceptable LOS; therefore, these roadway segments are considered to experience acceptable traffic flow and the Project would result in corresponding less-than-cumulatively considerable impacts. These segments include Roadway Segment #5, Roadway Segment #6, Roadway Segment #7, Roadway Segment #10, Roadway Segment #11, Roadway Segment #12, Roadway Segment #13, Roadway Segment #22, Roadway Segment #23, Roadway Segment #24, Roadway Segment #25, and Roadway Segment #26.



Table 4.11-20 Roadway Segment Analysis for Opening Year Cumulative (2020) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	2020 Without Project	V/C ²	LOS ³	2020 With Project	V/C ²	LOS ³
1	Longden Av.	Myrtle Av. to Live Oak Av.	4D	20,000	18,878	0.94	E	19,940	1.00	E
2	Live Oak Av.	Peck Rd. to Longden Av.	4D	30,000	26,917	0.90	D	28,035	0.93	E
3		Longden Av. to Live Oak Av.	6D	53,000	46,253	0.87	D	47,899	0.90	E
4	Arrow Hwy.	Live Oak Av. to Dwy. 1	4D	30,000	32,633	1.09	F	33,293	1.11	F
5		Dwy. 1 to Dwy. 3	4D	30,000	32,631	1.09	F	33,221	1.11	F
6		Dwy. 3 to Driveway/Private Drive B	4D	30,000	32,631	1.09	F	33,344	1.11	F
7		Driveway/Private Drive B to Dwy. 6	5D	37,500	32,631	0.87	D	33,884	0.90	E
8		Dwy. 6 to Avenida Barbosa/Private Drive A	5D	37,500	32,631	0.87	D	34,002	0.91	E
9		Avenida Barbosa/Private Drive A to Dwy. 8	4D	30,000	32,158	1.07	F	37,945	1.26	F
10		Dwy. 8 to Dwy. 9	4D	30,000	32,158	1.07	F	39,608	1.32	F
11		Dwy. 9 to I-605 SB Off-Ramp	4D	30,000	32,158	1.07	F	39,609	1.32	F
12		I-605 SB Off-Ramp to I-605 NB On-Ramp/Live Oak Ln.	4D	30,000	31,213	1.04	F	36,114	1.20	F
13		I-605 NB On-Ramp/Live Oak Ln. to Rivergrade Rd.	4D	30,000	26,846	0.89	D	29,198	0.97	E
14	Rivergrade Rd. to Live Oak Av.	4D	30,000	25,978	0.87	D	27,222	0.91	E	
15	Private Drive B	South of Arrow Hwy.	2U	10,000	Future Segment		622	0.06	A	
16	Avenida Barbosa	Alpha St./Buena Vista St. to Arrow Hwy.	4D	20,000	17,839	0.89	D	18,437	0.92	E
17	Private Drive A	South of Arrow Hwy.	2U	10,000	Future Segment		4,635	0.46	A	
18		North of Live Oak Av.	2U	10,000	Future Segment		3,097	0.31	A	
19	Live Oak Av.	Live Oak Av./Arrow Hwy. to Dwy. 2	5D	46,700	45,596	0.98	E	47,207	1.01	F
20		Dwy. 2 to Speedway Dwy.	5D	46,700	47,170	1.01	F	48,688	1.04	F
21		Speedway Dwy. to Dwy. 4	5D	46,700	40,779	0.87	D	42,297	0.91	E
22		Dwy. 4 to Dwy. 5	5D	46,700	40,779	0.87	D	42,306	0.91	E
23		Dwy. 5 to Dwy. 7	5D	46,700	40,779	0.87	D	42,306	0.91	E
24		Dwy. 7 to Private Drive A	5D	46,700	40,842	0.87	D	43,016	0.92	E
25		Private Drive A to Dwy. 10	5D	46,700	40,751	0.87	D	45,838	0.98	E
26		Dwy. 10 to I-605 SB On-Ramp	5D	46,700	40,957	0.88	D	46,390	0.99	E
27		I-605 SB On-Ramp to I-605 NB Off-Ramps	4D	40,400	37,937	0.94	E	41,686	1.03	F
28		I-605 NB Off-Ramps to Rivergrade Rd.	4D	40,400	31,969	0.79	C	33,205	0.82	D
29		Rivergrade Rd. to Stewart Av.	5D	46,700	36,473	0.78	C	37,525	0.80	D
30		Stewart Av. to Baldwin Park Bl.	4D	40,400	33,071	0.82	D	33,617	0.83	D
31		Baldwin Park Bl. to Arrow Hwy.	4D	40,400	30,305	0.75	C	30,343	0.75	C
32		Arrow Hwy. to Maine Av.	4D	40,400	50,172	1.24	F	51,452	1.27	F
33	Rivergrade Rd.	Arrow Hwy. to Stewart Av.	4D	20,000	8,112	0.41	A	9,220	0.46	A
34		Stewart Av. to Live Oak Av.	4D	20,000	6,346	0.32	A	7,454	0.37	A

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Irwindale General Plan Update (Table 4-10).

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 6-2)



In addition to the above-listed roadway segments calculated to operate at a deficient LOS (LOS D or worse) under the Opening Year Cumulative (2020) Without Project scenario, the following additional roadway segments would operate at an unacceptable level of service (LOS D or worse) with the addition of Project traffic:

- Roadway Segment #28 – Live Oak Avenue, I-605 Northbound Off-Ramps to Rivergrade Road: LOS D
- Roadway Segment #29 – Live Oak Avenue, Rivergrade Road to Stewart Avenue: LOS D

Because the addition of Project traffic would cause the roadway segments listed above to operate at a deficient LOS (LOS D or worse), the Project would have a significant direct impact on these roadway segments under the Opening Year Cumulative (2020) With Project scenario.

Traffic Signal Warrant Analysis

Traffic signal warrant analysis was not performed for Opening Year Cumulative (2020) Without Project traffic conditions as there are no additional unsignalized intersections aside from the location previously warranted under Existing (2017) traffic conditions. No additional study area intersections would meet either peak hour volume-based or the planning level traffic signal warrants for Opening Year Cumulative (2020) With Project traffic conditions (see Appendix 6.3 of the TIA [*Technical Appendix II*]). (Urban Crossroads, 2018f, p. 125)

3. Horizon Year (2040) Traffic Conditions

Technical Appendix II to this EIR analyzes the Horizon Year (2040) Without and With Project traffic forecasts. Horizon Year (2040) Without Project traffic volumes forecasts are presented in Exhibits 7-1 and 7-2 in the TIA (*Technical Appendix II*). Traffic volume forecasts for the Horizon Year (2040) With Project scenario are shown in Exhibits 7-3 and 7-4 in the TIA (*Technical Appendix II*).

The lane configurations and traffic controls assumed to be in place for Horizon Year (2040) conditions would be consistent with those shown on Exhibit 3-1 of the TIA with the exception of Project driveways and those facilities assumed to be constructed by the Project to provide site access, which would be in place for Horizon Year (2040) traffic conditions. (Urban Crossroads, 2018f, p. 137)

Intersection Operations Analysis

As shown in Table 4.11-21, *Intersection Analysis for Horizon Year (2040) Conditions*, the following study area intersections are calculated to operate at a deficient LOS (LOS E or F) without the Project under Horizon Year (2040) traffic conditions:

- Intersection #1 – Myrtle Avenue & Longden Avenue: LOS F (PM peak hour only)
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue: LOS E (AM peak hour) and LOS F (PM peak hour)
- Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway: LOS F (AM and PM peak hours)
- Intersection #4 – Live Oak Avenue & Arrow Highway (west): LOS F (AM peak hour only)



Table 4.11-21 Intersection Analysis for Horizon Year (2040) Conditions

#	Intersection	Traffic Control ³	2040 Without Project								2040 With Project							
			HCM Delay ¹ (secs.)		Level of Service		ICU ² (v/c)		Level of Service		HCM Delay ¹ (secs.)		Level of Service		ICU ² (v/c)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Myrtle Av. & Longden Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.85	1.01	D	F	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.88	1.04	D	F
2	Myrtle Av./Peck Rd. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.95	1.01	E	F	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.96	1.03	E	F
3	Longden Av. & Live Oak Av./Driveway	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.24	1.02	F	F	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.27	1.05	F	F
4	Live Oak Av. & Arrow Hwy. (West)	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.10	0.89	F	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.12	0.94	F	E
5	Dwy. 1 & Arrow Hwy.	CSS	Future Intersection								15.9	23.4	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
6	Dwy. 2 & Live Oak Av.	CSS	Future Intersection								30.3	30.5	D	D	-- ⁴	-- ⁴	-- ⁴	-- ⁴
7	Speedway Dwy. & Live Oak Av.	CSS	91.8	> 100.0	F	F	-- ⁴	-- ⁴	-- ⁴	-- ⁴	55.0	> 100.0	F	F	-- ⁴	-- ⁴	-- ⁴	-- ⁴
8	Dwy. 3 & Arrow Hwy.	CSS	Future Intersection								13.3	17.0	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
9	Dwy. 4 & Live Oak Av.	CSS	Future Intersection								26.6	22.9	D	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
10	Dwy. 5 & Live Oak Av.	CSS	Future Intersection								19.2	17.9	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
11	Driveway/Private Drive B & Arrow Hwy.	CSS	33.8	18.5	D	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴	33.8	23.3	D	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
12	Dwy. 6 & Arrow Hwy.	CSS	Future Intersection								13.3	17.2	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
13	Dwy. 7/Driveway & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.59	0.98	A	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.54	1.07	A	F
14	Avenida Barbosa & Alpha St./Buena Vista St.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.51	0.74	A	C	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.54	0.78	A	C
15	Avenida Barbosa/Private Drive A & Arrow Hwy.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.12	0.93	F	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.22	1.12	F	F
16	Private Drive A & Live Oak Av.	TS	Future Intersection								-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.53	0.89	A	D
17	Dwy. 8 & Arrow Hwy.	CSS	Future Intersection								11.4	24.9	B	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
18	Dwy. 9 & Arrow Hwy.	CSS	Future Intersection								11.4	29.0	B	D	-- ⁴	-- ⁴	-- ⁴	-- ⁴
19	Dwy. 10 & Live Oak Av.	CSS	Future Intersection								21.9	18.4	C	C	-- ⁴	-- ⁴	-- ⁴	-- ⁴
20	I-605 SB Off-Ramp & Arrow Hwy.	TS	33.8	9.3	C	A	-- ⁵	-- ⁵	-- ⁵	-- ⁵	37.9	10.9	D	B	-- ⁵	-- ⁵	-- ⁵	-- ⁵
21	I-605 SB On-Ramp & Live Oak Av.	TS	8.1	24.9	A	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵	9.7	27.6	A	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵
22	I-605 NB On-Ramp/Live Oak Ln. & Arrow Hwy.	CSS	11.9	19.6	B	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵	12.6	22.4	B	C	-- ⁵	-- ⁵	-- ⁵	-- ⁵
23	I-605 NB Off-Ramp & Live Oak Av.	CSS	> 100.0	> 100.0	F	F	-- ⁵	-- ⁵	-- ⁵	-- ⁵	> 100.0	> 100.0	F	F	-- ⁵	-- ⁵	-- ⁵	-- ⁵
24	Rivergrade Rd. & Arrow Hwy.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.87	0.71	D	C	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.89	0.74	D	C
25	Stewart Av./Driveway & Rivergrade Rd.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.38	0.37	A	A	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.40	0.37	A	A
26	Rivergrade Rd. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.75	1.11	C	F	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.79	1.14	C	F
27	Stewart Av. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.97	0.89	E	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	1.00	0.91	E	E
28	Baldwin Park Bl. & Live Oak Av.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.72	0.88	C	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.73	0.88	C	D
29	Arrow Hwy. & Live Oak Av. (East)	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.78	1.00	C	E	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.79	1.02	C	F
30	Maine Av. & Arrow Hwy.	TS	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.93	0.89	E	D	-- ⁶	-- ⁶	-- ⁶	-- ⁶	0.95	0.92	E	E

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.

For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio.

³ TS = Traffic Signal; CSS = Cross-street Stop

⁴ ICU not reported for intersections without a signal.

⁵ ICU not reported for intersections under Caltrans' jurisdiction.

⁶ HCM not reported for signalized intersections.

Source: (Urban Crossroads, 2018f, Table 7-1)



- Intersection #7 – Speedway Driveway & Live Oak Avenue: LOS F (AM and PM peak hours)
- Intersection #13 – Driveway 7/Driveway & Live Oak Avenue: LOS E (PM peak hour only)
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway: LOS F (AM peak hour) and LOS E (PM peak hour)
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue: LOS F (AM and PM peak hours)
- Intersection #26 – Rivergrade Road & Live Oak Avenue: LOS F (PM peak hour only)
- Intersection #27 – Stewart Avenue & Live Oak Avenue: LOS E (AM peak hour only)
- Intersection #29 – Arrow Highway & Live Oak Avenue (East): LOS E (PM peak hour only)
- Intersection #30 – Maine Avenue & Arrow Highway: LOS E (AM peak hour only)

As shown in Table 4.11-21, *Intersection Analysis for Horizon Year (2040) Conditions*, the Project would add 50 or more peak hour trips to the above-listed intersections that would operate at a deficient LOS (LOS E or F) under the Horizon Year (2040) Without Project scenario, and, as such, would result in a cumulatively considerable impacts to the above-listed intersections.

No additional intersections would operate at a deficient LOS (LOS E or F) under the Horizon Year (2040) With Project scenario beyond those listed above for the Horizon Year (2040) Without Project scenario. Therefore, the Project would result in less-than-significant direct impacts to intersections under the Horizon Year (2040) With Project scenario.

Roadway Segment Analysis

As shown in Table 4.11-22, *Roadway Segment Analysis for Horizon Year (2040) Conditions*, the following study area roadway segments are calculated to operate at a deficient LOS (LOS D or worse) without the Project under Horizon Year (2040) traffic conditions:

- Roadway Segment #1 – Longden Avenue, Myrtle Avenue to Live Oak Avenue: LOS F
- Roadway Segment #2 – Live Oak Avenue, Peck Road to Longden Avenue: LOS E
- Roadway Segment #3 – Live Oak Avenue, Longden Avenue to Live Oak Avenue: LOS E
- Roadway Segment #4 – Arrow Highway, Live Oak Avenue to Driveway 1: LOS F
- Roadway Segment #8 – Arrow Highway, Driveway 6 to Avenida Barbosa/Private Drive A: LOS E
- Roadway Segment #9 – Arrow Highway, Avenida Barbosa/Private Drive A to Driveway 8: LOS F
- Roadway Segment #14 – Arrow Highway, Rivergrade Road to Live Oak Avenue: LOS E
- Roadway Segment #16 – Avenida Barbosa, Alpha Street/Buena Vista Street to Arrow Highway: LOS E
- Roadway Segment #19 – Live Oak Avenue, Live Oak Avenue/Arrow Highway to Driveway 2: LOS F
- Roadway Segment #20 – Live Oak Avenue, Driveway 2 to Speedway Driveway: LOS F
- Roadway Segment #21 – Live Oak Avenue, Speedway Driveway to Driveway 4: LOS E



Table 4.11-22 Roadway Segment Analysis for Horizon Year (2040) Conditions

#	Roadway	Segment Limits	Roadway Section	LOS Capacity ¹	2040 Without Project	V/C ²	LOS ³	2040 With Project	V/C ²	LOS ³	
1	Longden Av.	Myrtle Av. to Live Oak Av.	4D	20,000	19,994	1.00	F	21,056	1.05	F	
2	Live Oak Av.	Peck Rd. to Longden Av.	4D	30,000	28,468	0.95	E	29,586	0.99	E	
3		Longden Av. to Live Oak Av.	6D	53,000	48,940	0.92	E	50,586	0.95	E	
4	Arrow Hwy.	Live Oak Av. to Dwy. 1	4D	30,000	34,153	1.14	F	34,813	1.16	F	
5		Dwy. 1 to Dwy. 3	4D	30,000	34,151	1.14	F	34,741	1.16	F	
6		Dwy. 3 to Driveway/Private Drive B	4D	30,000	34,151	1.14	F	34,864	1.16	F	
7		Driveway/Private Drive B to Dwy. 6	5D	37,500	34,151	0.91	E	35,404	0.94	E	
8		Dwy. 6 to Avenida Barbosa/Private Drive A	5D	37,500	34,151	0.91	E	35,522	0.95	E	
9		Avenida Barbosa/Private Drive A to Dwy. 8	4D	30,000	33,660	1.12	F	39,447	1.31	F	
10		Dwy. 8 to Dwy. 9	4D	30,000	33,660	1.12	F	41,110	1.37	F	
11		Dwy. 9 to I-605 SB Off-Ramp	4D	30,000	33,660	1.12	F	41,111	1.37	F	
12		I-605 SB Off-Ramp to I-605 NB On-Ramp/Live Oak Ln.	4D	30,000	32,859	1.10	F	37,760	1.26	F	
13		I-605 NB On-Ramp/Live Oak Ln. to Rivergrade Rd.	4D	30,000	28,427	0.95	E	30,779	1.03	F	
14		Rivergrade Rd. to Live Oak Av.	4D	30,000	27,356	0.91	E	28,600	0.95	E	
15		Private Drive B	South of Arrow Hwy.	2U	10,000	Future Segment		622	0.06	A	
16		Avenida Barbosa	Alpha St./Buena Vista St. to Arrow Hwy.	4D	20,000	18,881	0.94	E	19,479	0.97	E
17		Private Drive A	South of Arrow Hwy.	2U	10,000	Future Segment		4,635	0.46	A	
18	North of Live Oak Av.		2U	10,000	Future Segment		3,097	0.31	A		
19	Live Oak Av.	Live Oak Av./Arrow Hwy. to Dwy. 2	5D	46,700	47,912	1.03	F	49,523	1.06	F	
20		Dwy. 2 to Speedway Dwy.	5D	46,700	49,486	1.06	F	51,004	1.09	F	
21		Speedway Dwy. to Dwy. 4	5D	46,700	42,713	0.91	E	44,231	0.95	E	
22		Dwy. 4 to Dwy. 5	5D	46,700	42,713	0.91	E	44,240	0.95	E	
23		Dwy. 5 to Dwy. 7	5D	46,700	42,713	0.91	E	44,240	0.95	E	
24		Dwy. 7 to Private Drive A	5D	46,700	42,776	0.92	E	44,950	0.96	E	
25		Private Drive A to Dwy. 10	5D	46,700	42,685	0.91	E	47,772	1.02	F	
26		Dwy. 10 to I-605 SB On-Ramp	5D	46,700	42,891	0.92	E	48,324	1.03	F	
27		I-605 SB On-Ramp to I-605 NB Off-Ramps	4D	40,400	39,892	0.99	E	43,641	1.08	F	
28		I-605 NB Off-Ramps to Rivergrade Rd.	4D	40,400	33,762	0.84	D	34,998	0.87	D	
29		Rivergrade Rd. to Stewart Av.	5D	46,700	38,576	0.83	D	39,628	0.85	D	
30		Stewart Av. to Baldwin Park Bl.	4D	40,400	34,992	0.87	D	35,538	0.88	D	
31		Baldwin Park Bl. to Arrow Hwy.	4D	40,400	32,021	0.79	C	32,059	0.79	C	
32		Arrow Hwy. to Maine Av.	4D	40,400	53,060	1.31	F	54,340	1.35	F	
33		Rivergrade Rd.	Arrow Hwy. to Stewart Av.	4D	20,000	8,462	0.42	A	9,570	0.48	A
34			Stewart Av. to Live Oak Av.	4D	20,000	6,588	0.33	A	7,696	0.38	A

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ These maximum roadway capacities have been obtained from the City of Irwindale General Plan Update (Table 4-10).

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 7-2)



- Roadway Segment #27 – Live Oak Avenue, I-605 Southbound On-Ramp to I-605 Northbound Off-Ramp: LOS E
- Roadway Segment #28 – Live Oak Avenue, I-605 Northbound Off-Ramps to Rivergrade Road: LOS D
- Roadway Segment #29 – Live Oak Avenue, Rivergrade Road to Stewart Avenue: LOS D
- Roadway Segment #30 – Live Oak Avenue, Stewart Avenue to Baldwin Park Boulevard: LOS D
- Roadway Segment #32 – Live Oak Avenue, Arrow Highway to Maine Avenue: LOS F

Because the Project would contribute substantial traffic (50 peak hour trips) to the deficient roadway segments listed above, the Project would result in significant cumulatively considerable impacts to these roadway segments under the Horizon Year (2040) scenario.

Although 12 additional segments are also calculated to operate at a deficient LOS (LOS D or worse) under the Horizon Year (2040) scenario and the Project would add 50 or more peak hour trips, the intersections at both legs of the roadway segments are calculated to operate at an acceptable LOS; therefore, these roadway segments are considered to experience acceptable traffic flow and the Project would result in corresponding less-than-cumulatively considerable impacts. These segments include Roadway Segment #5, Roadway Segment #6, Roadway Segment #7, Roadway Segment #10, Roadway Segment #11, Roadway Segment #12, Roadway Segment #13, Roadway Segment #22, Roadway Segment #23, Roadway Segment #24, Roadway Segment #25, and Roadway Segment #26.

As shown in Table 4.11-22, *Roadway Segment Analysis for Horizon Year (2040) Conditions*, the addition of Project traffic would not cause any additional roadway segments to operate at a deficient LOS (LOS D or worse) beyond those above-listed roadway segments that would operate at a deficient LOS under the Horizon Year (2040) Without Project scenario. Accordingly, the Project would result in less-than-significant direct impacts to roadway segments under the Horizon Year (2040) scenario.

Traffic Signal Warrant Analysis

Traffic signal warrant analysis was not performed for Horizon Year (2040) Without Project traffic conditions as there are no additional unsignalized intersections aside from the location previously warranted under Existing (2017) traffic conditions. No additional study area intersections would meet either peak hour volume-based or the planning level traffic signal warrants for Horizon Year (2040) With Project traffic conditions (refer to Appendix 7.3 of the TIA [*Technical Appendix II*]).

E. Traffic Impact Analysis for CMP Facilities

The Los Angeles County CMP is applicable to the Project because the Project would contribute traffic to freeway mainline segments (I-605) and major intersections that are designated as part of the regional CMP roadway system. The two study area intersections which are identified as CMP facilities include the following (refer to Threshold a for an analysis of the Project's impacts to these CMP intersections):

- Intersection #20 – I-605 Southbound Off-Ramp/Arrow Highway



- Intersection #22 – I-605 Northbound On-Ramp/Live Oak Lane/Arrow Highway

The I-605 freeway is part of the Los Angeles County CMP network. As shown in Table 4.11-3, *Freeway Mainline Segment Analysis Locations*, the TIA (EIR *Technical Appendix II*) analyzed the potential of the Project to impact the mainline segments of the I-605 freeway for the southbound and northbound directions of flow. The analyzed freeway mainline segments include the segments that would receive the highest concentration of traffic from the Project. However, Project-related traffic does not stop at the limits of the freeway mainline segments listed in Table 4.11-3. Rather, Project-related traffic continues to travel throughout the Southern California region along the State highway system, dissipating as distance from the Project site increases. As such, Project-related traffic has the potential to travel along freeway mainline segments that experience unacceptable levels of service, including but not limited to other CMP segments in Los Angeles County as well as other counties including but not limited to Ventura, Orange, Kern, Riverside, and San Bernardino. All State highway system facilities that operate at an unacceptable LOS are considered to be cumulatively impacted; however, because the Project would contribute fewer than 50 peak hour trips to congested freeway segments beyond the Project's study area, the Project's effect to CMP freeway facilities and other freeway facilities located outside of the Project's study area would be less than cumulatively considerable.

Additionally, as previously shown in Table 4.11-4, *Freeway Ramp Junction Analysis Locations*, the TIA also analyzed impacts to the I-605/Arrow Highway and I-605/Live Oak Avenue interchange ramps, because these ramp locations are where the Project's traffic would enter and exit the freeway system and contribute more than 50 peak hour trips.

1. *E+P Conditions*

Freeway Off-Ramp Queuing Analysis

A queuing analysis was performed for the southbound and northbound off-ramps at the I-605 freeway on Arrow Highway and Live Oak Avenue interchanges for E+P traffic conditions. As shown on Table 4.11-23, *Freeway Off-Ramp Queuing Summary for E+P Conditions*, there would be no queuing issues on the study area freeway off-ramps that may potentially "spill back" onto the I-605 freeway mainline during the peak hours for E+P traffic conditions. Accordingly, impacts to freeway off-ramps under the E+P scenario would be less than significant. (Urban Crossroads, 2018f, p. 104)

Basic Freeway Mainline Segment Analysis

Freeway mainline directional volumes for the weekday AM and PM peak hours were calculated for the E+P scenario and are provided on Exhibit 5-4 of the TIA (EIR *Technical Appendix II*). As shown on Table 4.11-24, *Basic Freeway Segment Analysis for E+P Conditions*, under E+P traffic conditions,



Table 4.11-23 Freeway Off-Ramp Queuing Summary for E+P Conditions

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
I-605 SB Off-Ramp / Arrow Hwy.	SBLT	960	377	226	Yes	Yes
I-605 NB Off-Ramps / Live Oak Av.	NBR	1,920	148	595	Yes	Yes
	SBR	2,650	1,425	848	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

Source: (Urban Crossroads, 2018f, Table 5-3)

Table 4.11-24 Basic Freeway Segment Analysis for E+P Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Existing (2017)				E+P			
				Density ²		LOS ³		Density ²		LOS ³	
				AM	PM	AM	PM	AM	PM	AM	PM
I-605	SB	North of Arrow Hwy.	4	25.1	20.3	C	C	26.6	21.1	D	C
		Arrow Hwy. to Live Oak Av.	4	20.1	18.0	C	B	20.1	18.0	C	B
		South of Live Oak Av.	4	25.5	26.3	C	D	25.8	28.3	C	D
	NB	North of Arrow Hwy.	4	19.6	19.2	C	C	20.1	20.6	C	C
		Arrow Hwy. to Live Oak Av.	4	17.0	17.7	B	B	17.0	17.7	B	B
		South of Live Oak Av.	4	21.1	23.0	C	C	22.4	24.0	C	C

BOLD = Unacceptable Level of Service

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 5-4)

Table 4.11-25 Freeway Ramp Junction Merge/Diverge Analysis for E+P Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway ¹	Existing (2017)				E+P			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ²	LOS ³	Density ²	LOS ³	Density ²	LOS ³	Density ²	LOS ³
I-605	SB	Off-Ramp at Arrow Hwy.	4	25.6	D	20.7	C	27.1	E	21.7	C
		On-Ramp at Live Oak Av.	4	25.9	D	27.2	D	26.6	D	-	F
	NB	On-Ramp at Arrow Hwy.	4	20.2	C	19.8	C	20.7	C	21.2	C
		Loop On-Ramp at Arrow Hwy.	4	18.6	B	18.5	B	19.1	C	20.0	C
		Off-Ramp at Live Oak Av.	4	22.0	D	24.0	D	23.6	D	25.1	D

BOLD = Unacceptable Level of Service

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 5-5)



the study area freeway mainline segments would continue to operate at an acceptable LOS (LOS D or better) consistent with Existing (2017) traffic conditions. (Urban Crossroads, 2018f, p. 104)

Accordingly, the Project would have less-than-significant impacts on freeway mainline segments under the E+P scenario.

Freeway Merge/Diverge Analysis

Ramp merge and diverge operations were also evaluated for E+P traffic conditions and the results of this analysis are presented in Table 4.11-25, *Freeway Ramp Junction Merge/Diverge Analysis for E+P Conditions*. As shown in Table 4.11-25, the following additional freeway merge/diverge ramp junctions would operate at unacceptable LOS (LOS E or worse) during the peak hours under E+P traffic conditions:

- Freeway Merge/Diverge Ramp Junction #1 – I-605 Freeway – Southbound, Off-Ramp at Arrow Highway: LOS E (AM peak hour only)
- Freeway Merge/Diverge Ramp Junction #2 – I-605 Freeway – Southbound, On-Ramp at Live Oak Avenue: LOS F (PM peak hour only)

Accordingly, because the addition of Project traffic would cause the above-listed I-605 Freeway mainline segments to operate at an unacceptable LOS (LOS E or worse) under the E+P scenario, the Project would have a significant direct impact on these freeway segments.

2. *Opening Year Cumulative (2020) Conditions*

Freeway Off-Ramp Queuing Analysis

Ramp queuing analysis findings for Opening Year Cumulative (2020) conditions are presented in Table 4.11-26, *Freeway Off-Ramp Queuing Summary for Opening Year Cumulative (2020) Conditions*. As shown on Table 4.11-26, there are no queuing issues on the study area freeway off-ramps during the peak hours for both Opening Year Cumulative (2020) Without and With Project traffic conditions. Accordingly, the Project would result in less-than-significant impacts to freeway off-ramps under the Opening Year Cumulative (2020) scenario. (Urban Crossroads, 2018f, p. 125)

Basic Freeway Segment Analysis

Opening Year Cumulative Without and With Project mainline directional volumes for the I-605 freeway for the weekday AM and PM peak hours are provided on TIA (EIR *Technical Appendix II*) Exhibits 6-7 and 6-8, respectively. As shown on Table 4.11-27, *Basic Freeway Segment Analysis for Opening Year Cumulative (2020) Conditions*, the freeway mainline segments would continue to operate at an acceptable LOS (LOS D or better) for both Opening Year Cumulative (2020) Without and With Project traffic conditions. Accordingly, the Project would result in less-than-significant impacts to freeway mainline segments under the Opening Year Cumulative (2020) scenario. (Urban Crossroads, 2018f, p. 125)



Table 4.11-26 Freeway Off-Ramp Queuing Summary for Opening Year Cumulative (2020) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	2020 Without Project				2020 With Project			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-605 SB Off-Ramp / Arrow Hwy.	SBLT	960	422	215	Yes	Yes	422	253	Yes	Yes
I-605 NB Off-Ramps / Live Oak Av.	NBR	1,920	235	845	Yes	Yes	235	853	Yes	Yes
	SBR	2,650	1,158	848	Yes	Yes	2,173	1,695	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

Source: (Urban Crossroads, 2018f, Table 6-3)



Table 4.11-27 Basic Freeway Segment Analysis for Opening Year Cumulative (2020) Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Without Project				With Project			
				Density ²		LOS ³		Density ²		LOS ³	
				AM	PM	AM	PM	AM	PM	AM	PM
I-605	SB	North of Arrow Hwy.	4	28.2	22.7	D	C	29.9	23.6	D	C
		Arrow Hwy. to Live Oak Av.	4	21.5	19.1	C	C	21.5	19.1	C	C
		South of Live Oak Av.	4	27.7	30.1	D	D	28.3	32.4	D	D
	NB	North of Arrow Hwy.	4	21.2	21.6	C	C	21.8	23.3	C	C
		Arrow Hwy. to Live Oak Av.	4	18.0	18.9	B	C	18.0	18.9	B	C
		South of Live Oak Av.	4	23.6	25.7	C	C	25.0	26.8	C	D

BOLD = Unacceptable Level of Service

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 6-4)

Freeway Merge/Diverge Analysis

Ramp merge and diverge operations were also evaluated for Opening Year Cumulative (2020) Without and With Project traffic conditions and the results of the analysis are presented in Table 4.11-28, *Freeway Ramp Junction Merge/Diverge Analysis for Opening Year Cumulative (2020) Conditions*. As shown on Table 4.11-28, the following freeway ramp junctions would operate at a deficient LOS for Opening Year Cumulative Without traffic conditions:

- Freeway Merge/Diverge Ramp Junction #1 – I-605 Freeway (Southbound) Off-Ramp at Arrow Highway: LOS E AM peak hour only
- Freeway Merge/Diverge Ramp Junction #2 – I-605 Freeway (Southbound) On-Ramp at Live Oak Avenue: LOS F PM peak hour only
- Freeway Merge/Diverge Ramp Junction #5 – I-605 Freeway (Northbound) Off-Ramp at Live Oak Avenue: LOS E PM peak hour only

Because the Project would contribute substantial traffic (50 or more peak hour PCE trips) to these freeway merge/diverge ramp junctions that would operate at a deficient LOS under Opening Year Cumulative (2020) Without Project conditions, the Project would result in a cumulatively considerable impacts to these freeway merge/diverge ramp junctions under the Opening Year Cumulative (2020) scenario.

As shown on Table 4.11-28, the addition of Project traffic would not result in any additional deficient freeway merge/diverge ramp junctions beyond those identified under Opening Year Cumulative (2020) Without Project traffic conditions. Accordingly, the Project would result in less-than-significant direct impacts to freeway merge/diverge ramp junctions under the Opening Year Cumulative (2020) scenario.



Table 4.11-28 Freeway Ramp Junction Merge/Diverge Analysis for Opening Year Cumulative (2020) Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway ¹	Without Project				With Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ²	LOS ³	Density ²	LOS ³	Density ²	LOS ³	Density ²	LOS ³
I-605	SB	Off-Ramp at Arrow Hwy.	4	28.2	E	23.2	D	29.9	E	24.3	D
		On-Ramp at Live Oak Av.	4	28.2	D	-- ⁴	F	32.2	D	-- ⁴	F
	NB	On-Ramp at Arrow Hwy.	4	21.8	C	22.1	C	22.4	C	23.8	C
		Loop On-Ramp at Arrow Hwy.	4	20.0	C	20.8	C	20.6	C	22.4	C
		Off-Ramp at Live Oak Av.	4	24.6	D	26.7	E	26.3	E	27.8	E

BOLD = Unacceptable Level of Service

¹Number of lanes are in the specified direction and is based on existing conditions.

²Density is measured by passenger cars per mile per lane (pc/mi/ln).

³LOS = Level of Service

⁴HCS7 does not report density for freeway facilities operating at LOS F.

Source: (Urban Crossroads, 2018f, Table 6-5)

3. Horizon Year (2040) Conditions

Freeway Off-Ramp Queuing Analysis

Ramp queuing analysis findings are presented in Table 4.11-29, *Freeway Off-Ramp Queuing Summary for Horizon Year (2040) Conditions*, for Horizon Year (2040) traffic conditions. As shown on Table 4.11-29, there are no queuing issues on the study area freeway off-ramps during the peak hours for both Horizon Year (2040) Without and With Project traffic conditions. Therefore, the Project would result in less-than-significant impacts to freeway off-ramps under the Horizon Year (2040) scenario. (Urban Crossroads, 2018f, p. 147)

Basic Freeway Segment Analysis

Horizon Year (2040) Without and With Project mainline directional volumes for the I-605 freeway for the weekday AM and PM peak hours are provided on TIA (EIR *Technical Appendix II*) Exhibits 7-7 and 7-8, respectively. As shown on Table 4.11-30, *Basic Freeway Segment Analysis for Horizon Year (2040) Conditions*, the freeway mainline segments would operate at an acceptable LOS (LOS D or better) for Horizon Year (2040) Without Project traffic conditions. However, the addition of Project traffic would result in the following deficient freeway mainline segment:

- Freeway Mainline Segment #3 – I-605 Freeway (Southbound) South of Live Oak Avenue: LOS E (PM peak hour only)

Accordingly, because the addition of Project traffic would cause Freeway Mainline Segment #3 to operate at a deficient level of service, the Project would have a significant direct impact on Freeway Mainline Segment #3 under the Horizon Year (2040) scenario. (Urban Crossroads, 2018f, p. 147)



Table 4.11-29 Freeway Off-Ramp Queuing Summary for Horizon Year (2040) Conditions

Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project				2040 With Project			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-605 SB Off-Ramp / Arrow Hwy.	SBLT	960	456	261	Yes	Yes	456	269	Yes	Yes
I-605 NB Off-Ramps / Live Oak Av.	NBR	1,920	293	1,030	Yes	Yes	293	1,038	Yes	Yes
	SBR	2,650	1,335	1,198	Yes	Yes	2,353	1,868	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

Source: (Urban Crossroads, 2018f, Table 7-3)



Table 4.11-30 Basic Freeway Segment Analysis for Horizon Year (2040) Conditions

Freeway	Direction	Mainline Segment	Lanes ¹	Without Project				With Project			
				Density ²		LOS ³		Density ²		LOS ³	
				AM	PM	AM	PM	AM	PM	AM	PM
I-605	SB	North of Arrow Hwy.	4	30.7	24.4	D	C	32.6	25.4	D	C
		Arrow Hwy. to Live Oak Av.	4	23.0	20.4	C	C	23.0	20.4	C	C
		South of Live Oak Av.	4	30.1	32.9	D	D	30.9	35.5	D	E
	NB	North of Arrow Hwy.	4	22.7	23.3	C	C	23.3	24.9	C	C
		Arrow Hwy. to Live Oak Av.	4	19.2	20.1	C	C	19.2	20.1	C	C
		South of Live Oak Av.	4	25.4	27.8	C	D	26.9	29.0	D	D

BOLD = Unacceptable Level of Service

¹ Number of lanes are in the specified direction and is based on existing conditions.

² Density is measured by passenger cars per mile per lane (pc/mi/ln).

³ LOS = Level of Service

Source: (Urban Crossroads, 2018f, Table 7-4)

Freeway Merge/Diverge Analysis

Ramp merge and diverge operations were also evaluated for Horizon Year (2040) Without and With Project traffic conditions and the results of the analysis are presented in Table 4.11-31, *Freeway Ramp Junction Merge/Diverge Analysis for Horizon Year (2040) Conditions*. As shown on Table 4.11-31, the following freeway ramp merge/diverge junctions would operate at an unacceptable LOS (LOS E or worse) during one or both peak hours under the Horizon Year (2040) With Project scenario:

- Freeway Merge/Diverge Ramp Junction #1 – I-605 Freeway (Southbound) Off-Ramp at Arrow Highway: LOS E (AM peak hour only)
- Freeway Merge/Diverge Ramp Junction #2 – I-605 Freeway (Southbound) On-Ramp at Live Oak Avenue: LOS F (PM peak hour only)
- Freeway Merge/Diverge Ramp Junction #5 – I-605 Freeway (Northbound) Off-Ramp at Live Oak Avenue: LOS E (AM and PM peak hours)

Because the Project would contribute substantial traffic (50 or more peak hour PCE trips) to these freeway ramp merge/diverge junctions which operate at a deficient level of service (LOS E or worse) under the Horizon Year (2040) Without Project scenario, the Project would result in cumulatively considerable impacts to the freeway ramp merge/diverge junctions listed above.

As shown on Table 4.11-31, the addition of Project traffic would not result in any additional deficient ramp merge/diverge junctions in addition to those previously identified for Horizon Year (2040) Without Project traffic conditions. Accordingly, the Project would result in less-than-significant direct impacts to freeway ramp merge/diverge junctions under the Horizon Year (2040) scenario. (Urban Crossroads, 2018f, p. 147)



Table 4.11-31 Freeway Ramp Junction Merge/Diverge Analysis for Horizon Year (2040) Conditions

Freeway	Direction	Ramp or Segment	Lanes on Freeway ¹	Without Project				With Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Density ²	LOS ³	Density ²	LOS ³	Density ²	LOS ³	Density ²	LOS ³
I-605	SB	Off-Ramp at Arrow Hwy.	4	30.1	E	24.6	D	31.7	E	25.7	D
		On-Ramp at Live Oak Av.	4	30.4	D	-- ⁴	F	31.3	D	-- ⁴	F
	NB	On-Ramp at Arrow Hwy.	4	23.2	C	23.5	C	23.8	C	25.2	C
		Loop On-Ramp at Arrow Hwy.	4	21.3	C	22.1	C	21.9	C	23.8	C
		Off-Ramp at Live Oak Av.	4	26.2	E	28.4	E	27.8	E	29.6	E

BOLD = Unacceptable Level of Service

¹Number of lanes are in the specified direction and is based on existing conditions.

²Density is measured by passenger cars per mile per lane (pc/mi/ln).

³LOS = Level of Service

⁴HCS7 does not report density for freeway facilities operating at LOS F.

Source: (Urban Crossroads, 2018f, Table 7-5)

F. Project Impacts due to a Conflict with Policies Related to Transit, Roadway, and Pedestrian Facilities

There are no adopted performance standards pertaining to transit and pedestrian and bicycle paths. As discussed in EIR Subsection 4.11.3C, the Project area is currently served by Foothill Transit. Existing transit routes in the Project area are shown on Exhibit 3-14 of the Project’s TIA (EIR *Technical Appendix II*) and include Foothill Transit Route 492 along Live Oak Avenue/Arrow Highway, Route 272 along Buena Vista Street, Avenida Barbosa, Arrow Highway, and Baldwin Park Boulevard, and Foothill Transit Route 270 along Myrtle Avenue/Peck Road. The nearest bus stop to the Project site is located at the intersection of Avenida Barbosa and Buena Vista Street, approximately 0.3 mile north of the Project site. Additionally, the Duarte Metro Gold Line Light Rail Station is located approximately 1.4 mile north of the Project site. Neither the Project nor any of its proposed off-site physical improvements would have a direct physical impact on any existing or planned public transit facilities (i.e., bus stops or train stations). However, the Project’s off-site improvements (associated with the off-site water improvements, lane restriping, construction of lateral utility connections, and construction of curb and gutter improvements) would likely require temporary lane closures in roadways that are currently utilized by the Foothill Transit bus routes identified above. These roadway lane closures would only require the closure of up to one traffic lane at any given time, and no complete roadway closures would be required. Temporary lane closures would not extend beyond two weeks in duration for any specific lane closure. A temporary street and sidewalk closure permit would be required for the closure of any portion of the public right-of-way. Furthermore, a temporary traffic control plan which conforms to City of Irwindale requirements would be required to be prepared by the Project Applicant and approved by the City prior to any roadway lane closures. The temporary traffic control plan would identify specific measures intended to minimize traffic disruptions along public roadways during temporary roadway lane closures. Mitigation has been included herein to ensure that the Project Applicant prepares and implements the temporary traffic control plan prior to the occurrence of any temporary roadway lane closures. Accordingly, based on the foregoing, short-term construction activities would not decrease the performance of public transit facilities.



As previously discussed, and as shown on Exhibit 3-12 of the Project's TIA, there are no existing or planned bike lanes within the vicinity of the Project site. The nearest bike lane to the Project site is the bike path located in the San Gabriel River Trail located approximately 0.3 mile to the northeast of the Project site. A Class II bike lane is planned along Baldwin Park Boulevard approximately 0.9 mile east of the Project site. Accordingly, because neither the Project nor any of its off-site improvements would temporarily or permanently impact existing or proposed bicycle-related transportation facilities, the Project would have no potential to conflict with adopted policies, plans or programs pertaining to such facilities. Therefore, no impacts to bike facilities would occur.

As previously discussed, existing pedestrian facilities (sidewalk and crosswalk) within the study area are shown on Exhibit 3-13 of the Project's TIA. As shown on Exhibit 3-13 of the Project's TIA, sidewalks are located along on the south side of the Arrow Highway right-of-way (including along the Project site's frontage with Arrow Highway) and on both (east and west) sides of the Avenida Barbosa right-of-way (directly north of the Project site). As previously shown on Figure 3-11, *Proposed Physical Disturbances*, it is anticipated that segments of the existing sidewalk located on the southerly side of the Arrow Highway right-of-way would be temporarily physically impacted through the Project's proposed construction of several driveways along Arrow Highway and lateral utility connections. As previously discussed above, the Project Applicant would be required to prepare a temporary traffic control plan that would be implemented during the Project's construction activities. The temporary traffic control plan would identify specific measures intended to minimize safety hazards and traffic disruptions during temporary closures of sidewalks. Mitigation has been included herein to ensure that the Project Applicant prepares and implements the temporary traffic control plan prior to the occurrence of any temporary sidewalk closures. The proposed Project is designed to encourage pedestrian movement and enhance connectivity within the Project site through the incorporation of sidewalk connections throughout the Project site. Furthermore, the City of Irwindale Planning Division conducted a review of the proposed Project, and determined that the Project would comply with, or otherwise would not conflict with, policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities. Additionally, the Project has no potential to otherwise decrease the performance or safety of public transit, bikeways, or pedestrian facilities. As such, the Project would result in less-than-significant impacts to pedestrian facilities.

Threshold b: Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

As previously discussed, updates to the CEQA Guidelines were approved by the State on December 28, 2018 which entailed changes to the thresholds of significance for the evaluation of impacts to transportation. Updates to the CEQA Guidelines included the addition of CEQA Guidelines Section 15064.3, of which subdivision b establishes criteria for evaluating a project's transportation impacts based on project type and using automobile Vehicle Miles Travelled (VMTs) as the metric. As such, by way of requiring an analysis of a project's potential to conflict with or be inconsistent with the newly added CEQA Guidelines Section 15064.3 subdivision (b), the newly added Threshold b requires an evaluation of impacts based on Vehicle Miles Travelled (VMTs) instead of Level of Service (LOS) criteria, as required by California SB 743. LOS has been used as the basis for determining the



significance of traffic impacts as standard practice in CEQA documents for decades. In 2013, SB 743 was passed, which is intended to balance the need for a LOS evaluation for traffic planning with the need to build infill housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers and to provide greater flexibility to local governments to balance these sometimes-competing needs. As a component of OPR's revisions to the CEQA Guidelines in December 2018, lead agencies will be required to adopt VMT thresholds of significance by July 2020. At the time this EIR was prepared, a VMT metric was not published by OPR, and the City of Irwindale in its capacity as Lead Agency, as well as surrounding local agencies in which the Project's traffic would circulate, use LOS as the significance criteria for evaluating a Project's traffic impacts. For this reason, as detailed in the response to Threshold a, a LOS metric and not a VMT metric is appropriately used in this EIR to evaluate the Project's transportation-related impacts. As such, there is no potential for the Project to conflict with CEQA Guidelines Section 15064.3, subdivision (b), since a LOS metric and not a VMT metric is used in this EIR to evaluate the Project's transportation impacts. No impact would occur.

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)?*

As part of the proposed Project, there will be site access and driveway improvements, as described below. These proposed improvements have been incorporated as mitigation measures in Subsection 4.11.8 below to ensure that they will be completed in a timely manner.

A. Site Frontage and Site Access Improvements

Exhibit 1-5 of the TIA (EIR *Technical Appendix II*) illustrates the on-site and site-adjacent roadway lane improvements to be constructed as part of the Project. Construction of these on-site and site-adjacent improvements are anticipated to occur in conjunction with development of the Project site. The site-adjacent roadways of Arrow Highway and Live Oak Avenue appear to be built to their ultimate curb-to-curb width as indicated in the City of Irwindale General Plan Circulation Element as a Major Highway (100-foot right-of-way). However, the Project would restripe these roadways to provide the ultimate number of lanes adjacent to the Project site. Exhibit 1-6 of the TIA (EIR *Technical Appendix II*) shows a conceptual striping plan for Live Oak Avenue between Driveway 7 and Private Drive A. The recommendations include removing the existing raised median to accommodate a striped two-way-left-turn lane between these two intersections. As shown on Exhibit 1-5 of the TIA, the Project would also install a traffic signal at Intersection #16 – Private Drive A & Live Oak Avenue.

The recommended site access driveway improvements for the Project are depicted in Exhibit 1-5 of the Project's TIA (EIR *Technical Appendix II*). These recommended improvements would ensure safe site access and will adhere to the City of Irwindale's design standards. Construction of on-site and site-adjacent improvements are required to occur in conjunction with adjacent Project development activity or as needed for Project access purposes.



The Project would construct curb and gutter improvements along the Project site's frontages where they do not currently exist which would be implemented consistent with City of Irwindale standards. Sight distance at each Project access point would be reviewed with respect to standard Caltrans and City of Irwindale sight distance standards at the time of preparation of final grading, landscape and street improvement plans. Compliance with applicable City of Irwindale design standards for the proposed Project driveways would ensure that the proposed site access improvements do not result in safety hazards for motorists entering/exiting the site along Live Oak Avenue or Arrow Highway. Impacts would be less than significant.

Threshold d: Would the Project result in inadequate emergency access?

The proposed Project would be reviewed by the Los Angeles County Fire Department (LACoFD) to determine that the site access and internal circulation provides sufficient maneuvering space for fire trucks and fire-fighting crews and apparatus. Certificates of occupancy would not be issued until sufficient emergency access has been demonstrated to the satisfaction of the LACoFD. Through this routine plan check and inspection process, provision of adequate emergency access will be assured. Impacts would be less than significant.

4.11.6 CUMULATIVE IMPACT ANALYSIS

With respect to the various traffic impact scenarios that were analyzed in the TIA (EIR *Technical Appendix II*), the entire assessment was based on the cumulative effects of the combination of existing traffic, plus the Project's traffic, plus traffic resulting from ambient growth factors, plus traffic generated by other planned and pending development projects currently proposed within the traffic study area and the traffic from those projects that would have a reasonable chance to use the same roadway segments and intersections as Project traffic. Refer to the discussion under Threshold a, which addresses Project-level and cumulative impacts in terms of effects on the performance of the local and regional vehicular transportation network as well as CMP facilities. As growth continues in this part of the San Gabriel Valley and the cumulative projects identified in Table 4.0-1 are developed and become operational over the next several years, there is likely to be a gradual increase in demand for public transit service that would be met through services provided by various local and regional transit agencies. Localized pedestrian and bicycle improvements would be implemented on a project-by-project basis, and sometimes in a programmatic manner by the various jurisdictions found in the traffic study area. The proposed Project would not impede development of additional pedestrian, bicycle or transit facilities that may be planned and built by others; thus, there would be no adverse cumulative impacts involving those modes of travel.

The proposed Project would not have any cumulative impacts in relation to Threshold c regarding potential increase in design hazards because the Project's proposed access driveways and internal roadways have been designed to comply with applicable design standards and would not present any safety hazards for motorists accessing the Project site from surrounding roadways. Therefore, there is no opportunity for development of driveways or other access/vehicular travel that would result in conflicting driveways or related design impediments.



As discussed under Threshold d, the proposed Project is required to be reviewed and accepted by the LACoFD to ensure there are sufficient provisions for adequate emergency access. Development of this Project would not affect emergency access to any surrounding properties, as all vehicular access to the Project site would be from the existing Live Oak Avenue and Arrow Highway. Additionally, the Project Applicant would be required to prepare and implement a temporary traffic control plan (assured by Mitigation Measure MM 4.11-8) which would ensure adequate emergency access to the Project site and surrounding properties during the Project's temporary construction activities.

4.11.7 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Significant Direct and Cumulatively Considerable Impact. The Project would result in significant direct and cumulatively considerable impacts to local and regional circulation facilities, as well as CMP facilities, as summarized below.

A. Local Roadway Network

Existing Plus Project (E+P) Conditions

Under the E+P scenario, the Project would result in significant direct impacts to the following intersections:

- Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway
- Intersection #27 – Stewart Avenue & Live Oak Avenue
- Intersection #29 – Arrow Highway & Live Oak Avenue (East)

Under the E+P scenario, the Project would result in significant cumulatively considerable impacts to the following intersections:

- Intersection #1 – Myrtle Avenue & Longden Avenue
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue
- Intersection #4 – Live Oak Avenue & Arrow Highway (west)
- Intersection #7 – Speedway Driveway & Live Oak Avenue
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue
- Intersection #26 – Rivergrade Road & Live Oak Avenue

Under the E+P scenario, the Project would result in significant direct impacts to the following roadway segments:

- Roadway Segment #2 – Live Oak Avenue, Peck Road to Longden Avenue
- Roadway Segment #3 – Live Oak Avenue, Longden Avenue to Live Oak Avenue
- Roadway Segment #9 – Arrow Highway, Avenida Barbosa/Private Drive A to Driveway 8

Under the E+P scenario, the Project would result in significant cumulatively considerable impacts to the following roadway segments:

- Roadway Segment #1 – Longden Avenue, Myrtle Avenue to Live Oak Avenue
- Roadway Segment #32 – Live Oak Avenue, Arrow Highway to Maine Avenue



Opening Year Cumulative (2020) Conditions

Under the Opening Year Cumulative (2020) scenario, the Project would result in significant direct impacts to the following intersection:

- Intersection #30 – Maine Avenue & Arrow Highway

Under the Opening Year Cumulative (2020) scenario, the Project would result in cumulatively considerable impacts to the following intersections:

- Intersection #1 – Myrtle Avenue & Longden Avenue
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue
- Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway
- Intersection #4 – Live Oak Avenue & Arrow Highway (west)
- Intersection #7 – Speedway Driveway & Live Oak Avenue
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue
- Intersection #26 – Rivergrade Road & Live Oak Avenue
- Intersection #27 – Stewart Avenue & Live Oak Avenue
- Intersection #29 – Arrow Highway & Live Oak Avenue (East)

Under the Opening Year Cumulative (2020) scenario, the Project would result in significant direct impacts to the following roadway segments:

- Roadway Segment #28 – Live Oak Avenue, I-605 Northbound Off-Ramps to Rivergrade Road
- Roadway Segment #29 – Live Oak Avenue, Rivergrade Road to Stewart Avenue

Under the Opening Year Cumulative (2020) scenario, the Project would result in cumulatively considerable impacts to the following roadway segments:

- Roadway Segment #1 – Longden Avenue, Myrtle Avenue to Live Oak Avenue
- Roadway Segment #2 – Live Oak Avenue, Peck Road to Longden Avenue
- Roadway Segment #3 – Live Oak Avenue, Longden Avenue to Live Oak Avenue
- Roadway Segment #4 – Arrow Highway, Live Oak Avenue to Driveway 1
- Roadway Segment #8 – Arrow Highway, Driveway 6 to Avenida Barbosa/Private Drive A
- Roadway Segment #9 – Arrow Highway, Avenida Barbosa/Private Drive A to Driveway 8
- Roadway Segment #14 – Arrow Highway, Rivergrade Road to Live Oak Avenue
- Roadway Segment #16 – Avenida Barbosa, Alpha Street/Buena Vista Street to Arrow Highway
- Roadway Segment #19 – Live Oak Avenue, Live Oak Avenue/Arrow Highway to Driveway 2
- Roadway Segment #20 – Live Oak Avenue, Driveway 2 to Speedway Driveway
- Roadway Segment #21 – Live Oak Avenue, Speedway Driveway to Driveway 4
- Roadway Segment #27 – Live Oak Avenue, I-605 Southbound On-Ramp to I-605 Northbound Off-Ramp
- Roadway Segment #30 – Live Oak Avenue, Stewart Avenue to Baldwin Park Boulevard
- Roadway Segment #32 – Live Oak Avenue, Arrow Highway to Maine Avenue



Horizon Year (2040) Conditions

Under the Horizon Year (2040) scenario, the Project would result in less-than-significant direct impacts to the intersections.

Under the Horizon Year (2040) scenario, the Project would result in cumulatively considerable impacts to the following intersections:

- Intersection #1 – Myrtle Avenue & Longden Avenue
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue
- Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway
- Intersection #4 – Live Oak Avenue & Arrow Highway (west)
- Intersection #7 – Speedway Driveway & Live Oak Avenue
- Intersection #13 – Driveway 7/Driveway & Live Oak Avenue
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue
- Intersection #26 – Rivergrade Road & Live Oak Avenue
- Intersection #27 – Stewart Avenue & Live Oak Avenue
- Intersection #29 – Arrow Highway & Live Oak Avenue (East)
- Intersection #30 – Maine Avenue & Arrow Highway

Under the Horizon Year (2040) scenario, the Project would result in less-than-significant direct impacts to roadway segments.

Under the Horizon Year (2040) scenario, the Project would result in cumulatively considerable impacts to the following roadway segments:

- Roadway Segment #1 – Longden Avenue, Myrtle Avenue to Live Oak Avenue
- Roadway Segment #2 – Live Oak Avenue, Peck Road to Longden Avenue
- Roadway Segment #3 – Live Oak Avenue, Longden Avenue to Live Oak Avenue
- Roadway Segment #4 – Arrow Highway, Live Oak Avenue to Driveway 1
- Roadway Segment #8 – Arrow Highway, Driveway 6 to Avenida Barbosa/Private Drive A
- Roadway Segment #9 – Arrow Highway, Avenida Barbosa/Private Drive A to Driveway 8
- Roadway Segment #14 – Arrow Highway, Rivergrade Road to Live Oak Avenue
- Roadway Segment #16 – Avenida Barbosa, Alpha Street/Buena Vista Street to Arrow Highway
- Roadway Segment #19 – Live Oak Avenue, Live Oak Avenue/Arrow Highway to Driveway 2
- Roadway Segment #20 – Live Oak Avenue, Driveway 2 to Speedway Driveway
- Roadway Segment #21 – Live Oak Avenue, Speedway Driveway to Driveway 4
- Roadway Segment #27 – Live Oak Avenue, I-605 Southbound On-Ramp to I-605 Northbound Off-Ramp
- Roadway Segment #28 – Live Oak Avenue, I-605 Northbound Off-Ramps to Rivergrade Road
- Roadway Segment #29 – Live Oak Avenue, Rivergrade Road to Stewart Avenue
- Roadway Segment #30 – Live Oak Avenue, Stewart Avenue to Baldwin Park Boulevard
- Roadway Segment #32 – Live Oak Avenue, Arrow Highway to Maine Avenue



B. CMP Facilities

The Project's impacts to the two (2) CMP intersections (Intersection #20 – I-605 Southbound Off-Ramp/Arrow Highway and Intersection #22 – I-605 Northbound On-Ramp/Live Oak Lane/Arrow Highway) are summarized above in the response to Threshold a. The Project would result in significant direct and cumulatively considerable impacts to I-605 Freeway facilities as summarized below.

Existing Plus Project Conditions

Under the E+P scenario, the Project would result in less-than-significant direct and cumulative impacts to I-605 Freeway off-ramps with respect to queuing issues.

Under the E+P scenario, the Project would result in less-than-significant direct and cumulative impacts to I-605 Freeway mainline segments.

Under the E+P scenario, the Project would result in significant direct impacts to the following I-605 Freeway merge/diverge ramp junctions:

- Freeway Merge/Diverge Ramp Junction #1 – I-605 Freeway – Southbound, Off-Ramp at Arrow Highway
- Freeway Merge/Diverge Ramp Junction #2 – I-605 Freeway – Southbound, On-Ramp at Live Oak Avenue

Under the E+P scenario, the Project would result in less-than-cumulatively considerable impacts to I-605 Freeway merge/diverge ramp junctions.

Opening Year Cumulative (2020) Conditions

Under the Opening Year Cumulative (2020) scenario, the Project would result in less-than-significant direct and cumulative impacts to I-605 Freeway off-ramps with respect to queuing issues.

Under the Opening Year Cumulative (2020) scenario, the Project would result in less-than-significant direct and cumulative impacts to I-605 Freeway mainline segments.

Under the Opening Year Cumulative (2020) scenario, the Project would result in less-than-significant direct impacts to I-605 Freeway merge/diverge ramp junctions.

Under the Opening Year Cumulative (2020) scenario, the Project would result cumulatively considerable impacts to the following freeway merge/diverge ramp junctions:

- Freeway Merge/Diverge Ramp Junction #1 – I-605 Freeway – Southbound, Off-Ramp at Arrow Highway
- Freeway Merge/Diverge Ramp Junction #2 – I-605 Freeway – Southbound, On-Ramp at Live Oak Avenue
- Freeway Merge/Diverge Ramp Junction #5 – I-605 Freeway (Northbound) Off-Ramp at Live Oak Avenue



Horizon Year (2040) Conditions

Under the Horizon Year (2040) scenario, the Project would result in less-than-significant direct and cumulative impacts to off-ramps with respect to queuing issues.

Under the Horizon Year (2040) scenario, the Project would result in significant direct impacts to the following I-605 Freeway mainline segment:

- Freeway Mainline Segment #3 – I-605 Freeway (Southbound) South of Live Oak Avenue

Under the Horizon Year (2040) scenario, the Project would result in less-than-cumulatively considerable impacts to I-605 Freeway mainline segments.

Under the Horizon Year (2040) scenario, the Project would result in less-than-significant direct impacts to freeway merge/diverge ramp junctions.

Under the Horizon Year (2040) scenario, the Project would result in cumulatively considerable impacts to the following freeway merge/diverge ramp junctions:

- Freeway Merge/Diverge Ramp Junction #1 – I-605 Freeway – Southbound, Off-Ramp at Arrow Highway
- Freeway Merge/Diverge Ramp Junction #2 – I-605 Freeway – Southbound, On-Ramp at Live Oak Avenue
- Freeway Merge/Diverge Ramp Junction #5 – I-605 Freeway (Northbound) Off-Ramp at Live Oak Avenue

Mandatory compliance with a temporary traffic control plan would ensure the proposed Project would have a less-than-significant impact on public transit, bicycle, and pedestrian facilities because it would not conflict with any policies or programs created for such modes of travel.

Threshold b: No Impact. For the reasons provided in the response to Threshold b, a LOS metric and not a VMT metric is appropriately used in this EIR to evaluate the Project's transportation-related impacts. Therefore, there is no potential for the Project to conflict with CEQA Guidelines section 15064.3, subdivision (b), which establishes criteria for evaluating a project's transportation impacts using a VMT metric. No impact would occur.

Threshold c: Less-than-Significant Impact. The proposed Project would not increase hazards via a geometric design feature or incompatible land uses, because the frontage improvements and site access improvements will adhere to City design standards to ensure that adequate sight distance is provided to maintain sufficient vehicular visibility at driveways and intersections.

Threshold d: Less-than-Significant Impact. The proposed Project's street access and internal circulation are subject to review by the Los Angeles County Fire Department to determine that there is adequate emergency access provided for all parts of the Project site. Compliance with approved building plans will be verified in the field, prior to issuance of any certificates of occupancy. This standard process will ensure that there are less-than-significant impacts involving emergency access.



4.11.8 MITIGATION MEASURES

Mitigation to Address Direct Impacts to the Local Roadway Network Under E+P Conditions:

- MM 4.11-1 Prior to issuance of the first certificate of occupancy, the Project Applicant shall submit to the City of Irwindale a payment equal to the full cost to install the following improvement at Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway. The City of Irwindale shall ensure installation of the improvement.
- Restripe a 3rd eastbound through lane and modify the existing traffic signal to accommodate the additional 3rd eastbound lane.
- MM 4.11-2 Prior to issuance of the first certificate of occupancy, the Project Applicant shall submit to the City of Irwindale a payment equal to the full cost to install the following improvement at Intersection #27 – Stewart Avenue & Live Oak Avenue. The City of Irwindale shall ensure installation of the improvement.
- Restripe a 3rd westbound through lane and modify the existing traffic signal to accommodate the additional 3rd westbound lane.
- MM 4.11-3 Prior to issuance of the first certificate of occupancy, the Project Applicant shall submit to the City of Irwindale a payment equal to the full cost to install the following improvement at Intersection #29 – Arrow Highway & Live Oak Avenue. The City of Irwindale shall ensure installation of the improvement.
- Restripe a 3rd eastbound through lane and modify the existing traffic signal to accommodate the additional 3rd eastbound lane.

Mitigation to Address Direct Impacts to the Local Roadway Network Under Opening Year Cumulative (2020) Conditions:

- MM 4.11-4 Prior to issuance of the first certificate of occupancy, the Project Applicant shall submit to the City of Irwindale a payment equal to the full cost to install the following improvement at the intersection of Maine Avenue & Arrow Highway (Intersection #30). The City of Irwindale shall ensure installation of the improvement.
- Restripe a 3rd eastbound through lane and modify the existing traffic signal to accommodate the additional 3rd eastbound lane.

Mitigation to Address Project Site Access Under E+P Conditions, Opening Year Cumulative (2020) Conditions, and Horizon Year (2040) Conditions:

- MM 4.11-5 Prior to issuance of building permits for future implementing development projects that involve a driveway connection point with Arrow Highway or Live Oak Avenue, the Project Applicant shall submit a driveway access study to the City of Irwindale Public Works Department for City review and approval. The study shall be prepared by a



licensed traffic engineer, identify the proposed access driveway(s) connecting to a public street, and include a detailed evaluation of the proposed driveway for intersection lane geometrics, turn lane storage capacity, and sight distance. The City shall require that the driveway intersection be constructed in accordance with the City-approved access study prior to the issuance of a certificate of occupancy for any building that would use the driveway for ingress/egress.

Based on the studied driveway locations (as shown on Exhibit 1-1 of The Park @ Live Oak Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018) and mix of land uses studied in The Park @ Live Oak Specific Plan's Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018 (as shown in EIR Table 4.11-15, *Project Trip Generation Summary (Actual Vehicles)*), the following are anticipated to be required as the maximum extent of public roadway lane configuration and signalization improvements:

- a. As a condition of any building permit that would involve ingress/egress at the intersection of Arrow Highway and Private Drive A, the Project Applicant shall install the following improvements at the existing intersection of Avenida Barbosa/Private Drive A & Arrow Highway (Intersection #15). The improvements shall be constructed and operable prior to the issuance of a certificate of occupancy.
 - Restripe a southbound through lane. (E+P requirement)
 - Add a 3rd eastbound through lane. (E+P requirement)
 - Add a westbound left turn lane. (E+P requirement)
 - Add a 2nd westbound left turn lane (E+P requirement with maximum commercial development in Planning Areas 1A and 2A)
 - Add a northbound left turn lane. (2020 Opening Year requirement)
 - Add a northbound through lane. (2020 Opening Year requirement)
 - Add a northbound right turn lane. (2020 Opening Year requirement)
 - Modify traffic signal to accommodate the above-listed changes to lane configurations

- b. As a condition of any building permit that would involve ingress/egress at the intersection of Arrow Highway and Private Drive B, the Project Applicant shall install the following improvement at Private Drive B & Arrow Highway (Intersection #11). The improvement shall be constructed and operable prior to the issuance of a certificate of occupancy.
 - Install a traffic signal (E+P requirement with maximum commercial development in Planning Areas 2A and 3A)



- c. As a condition of any building permit that would involve ingress/egress access at the intersection of Live Oak Avenue and Private Drive A, the Project Applicant shall install the following improvement at Private Drive A and Live Oak Avenue (Intersection #16). The improvement shall be constructed and operable prior to the issuance of a certificate of occupancy.
- Install a traffic signal (E+P requirement)
- d. As a condition of any building permit that would involve ingress/egress access at the existing intersection of Speedway Driveway & Live Oak Avenue, the Project Applicant shall install the following roadway improvement at Speedway Driveway & Live Oak Avenue (Intersection #7). The improvement shall be constructed and operable prior to the issuance of a certificate of occupancy.
- Install a traffic signal (E+P requirement)
 - Add a 3rd westbound through lane. (E+P requirement)
- e. As a condition of any building permit that would involve ingress/egress at the existing intersection of Live Oak Avenue and the entrance driveway to the Irwindale Events Center Intersection #13 (Project Driveway 7), the Project Applicant shall install the following improvement at Project Driveway 7/Driveway & Live Oak Avenue (Intersection #13). The improvement shall be constructed and operable prior to the issuance of a certificate of occupancy.
- Add a 3rd eastbound through lane and modify the traffic signal to accommodate the additional 3rd eastbound lane. (E+P requirement)

Mitigation to Address Cumulatively Considerable Impacts to the Local Roadway Network Under E+P Conditions and Opening Year Cumulative (2020) Conditions

MM 4.11-6 Prior to the issuance of each building permit for future implementing development projects proposed within The Park @ Live Oak Specific Plan, the Project Applicant shall submit a preliminary trip generation calculation and trip distribution exhibit to the City of Irwindale Public Works Department for the development project under consideration for City review and approval. The preliminary calculation and exhibit shall be prepared by a licensed traffic engineer and be accompanied by sufficient analytical data to enable the City to (1) Determine which of the mitigation measures identified below to address cumulatively considerable impacts in the E+P, Opening Year 2020, and Horizon Year 2040 scenarios are applicable to the implementing project and calculate the fair share percentage associated with each applicable respective mitigation measure, and (2) Enable the City to determine sufficient intersection and driveway geometrics and lane storage and turn lane capacity needs. The City Engineer shall have the authority to determine the extent of the traffic study and analyses required to determine the appropriate mitigation measures and fair share



calculations. Traffic analyses shall utilize traffic counts collected within 12 months of the analysis.

Proposed development projects and speculative buildings without an occupant or tenant shall be analyzed in accordance with the proposed uses, trip generations rates and planning areas listed in EIR Table 4.11-15. For the purposes of the traffic analysis, uses assigned to speculative developments within The Park @ Live Oak Specific Plan site shall be consistent with the distribution and proportion of uses and trip generation rates studied in The Park @ Live Oak Specific Plan's Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018 and listed in EIR Table 4.11-15.

If the total trips generated by all developments within The Park @ Live Oak Specific Plan area exceeds the trips analyzed in The Park @ Live Oak Specific Plan's Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018 (1,280 PCE AM peak hour trips and 1,644 PCE PM peak hour trips), an additional full Traffic Impact Analysis shall be required.

Based on the studied driveway locations (depicted on Exhibit 1-1 of The Park @ Live Oak Specific Plan's Traffic Impact Analysis prepared by Urban Crossroads, Inc. and dated December 12, 2018), mix of land uses, and projected traffic volumes studied in the Park @ Live Oak Specific Plan's Traffic Impact Analysis and listed in EIR Table 4.11-15, the following are anticipated to be to applicable to some or all implementing development projects:

- a. Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #1 – Myrtle Avenue & Longden Avenue:
 - Restripe a 2nd eastbound through lane and widen the bridge over the Sawpit Wash.
- b. Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue:
 - Add a 2nd southbound left turn lane and modify the existing traffic signal to accommodate the 2nd southbound left turn lane.
- c. Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #4 – Live Oak Avenue & Arrow Highway (West):



- Add a 3rd westbound through lane.
 - Restripe a 3rd eastbound through lane.
 - Modify the existing traffic signal to accommodate the above-listed lane configuration improvements.
- d. Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway:
- Add a 3rd westbound through lane.
 - Add a 2nd eastbound left turn lane.
 - Modify the traffic signal to implement overlap phasing on the westbound right turn lane and accommodate the changes to lane configuration.
- e. Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #7 – Speedway Driveway & Live Oak Avenue:
- Install a traffic signal.
- f. Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #13 – Driveway 7/Driveway & Live Oak Avenue:
- Add an eastbound right turn lane and modify the existing traffic signal to accommodate the new eastbound right turn lane.
- g. Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue:
- Install a traffic signal.
- h. Prior to the issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #26 – Rivergrade Road & Live Oak Avenue:
- Modify the traffic signal to implement overlap phasing on the northbound right turn lane.



- i. Prior to issuance of building permits, the Project Applicant shall make a fair share monetary contribution to the City of Irwindale for the following improvements to Intersection #27 – Stewart Avenue & Live Oak Avenue:
 - Restripe a 3rd eastbound through lane and modify the existing traffic signal to accommodate the 3rd eastbound through lane.

Mitigation to Address Impacts at Freeway Facilities

The following mitigation measure would minimize the Project's cumulatively considerable impacts to freeway mainline segments, ramp merge/diverge junctions, and off-ramps under Opening Year Cumulative (2020) and Horizon Year (2040) conditions, including the I-605 Merge/Diverge Ramp Junction #1, Southbound Off-Ramp at Arrow Highway; the I-605 Merge/Diverge Ramp Junction #2, Southbound On-Ramp at Live Oak Avenue; the I-605 Merge/Diverge Ramp Junction #5, Northbound Off-Ramp at Live Oak Avenue; and I-605 Mainline Segment #3, Southbound, South of Live Oak Avenue.

- MM 4.11-7 Mitigation and fair share calculations for impacts to State Highway System facilities shall be subject to the review and approval of the California Department of Transportation (Caltrans). Fair share contributions for improvements to State Highway System facilities shall be determined by and paid to Caltrans in accordance with nexus requirements contained in the Mitigation Fee Act (Govt. Code § 66000 et seq.) and 14 Cal. Code of Regs. § 15126.4(a)(4).

Mitigation to Address the Project's Short-Term Construction Activities

Although the Project is not expected to generate substantial traffic volumes during short-term construction activities, the following mitigation measure is recommended to minimize the effect of Project-related construction traffic on the local sidewalks, roadways, and circulation network.

- MM 4.11-8 Prior to the issuance of grading or building permits, the Project Applicant shall prepare and the City of Irwindale shall approve a temporary traffic control plan. The temporary traffic control plan shall comply with the applicable requirements of the California Manual on Uniform Traffic Control Devices and shall address temporary closures of roadways and sidewalks. A requirement to comply with the temporary traffic control plan shall be noted on all grading and building plans and also shall be specified in bid documents issued to prospective construction contractors.

4.11.9 SIGNIFICANCE OF IMPACTS AFTER MITIGATION

Threshold a: Significant and Unavoidable Direct and Cumulatively Considerable Impact. Following implementation of the Mitigation Measures described above, the Project would result in significant and unavoidable direct and cumulatively considerable impacts to local and regional circulation facilities as well as CMP facilities, as summarized below.



A. Local Roadway Network

Existing Plus Project Conditions

Direct Impacts

As shown on Table 4.11-32, *Intersection Analysis for E+P Conditions – With Mitigation*, with implementation of Mitigation Measure MM 4.11-1, Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway would operate at an acceptable LOS (LOS D or better) during both peak hours under the E+P scenario. Accordingly, implementation of Mitigation Measure MM 4.11-1 would reduce the Project’s direct impacts to Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway to below a level of significance.

As shown on Table 4.11-32, with implementation of Mitigation Measure MM 4.11-2, Intersection #27 – Stewart Avenue & Live Oak Avenue would operate at an acceptable LOS (LOS D or better) during both peak hours under the E+P scenario. Accordingly, implementation of Mitigation Measure MM 4.11-2 would reduce the Project’s direct impacts to Intersection #27 – Stewart Avenue & Live Oak Avenue to below a level of significance.

As shown on Table 4.11-32, with implementation of Mitigation Measure MM 4.11-3, Intersection #29 – Arrow Highway & Live Oak Avenue (East) would operate at an acceptable LOS (LOS D or better) during both peak hours under the E+P scenario. Accordingly, implementation of Mitigation Measure MM 4.11-3 would reduce the Project’s direct impacts to Intersection #29 – Arrow Highway & Live Oak Avenue (East) to below a level of significance.

The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*) studied a reasonably foreseeable development scenario whereby 47,000 s.f. of commercial uses would be developed in Planning Area 4, 51,600 s.f. of commercial uses would be developed within either Planning Area 1A, 2A, or 3A, and the remainder of the Specific Plan area would be developed with industrial/business park uses. The purpose of the access evaluation was to determine the peak hour intersection operating conditions and resulting intersection improvement requirements based on a reasonable distribution of commercial building floor space in the Specific Plan area. As discussed in The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*), in the event that 51,600 s.f. of commercial retail land uses are developed entirely within either Planning Area 2A or Planning Area 3A, the Project would be required to implement the improvement to Intersection #11 – Driveway/Private Drive B & Arrow Highway described in Mitigation Measure MM 4.11-5b. Furthermore, as shown in Table 5, *Intersection Analysis for E+P Alternative PA-2A Conditions*, and Table 9, *Intersection Analysis for E+P Alternative PA-3A Conditions*, of The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*), in the event that 51,600 s.f. of commercial retail land uses are developed entirely within either Planning Area 2A or Planning Area 3A, Intersection #11 – Driveway/Private Drive B & Arrow Highway would continue to operate at an unsatisfactory LOS (LOS E or F) during the AM and/or PM peak hours under the E+P scenario even with implementation of Mitigation Measure MM 4.11-5b. As such, in the event that the Project would develop 51,600 s.f. of commercial retail uses entirely within either Planning Area 2A or



Table 4.11-32 Intersection Analysis for E+P Conditions – With Mitigation

#	Intersection	Traffic Control ⁴	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service		ICU ³ (v/c)		Level of Service		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	AM	PM	AM	PM	
			L	T	R	L	T	R	L	T	R	L	T	R									
1	Myrtle Av. & Longden Av.																						
	- Existing	TS	1	2	0	1	2	d	1	1	1	1	2	0	--	--	--	--	0.810	0.923	D	E	
	- E+P	TS	1	2	0	1	2	d	1	1	1	1	2	0	--	--	--	--	0.839	0.951	D	E	
	- With Improvements	TS	1	2	0	1	2	d	1	2	0	1	2	0	--	--	--	--	0.839	0.822	D	D	
2	Myrtle Av./Peck Rd. & Live Oak Av.																						
	- Existing	TS	1	2	d	1	2	d	1	2	1	1	2	0	--	--	--	--	0.878	0.940	D	E	
	- E+P	TS	1	2	d	1	2	d	1	2	1	1	2	0	--	--	--	--	0.883	0.968	D	E	
	- With Improvements	TS	1	2	d	2	2	d	1	2	1	1	2	0	--	--	--	--	0.883	0.916	D	E	
3	Longden Av. & Live Oak Av./Driveway																						
	- Existing	TS	0	1	0	1	1	1	1	2	d	1	2	1>>	--	--	--	--	0.736	0.881	C	D	
	- E+P	TS	0	1	0	1	1	1	1	2	d	1	2	1>>	--	--	--	--	0.765	0.910	C	E	
	- With Improvements	TS	0	1	0	1	1	1	1	3	0	1	2	1>>	--	--	--	--	0.765	0.743	C	C	
4	Live Oak Av. & Arrow Hwy. (West)																						
	- Existing	TS	2	0	1>>	0	0	0	0	2	1>>	2	2	0	--	--	--	--	0.989	0.692	E	B	
	- E+P	TS	2	0	1>>	0	0	0	0	2	1>>	2	2	0	--	--	--	--	1.010	0.738	F	C	
	- With Improvements	TS	2	0	1>>	0	0	0	0	2	1>>	2	3	0	--	--	--	--	0.819	0.738	D	C	
15	Avenida Barbosa/Private Drive A & Arrow Hwy.																						
	- Existing	TS	0	0	0	2	0	1	1	2	0	0	2	1	--	--	--	--	1.016	0.689	F	B	
	- E+P	TS	0	0	0	2	0	1	1	2	0	0	2	1	--	--	--	--	1.116	0.887	F	D	
	- With Improvements	TS	1	1	1	2	1	1	1	3	0	1	3	1	--	--	--	--	0.897	0.797	D	C	
23	I-605 NB Off-Ramp & Live Oak Av.																						
	- Existing	CSS	0	0	1	0	0	1	0	2	0	0	2	0	>100.0	>100.0	F	F	--	--	--	--	
	- E+P	CSS	0	0	1	0	0	1	0	2	0	0	2	0	>100.0	>100.0	F	F	--	--	--	--	
	- With Improvements	TS	0	0	1	0	0	1	0	2	0	0	2	0	0.9	1.0	A	A	--	--	--	--	
26	Rivergrade Rd. & Live Oak Av.																						
	- Existing	TS	1	1	1	1	2	1	1	2	1	1	2	1	--	--	--	--	0.711	1.042	C	F	
	- E+P	TS	1	1	1	1	2	1	1	2	1	1	2	1	--	--	--	--	0.752	1.072	C	F	
	- With Improvements	TS	1	1	1>	1	2	1	1	2	1	1	2	1	--	--	--	--	0.752	0.990	C	E	
27	Stewart Av. & Live Oak Av.																						
	- Existing	TS	0	1	0	1	1	1	1	2	1	1	2	d	--	--	--	--	0.898	0.795	D	C	
	- E+P	TS	0	1	0	1	1	1	1	2	1	1	2	d	--	--	--	--	0.925	0.818	E	D	
	- With Improvements	TS	0	1	0	1	1	1	1	2	1	1	3	0	--	--	--	--	0.753	0.818	C	D	
29	Arrow Hwy. & Live Oak Av. (East)																						
	- Existing	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	--	--	--	--	0.691	0.897	B	D	
	- E+P	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	--	--	--	--	0.703	0.922	C	E	
	- With Improvements	TS	0	0	0	2	0	1	1	3	0	0	2	1>>	--	--	--	--	0.703	0.786	C	C	

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right Turn Lane; d= Defacto Right Turn Lane; **1** = Improvement

² Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio. ICU not reported for unsignalized intersections or at Caltrans facilities.

⁴ TS = Traffic Signal; CSS = Cross-Street Stop; **TS** = Improvement

⁵ Remove the southbound cross-walk (west leg).

Source: (Urban Crossroads, 2018f, Table 5-7)



Planning Area 3A, significant and unavoidable direct impacts would occur at Intersection #11 under the E+P scenario.

Cumulatively Considerable Impacts

Under CEQA, a fair-share monetary contribution to a mitigation fund is adequate mitigation if the funds are part of a reasonable plan that the relevant agency is committed to implementing. As shown in Table 4.11-32, recommended improvements would alleviate all projected LOS deficiencies at intersections in the Project study area under E+P traffic conditions (except for Intersection #11 under E+P conditions in the event that all 51,600 s.f. of commercial retail are developed within either Planning Area 2A or Planning Area 3A). However, the improvements identified in Table 4.11-32 and described in Mitigation Measures MM 4.11-6a, MM 4.11-6b, MM 4.11-6c, MM 4.11-6d, MM 4.11-6g, and MM 4.11-6h are not included in any existing program that would ensure timely construction. Accordingly, the Project's cumulatively considerable impacts to the intersections listed below would be significant and unavoidable under E+P traffic conditions. No other feasible mitigation measures for these impacts are available to the Project that would have a proportional nexus to the Project's traffic impact to these facilities which are under the jurisdiction of the City of Irwindale.

- Intersection #1 – Myrtle Avenue & Longden Avenue
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue
- Intersection #4 – Live Oak Avenue & Arrow Highway (west)
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue
- Intersection #26 – Rivergrade Road & Live Oak Avenue

As previously disclosed, prior to issuance of building permits for future implementing development projects that involve a driveway connection point with Arrow Highway or Live Oak Avenue, the Project would be required to implement improvements to Intersection #7 – Speedway Driveway & Live Oak Avenue (as described in Mitigation Measure MM 4.11-5c) and Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway (as described in Mitigation Measure MM 4.11-5a). As shown on Table 4.11-32, with implementation of these improvements, Intersection #7 – Speedway Driveway & Live Oak Avenue would operate at a satisfactory level of service (LOS D or better). Accordingly, under the E+P scenario, the Project would have less-than-cumulatively considerable impacts to Intersection #7 – Speedway Driveway & Live Oak Avenue.

Opening Year Cumulative (2020) Conditions

Direct Impacts

As shown on Table 4.11-33, *Intersection Analysis for Opening Year Cumulative (2020) Conditions – With Mitigation*, even after implementation of Mitigation Measure MM 4.11-4, Intersection #30 – Maine Avenue & Arrow Highway would operate at an unacceptable LOS (LOS E) during the AM peak hour under the Opening Year Cumulative (2020) scenario. Accordingly, after implementation of



Mitigation Measure MM 4.11-4, the Project's direct impacts to Intersection #30 would remain significant and unavoidable under the Opening Year Cumulative (2020) scenario.

As described in The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*), in the event that 51,600 s.f. of commercial retail land uses are developed within Planning Area 2A or Planning Area 3A, the Project would be required to implement the improvement to Intersection #11 – Driveway/Private Drive B & Arrow Highway described in Mitigation Measure MM 4.11-5b. Furthermore, as shown in Table 6, *Intersection Analysis for Opening Year Cumulative (2020) Alternative PA-2A Conditions*, and Table 10, *Intersection Analysis for Opening Year Cumulative (2020) Alternative PA-3A Conditions*, of The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*), in the event that 51,600 s.f. of commercial retail land uses are developed entirely within either Planning Area 2A or Planning Area 3A, Intersection #11 – Driveway/Private Drive B & Arrow Highway would continue to operate at an unsatisfactory LOS (LOS E or F) during the AM and PM peak hours under the Opening Year Cumulative (2020) scenario even with implementation of Mitigation Measure MM 4.11-5b. As such, in the event that the Project would develop 51,600 s.f. of commercial retail uses entirely within either Planning Area 2A or Planning Area 3A, significant and unavoidable direct impacts would occur at Intersection #11 under the Opening Year Cumulative (2020) scenario.

Cumulatively Considerable Impacts

Under CEQA, a fair-share monetary contribution to a mitigation fund is adequate mitigation if the funds are part of a reasonable plan that the relevant agency is committed to implementing. The improvements shown in Table 4.11-33 and described in Mitigation Measures MM 4.11-6a, MM 4.11-6b, MM 4.11-6c, MM 4.11-6d, MM 4.11-6e, MM 4.11-6g, MM 4.11-6h, and MM 4.11-6i are not included in any existing program that would ensure timely construction. Accordingly, the Project's cumulatively considerable impacts to the intersections listed below would be significant and unavoidable under Opening Year Cumulative (2020) traffic conditions. No other feasible mitigation measures for these impacts are available to the Project that would have a proportional nexus to the Project's traffic impact to these facilities which are under the jurisdiction of the City of Irwindale.

- Intersection #1 – Myrtle Avenue & Longden Avenue
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue
- Intersection #4 – Live Oak Avenue & Arrow Highway (west)
- Intersection #7 – Speedway Driveway & Live Oak Avenue
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue
- Intersection #26 – Rivergrade Road & Live Oak Avenue



Table 4.11-33 Intersection Analysis for Opening Year Cumulative (2020) Conditions – With Mitigation

#	Intersection	Traffic Control ⁴	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service		ICU ³ (v/c)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R								
1	Myrtle Av. & Longden Av.																					
	- 2020 Without Project	TS	1	2	0	1	2	d	1	1	1	1	2	0	--	--	--	--	0.809	0.956	D	E
	- 2020 With Project	TS	1	2	0	1	2	d	1	1	1	1	2	0	--	--	--	--	0.836	0.983	D	E
	- With Improvements	TS	1	2	0	1	2	d	1	<u>2</u>	0	1	2	0	--	--	--	--	0.836	0.851	D	D
2	Myrtle Av./Peck Rd. & Live Oak Av.																					
	- 2020 Without Project	TS	1	2	d	1	2	d	1	2	1	1	2	0	--	--	--	--	0.904	0.955	E	E
	- 2020 With Project	TS	1	2	d	1	2	d	1	2	1	1	2	0	--	--	--	--	0.909	0.981	E	E
	- With Improvements	TS	1	2	d	<u>2</u>	2	d	1	2	1	1	2	0	--	--	--	--	0.909	0.930	E	E
3	Longden Av. & Live Oak Av./Driveway																					
	- 2020 Without Project	TS	0	1	0	1	1	1	1	2	d	1	2	1>>	--	--	--	--	0.784	0.965	C	E
	- 2020 With Project	TS	0	1	0	1	1	1	1	2	d	1	2	1>>	--	--	--	--	0.812	0.993	D	E
	- With Improvements	TS	0	1	0	1	1	1	1	<u>3</u>	0	1	2	1>>	--	--	--	--	0.812	0.806	D	D
4	Live Oak Av. & Arrow Hwy. (West)																					
	- 2020 Without Project	TS	2	0	1>>	0	0	0	0	2	1>>	2	2	0	--	--	--	--	1.044	1.816	F	F
	- 2020 With Project	TS	2	0	1>>	0	0	0	0	2	1>>	2	2	0	--	--	--	--	1.065	1.848	F	F
	- With Improvements	TS	2	0	1>>	0	0	0	0	<u>3</u>	1>>	2	<u>3</u>	0	--	--	--	--	0.863	0.781	D	C
7	Speedway Dwy. & Live Oak Av.																					
	- 2020 Without Project	CSS	0	1	0	0	0	0	0	3	0	1	2	0	68.8	>100.0	F	F	--	--	--	--
	- 2020 With Project	CSS	0	1	0	0	0	0	0	3	0	1	2	0	44.7	>100.0	E	F	--	--	--	--
	- With Improvements	TS	1	0	d	0	0	0	0	3	0	1	<u>3</u>	0	--	--	--	--	0.116	0.121	A	A
15	Avenida Barbosa/Private Drive A & Arrow Hwy.																					
	- 2020 Without Project	TS	0	0	0	2	0	1	1	2	0	0	2	1	--	--	--	--	1.067	0.857	F	D
	- 2020 With Project	TS	0	0	0	2	0	1	1	2	0	0	2	1	--	--	--	--	1.160	1.048	F	F
	- With Improvements	TS	<u>1</u>	<u>1</u>	<u>1</u>	2	<u>1</u>	1	1	<u>3</u>	0	<u>1</u>	<u>3</u>	1	--	--	--	--	0.893	0.879	D	D
23	I-605 NB Off-Ramp & Live Oak Av.																					
	- 2020 Without Project	CSS	0	0	1	0	0	1	0	2	0	0	2	0	>100.0	>100.0	F	F	--	--	--	--
	- 2020 With Project	CSS	0	0	1	0	0	1	0	2	0	0	2	0	>100.0	>100.0	F	F	--	--	--	--
	- With Improvements	TS	0	0	1	0	0	1	0	2	0	0	2	0	0.9	1.0	A	A	--	--	--	--
26	Rivergrade Rd. & Live Oak Av.																					
	- 2020 Without Project	TS	1	1	1	1	2	1	1	2	1	1	2	1	--	--	--	--	0.720	1.052	C	F
	- 2020 With Project	TS	1	1	1	1	2	1	1	2	1	1	2	1	--	--	--	--	0.756	1.080	C	F
	- With Improvements	TS	1	1	<u>1></u>	1	2	1	1	2	1	1	2	1	--	--	--	--	0.756	0.999	C	E
27	Stewart Av. & Live Oak Av.																					
	- 2020 Without Project	TS	0	1	0	1	1	1	1	2	1	1	2	d	--	--	--	--	0.920	0.844	E	D
	- 2020 With Project	TS	0	1	0	1	1	1	1	2	1	1	2	d	--	--	--	--	0.945	0.866	E	D
	- With Improvements	TS	0	1	0	1	1	1	1	2	1	1	<u>3</u>	0	--	--	--	--	0.770	0.866	C	D
29	Arrow Hwy. & Live Oak Av. (East)																					
	- 2020 Without Project	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	--	--	--	--	0.741	0.948	C	E
	- 2020 With Project	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	--	--	--	--	0.753	0.973	C	E
	- With Improvements	TS	0	0	0	2	0	1	1	<u>3</u>	0	0	2	1>>	--	--	--	--	0.753	0.855	C	D
30	Maine Av. & Arrow Hwy.																					
	- 2020 Without Project	TS	2	0	1	0	0	0	0	2	d	1	3	0	--	--	--	--	0.885	0.464	D	A
	- 2020 With Project	TS	2	0	1	0	0	0	0	2	d	1	3	0	--	--	--	--	0.902	0.478	E	A
	- With Improvements	TS	2	0	1	0	0	0	0	<u>3</u>	0	1	3	0	--	--	--	--	0.902	0.478	E	A

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right Turn Lane; d = Defacto Right Turn Lane; 1 = Improvement

² Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio. ICU not reported for unsignalized intersections or at Caltrans facilities.

⁴ TS = Traffic Signal; CSS = Cross-Street Stop; TS = Improvement

⁵ Remove the southbound cross-walk (west leg).

Source: (Urban Crossroads, 2018f, Table 6-7)



As previously disclosed, prior to issuance of the first certificate of occupancy, the Project would be required to implement improvements to Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway, Intersection #27 – Stewart Avenue & Live Oak Avenue, and Intersection #29 – Arrow Highway & Live Oak Avenue (East) as described in Mitigation Measures MM 4.11-1, MM 4.11-2 and MM 4.11-3, respectively. As shown on Table 4.11-33, with implementation of these improvements, Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway, Intersection #27 – Stewart Avenue & Live Oak Avenue, and Intersection #29 – Arrow Highway & Live Oak Avenue (East) would operate at a satisfactory level of service (LOS D or better) under the Opening Year Cumulative (2020) scenario. Accordingly, the Project would result in less-than-significant impacts to Intersections #3, #27, and #29 under the Opening Year Cumulative (2020) scenario following implementation of Mitigation Measures MM 4.11-1, MM 4.11-2 and MM 4.11-3, respectively.

As described in The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*), in the event that 51,600 s.f. of commercial retail land uses are developed within either Planning Area 1A or Planning Area 2A, the Project would be required to implement the improvement to Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway that is described in Mitigation Measure MM 4.11-5a. Furthermore, as shown in Table 2, *Intersection Analysis for Opening Year Cumulative (2020) PA-1A Conditions*, and Table 6, *Intersection Analysis for Opening Year Cumulative (2020) Alternative PA-2A Conditions*, of The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*), in the event that 51,600 s.f. of commercial retail land uses are developed within either Planning Area 1A or Planning Area 2A, Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway would continue to operate at an unsatisfactory LOS (LOS E or F) during the AM and PM peak hours under the Opening Year (2020) scenario even with implementation of Mitigation Measure MM 4.11-5a. As such, in the event that the Project would develop 51,600 s.f. of commercial retail uses entirely within either Planning Area 1A or Planning Area 2A, significant and unavoidable cumulatively considerable impacts would occur at Intersection #15 under the Opening Year (2020) scenario.

Horizon Year (2040) Conditions

Direct Impacts

As described in The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*), in the event that 51,600 s.f. of commercial retail land uses are developed entirely within either Planning Area 2A or Planning Area 3A, the Project would be required to implement the improvement to Intersection #11 – Driveway/Private Drive B & Arrow Highway described in Mitigation Measure MM 4.11-5b. Furthermore, as shown in Table 7, *Intersection Analysis for Horizon Year (2040) Alternative PA-2A Conditions*, and Table 11, *Intersection Analysis for Horizon Year (2040) Alternative PA-3A Conditions*, of The Park @ Live Oak Access Evaluation (EIR *Technical Appendix I3*), in the event that 51,600 s.f. of commercial retail land uses are developed entirely within Planning Area 2A or Planning Area 3A, Intersection #11 – Driveway/Private Drive B & Arrow Highway would continue to operate at an unsatisfactory LOS (LOS E or F) during the AM and PM peak hours under the Horizon Year (2040) scenario even with implementation of Mitigation Measure MM 4.11-5b. As such, in the event that the Project would develop 51,600 s.f. of commercial retail uses entirely within either Planning



Area 2A or Planning Area 3A, significant and unavoidable direct impacts would occur at Intersection #11 under the Horizon Year (2040) scenario.

Cumulative Impacts

Under CEQA, a fair-share monetary contribution to a mitigation fund is adequate mitigation if the funds are part of a reasonable plan that the relevant agency is committed to implementing. The improvements shown in Table 4.11-34, *Intersection Analysis for Horizon Year (2040) Conditions – With Mitigation*, and described in Mitigation Measures MM 4.11-6a, MM 4.11-6b, MM 4.11-6c, MM 4.11-6d, MM 4.11-6e, MM 4.11-6f, MM 4.11-6g, MM 4.11-6h, and MM 4.11-6i are not included in any existing program that would ensure timely construction. Accordingly, the Project's cumulatively considerable impacts to the intersections listed below would be significant and unavoidable under Horizon Year (2040) traffic conditions. No other feasible mitigation measures for these impacts are available to the Project that would have a proportional nexus to the Project's traffic impact to these facilities which are under the jurisdiction of the City of Irwindale.

- Intersection #1 – Myrtle Avenue & Longden Avenue
- Intersection #2 – Myrtle Avenue/Peck Road & Live Oak Avenue
- Intersection #4 – Live Oak Avenue & Arrow Highway (west)
- Intersection #7 – Speedway Driveway & Live Oak Avenue
- Intersection #13 – Driveway 7/Driveway & Live Oak Avenue
- Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway
- Intersection #23 – I-605 Northbound Off-Ramp & Live Oak Avenue
- Intersection #26 – Rivergrade Road & Live Oak Avenue
- Intersection #27 – Stewart Avenue & Live Oak Avenue

Additionally, as shown on Table 4.11-34, even after implementation of Mitigation Measure MM 4.11-4, Intersection #30 – Maine Avenue & Arrow Highway would operate at a deficient level of service (LOS E or F) under the Horizon Year (2040) scenario. Therefore, the Project would result in significant and unavoidable cumulatively considerable impacts to Intersection #30 under the Horizon Year (2040) scenario.

As previously disclosed, prior to issuance of the first certificate of occupancy, the Project would be required to implement improvements to Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway and Intersection #29 – Arrow Highway & Live Oak Avenue (East) as described in Mitigation Measures MM 4.11-1 and MM 4.11-3, respectively. As shown on Table 4.11-34, with implementation of these improvements, Intersection #3 – Longden Avenue & Live Oak Avenue/Driveway and Intersection #29 – Arrow Highway & Live Oak Avenue (East) would operate at a satisfactory level of service (LOS D or better) under the Horizon Year (2040) scenario. Accordingly, the Project would result in less-than-significant impacts to Intersections #3 and #29 under the Horizon Year (2040) scenario following implementation of Mitigation Measures MM 4.11-1 and MM 4.11-3, respectively.



Table 4.11-34 Intersection Analysis for Horizon Year (2040) Conditions – With Mitigation

#	Intersection	Traffic Control ⁴	Intersection Approach Lanes ¹								Delay ² (secs.)		Level of Service		ICU ³ (v/c)		Level of Service					
			Northbound			Southbound			Eastbound		Westbound		AM	PM	AM	PM	AM	PM	AM	PM		
			L	T	R	L	T	R	L	T	R	L	T	R								
1	Myrtle Av. & Longden Av.																					
	- 2040 Without Project	TS	1	2	0	1	2	d	1	1	1	1	2	0	--	--	--	--	0.854	1.008	D	F
	- 2040 With Project	TS	1	2	0	1	2	d	1	1	1	1	2	0	--	--	--	--	0.880	1.036	D	F
	- With Improvements	TS	1	2	0	1	2	d	1	<u>2</u>	0	1	2	0	--	--	--	--	0.880	0.895	D	D
2	Myrtle Av./Peck Rd. & Live Oak Av.																					
	- 2040 Without Project	TS	1	2	d	1	2	d	1	2	1	1	2	0	--	--	--	--	0.954	1.008	E	F
	- 2040 With Project	TS	1	2	d	1	2	d	1	2	1	1	2	0	--	--	--	--	0.959	1.033	E	F
	- With Improvements	TS	1	2	d	<u>2</u>	2	d	1	2	1	1	2	0	--	--	--	--	0.959	0.979	E	E
3	Longden Av. & Live Oak Av./Driveway																					
	- 2040 Without Project	TS	0	1	0	1	1	1	1	2	d	1	2	1>>	--	--	--	--	1.244	1.016	F	F
	- 2040 With Project	TS	0	1	0	1	1	1	1	2	d	1	2	1>>	--	--	--	--	1.272	1.045	F	F
	- With Improvements	TS	0	1	0	1	1	1	1	<u>3</u>	0	1	2	1>>	--	--	--	--	0.853	0.847	D	D
4	Live Oak Av. & Arrow Hwy. (West)																					
	- 2040 Without Project	TS	2	0	1>>	0	0	0	0	2	1>>	2	2	0	--	--	--	--	1.101	0.889	F	D
	- 2040 With Project	TS	2	0	1>>	0	0	0	0	2	1>>	2	2	0	--	--	--	--	1.122	0.935	F	E
	- With Improvements	TS	2	0	1>>	0	0	0	0	<u>3</u>	1>>	2	<u>3</u>	0	--	--	--	--	0.908	0.841	E	D
7	Speedway Dwy. & Live Oak Av.																					
	- 2040 Without Project	CSS	1	0	d	0	0	0	0	3	0	1	2	0	91.8	>100.0	F	F	--	--	--	--
	- 2040 With Project	CSS	1	0	d	0	0	0	0	3	0	1	2	0	55.0	>100.0	F	F	--	--	--	--
	- With Improvements	TS	1	0	d	0	0	0	0	3	0	1	<u>3</u>	0	--	--	--	--	0.449	0.896	A	D
13	Dwy. 7/Driveway & Live Oak Av.																					
	- 2040 Without Project	TS	2	0	1	0	0	0	0	3	0	1	2	0	--	--	--	--	0.587	0.982	A	E
	- 2040 With Project	TS	2	0	1	0	<u>1</u>	0	0	3	0	1	<u>3</u>	0	--	--	--	--	0.539	1.074	A	F
	- With Improvements	TS	2	0	1	<u>1</u>	<u>1</u>	0	0	3	<u>1</u>	1	<u>3</u>	0	--	--	--	--	0.520	0.991	A	E
15	Avenida Barbosa/Private Drive A & Arrow Hwy.																					
	- 2040 Without Project	TS	0	0	0	2	0	1	1	2	0	0	2	1	--	--	--	--	1.124	0.925	F	E
	- 2040 With Project	TS	0	0	0	2	0	1	1	2	0	0	2	1	--	--	--	--	1.217	1.116	F	F
	- With Improvements	TS	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	<u>1</u> >	--	--	--	--	0.818	0.875	D	D
23	I-605 NB Off-Ramp & Live Oak Av.																					
	- 2040 Without Project	CSS	0	0	1	0	0	1	0	2	0	0	2	0	>100.0	>100.0	F	F	--	--	--	--
	- 2040 With Project	CSS	0	0	1	0	0	1	0	2	0	0	2	0	>100.0	>100.0	F	F	--	--	--	--
	- With Improvements	TS	0	0	1	0	0	1	0	2	0	0	2	0	1.0	1.0	A	A	--	--	--	--
26	Rivergrade Rd. & Live Oak Av.																					
	- 2040 Without Project	TS	1	1	1	1	2	1	1	2	1	1	2	1	--	--	--	--	0.747	1.111	C	F
	- 2040 With Project	TS	1	1	1	1	2	1	1	2	1	1	2	1	--	--	--	--	0.792	1.139	C	F
	- With Improvements	TS	1	1	<u>1</u> >	1	2	1	1	2	1	1	2	1	--	--	--	--	0.792	1.053	C	F
27	Stewart Av. & Live Oak Av.																					
	- 2040 Without Project	TS	0	1	0	1	1	1	1	2	1	1	2	d	--	--	--	--	0.970	0.889	E	D
	- 2040 With Project	TS	0	1	0	1	1	1	1	2	1	1	2	d	--	--	--	--	0.995	0.910	E	E
	- With Improvements	TS	0	1	0	1	1	1	1	<u>3</u>	0	1	<u>3</u>	0	--	--	--	--	0.809	0.775	D	C
29	Arrow Hwy. & Live Oak Av. (East)																					
	- 2040 Without Project	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	--	--	--	--	0.778	1.000	C	E
	- 2040 With Project	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	--	--	--	--	0.790	1.024	C	F
	- With Improvements	TS	0	0	0	2	0	1	1	<u>3</u>	0	0	2	1>>	--	--	--	--	0.790	0.898	C	D
30	Maine Av. & Arrow Hwy.																					
	- 2040 Without Project	TS	2	0	1	0	0	0	0	2	d	1	3	0	--	--	--	--	0.933	0.894	E	D
	- 2040 With Project	TS	2	0	1	0	0	0	0	2	d	1	3	0	--	--	--	--	0.950	0.917	E	E
	- With Improvements	TS	2	0	1	0	0	0	0	<u>3</u>	0	1	3	0	--	--	--	--	0.950	0.822	E	D

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right Turn Lane; d= Defacto Right Turn Lane; 1 = Improvement

² Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio. ICU not reported for unsignalized intersections or at Caltrans facilities.

⁴ TS = Traffic Signal; CSS = Cross-Street Stop; TS = Improvement

Source: (Urban Crossroads, 2018f, Table 7-7)



As shown on Table 3, Intersection Analysis for Horizon Year (2040) PA-1A Conditions, and Table 7, Intersection Analysis for Horizon Year (2040) Alternative PA-2A Conditions, even with implementation of Mitigation Measure MM 4.11-5a, Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway would continue to operate at an unsatisfactory LOS (LOS E or F) under the Horizon Year (2040) scenario in the event that 51,600 s.f. of commercial retail land uses are developed entirely within either Planning Areas 1A or Planning Area 2A. Accordingly, in the event that 51,600 s.f. of commercial retail land uses are developed entirely within either Planning Areas 1A or Planning Area 2A, the Project would result in significant and unavoidable cumulatively considerable impacts to Intersection #15 – Avenida Barbosa/Private Drive A & Arrow Highway under the Horizon Year (2040) scenario.

B. CMP Facilities

All state highway system facilities in the Project study area are under the jurisdiction of Caltrans. As such, the City of Irwindale cannot assure the construction of improvements to state highway facilities that may be needed to improve traffic flow. Furthermore, Caltrans does not have any funding mechanism in place at this time to allow development projects to contribute a fair-share payment to contribute to future improvements and off-set cumulatively considerable traffic impacts. Mitigation Measure MM 4.11-7 requires the Project Applicant to pay such fair-share payment to Caltrans, if a fee program is established by Caltrans prior to the issuance of Project building permits; however, there is no assurance that such a fee program will be established. Also, there is no assurance that planned improvements will be in place prior to the time that the Project begins to contribute traffic to the facilities. Accordingly, the Project's significant direct and cumulatively considerable traffic impacts to I-605 Freeway facilities which were previously summarized in EIR Subsection 4.11.7 would remain significant and unavoidable.



4.12 TRIBAL CULTURAL RESOURCES

The CEQA Guidelines were amended in 2016 to require the consideration of tribal cultural resources as an independent subject area. According to CEQA Statute § 21074:

(a) *“Tribal cultural resources” are either of the following:*

(1) *Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:*

(A) *Included or determined to be eligible for inclusion in the California Register of Historical Resources.*

(B) *Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.*

(2) *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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.*

(b) *A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.*

(c) *A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).*

The following analysis of potential tribal cultural resources pertaining to the Project site is based primarily on correspondence between the City of Irwindale and the following Native American Tribes: Gabrieleño Band of Mission Indians- Kizh Nation, Gabrieleño Band of Mission Indians Tongva San Gabriel, Gabrielino- Tongva Indians of California, Gabrielino- Tongva Nation, Gabrielino- Tongva Tribe, and the Soboba Band of Luiseño Indians. Written and oral communication between Native American tribes and the City of Irwindale is considered confidential in respect to places that have tribal cultural significance (Gov. Code § 65352.4), and although all communications pertaining to the Project site that occurred between Native American tribes and the City of Irwindale pertaining to the Project site were relied upon 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. § 15120(d)). All references used in this Subsection are listed in EIR Section 7.0, *References*.



4.12.1 ENVIRONMENTAL SETTING

The Project site is a former sand and gravel quarry and is undergoing active reclamation. The Project site is located in the western portion of the City of Irwindale, and this region is located within an area that is mostly developed with industrial land uses (Google Earth Pro, 2018). Due to past use of a vast majority of the Project site as a quarry, tribal cultural resources are not known to exist on the property. Regardless, the site is located within an area that is affiliated with the traditional territory of multiple Native American groups including: the Gabrieleño Band of Mission Indians- Kizh Nation, Gabrieleño Band of Mission Indians Tongva San Gabriel, Gabrielino- Tongva Indians of California, Gabrielino- Tongva Nation, Gabrielino- Tongva Tribe, and the Soboba Band of Luiseño Indians.

4.12.2 NOP/SCOPING COMMENTS AND TRIBAL OUTREACH

To determine the scope of the EIR, the City of Irwindale prepared an Initial Study. This Initial Study determined that an EIR would need to be prepared, including the topic of tribal cultural resources. A Notice of Preparation (NOP) for the proposed Project was released for public review on April 2, 2018. The NOP was circulated to the following Native American tribes with cultural affiliation to the Project area for comment: Gabrieleño Band of Mission Indians - Kizh Nation, Gabrieleño Band of Mission Indians Tongva San Gabriel, Gabrielino - Tongva Indians of California, Gabrielino - Tongva Nation, Gabrielino - Tongva Tribe, and the Soboba Band of Luiseño Indians. No comments were received from any of the tribes during the NOP comment period. However, the City received a comment from the Native American Heritage Commission (NAHC) pertaining to the topic of tribal cultural resources that recommended outreach to tribes with cultural affiliation, which the City conducted with no response.

4.12.3 REGULATORY FRAMEWORK

A. *Federal Regulations*

The National Historic Preservation Act (NHPA) (16 U.S. Code § 470 et. seq.) created the National Register of Historic Places program under the Secretary of the Interior and provides the legal framework for most state and local preservation laws. Significant historical or archaeological resources can be nominated for and listed in the National Register of Historic Places if certain criteria are met that makes the resource worthy of national recognition. The National Register program also includes National Historic Landmarks, which is limited only to properties of significance to the nation.

The NHPA established the Section 106 review procedure to protect historic and archaeological resources listed in or eligible for listing in the National Register from the impact of projects by a federal agency or project funded or permitted by a federal agency. The National Register is an authoritative guide used by governments, private groups, and citizens to identify the nation's cultural resources worthy of preservation and to indicate what properties should be considered for protection from destruction or impairment. Listing of private property on the National Register does not prohibit by law any actions which may otherwise be taken by the property owner with respect to the property.



B. State Regulations

1. California Health and Safety Code Division 7, Chapter 2, Section 7050.5

California Health and Safety Code § 7050.5 makes it illegal for persons to knowingly mutilate or disinter, disturb, or willfully remove any human remains in or from any location other than a dedicated cemetery without authority of law, except as provided in § 5097.99 of the Public Resources Code. Section 5097.94 also establishes procedures for the identification and appropriate handling of human remains, should they be discovered inadvertently. The procedures require notice to the coroner of the county in which the human remains are discovered. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, the coroner is required to contact the California NAHC.

2. California Health and Safety Code Division 5, Chapter 1.75, Section 5097.9

In the event of discovery of Native American human remains, California Public Resources Code § 5097.98 requires the California NAHC to contact the most likely descendant of the deceased Native American within 48 hours of discovery. California Public Resources Code § 5097.98 also establishes procedures to allow the most likely descendant to inspect the remains and recommend a means of disposition.

3. California Senate Bill 18 (SB 18) (Chapter 905, Statutes of 2004)

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. Because the proposed Project includes a General Plan Amendment and the adoption of a Specific Plan, the City of Irwindale as the



CEQA lead agency for the proposed Project is subject to all requirements associated with the SB 18 process for Native American consultation. (OPR, 2005)

4. California Assembly Bill No. 52 (AB 52), 2014

California Assembly Bill 52 (AB 52) (2014) Chapter 532 is an act to amend Section 5097.94 of, and add 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 by the Governor on September 25, 2014. AB 52 requires:

“a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed Project, if the tribe requested to the lead agency, in writing, be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project.”

If the tribes desire notification of proposed projects in that area that may cause a substantial adverse change in the significance of a tribal cultural resource, AB 52 requires that Native American tribes send written notice of their geographic areas of traditional and cultural affiliation to CEQA lead agencies. The CEQA lead agency is then required to provide such notification and consult with the tribe(s) if the tribe(s) requests consultation.

The provisions listed in AB 52 are applicable to projects that have a notice of preparation or a notice of negative declaration filed on or after July 1, 2015. By requiring the CEQA lead agency to consider the effects relative to tribal cultural resources and to conduct consultation with California Native American tribes, AB 52 imposes a state-mandated program. AB 52 requires the NAHC to provide each California Native American tribe, as defined, on or before July 1, 2016, with a list of all public agencies that may be a lead agency within a geographic area in which the tribe is traditionally or culturally affiliated; the contact information of those agencies; and information on how the tribe may request those public agencies to notify the tribe of projects within the jurisdiction of those public agencies for the purposes of requesting consultation. (OPR, 2017)

4.12.4 METHODOLOGY

A. Cultural Resources Study

The information in this subsection contains an evaluation of the Project’s potential impacts on tribal cultural resources. The majority of the analysis presented herein is based on information obtained from a Cultural Resource Records Search for the Project site and its immediate vicinity (EIR *Technical Appendix L*). The Cultural Resources Record Search included a records search at the South Central Coastal Information Center (SCCIC) at California State University (CSU), Fullerton and a search of the Sacred Lands File (SLF) of the Native American Heritage Commission (NAHC). The methodology for each component of the records search is described in further detail below.



1. *Records Search*

Brian F. Smith and Associates (BFSA) performed a records search at the SCCIC located at CSU Fullerton. The records search was conducted by the SCCIC and included the Project site and a 1.0-mile radius around the Project site. The results included relevant site-specific reports and local historic information, to the extent such information was available. Additionally, the Los Angeles County Assessor's files were consulted. Historical aerial photographs and historic topographic maps of the Project site and surrounding areas also were consulted (BFSA, 2018, p. iv).

2. *NAHC Sacred Lands File Search*

BFSA sent a request to the NAHC to search their Sacred Lands File (SLF) to determine whether their files contained any information relating to the presence of Native American cultural resources within the Project site. In response to the request, the NAHC performed a record search of the NAHC SLF and provided the search results to BFSA. The results of the NAHC SLF search are discussed in Subsection 4.12.6.

B. Native American Consultation (AB 52 and SB 18 Compliance)

As part of the mandatory AB 52 and SB 18 consultation process required by State law, the City of Irwindale sent notification of the proposed Project on April 3, 2018 to the Native American tribes with possible traditional or cultural affiliation to the area that previously requested consultation pursuant to AB 52 and SB 18 requirements. The City sent notifications of the proposed Project to the Gabrieleño Band of Mission Indians - Kizh Nation, Gabrieleño Band of Mission Indians Tongva San Gabriel, Gabrielino - Tongva Indians of California, Gabrielino - Tongva Nation, Gabrielino - Tongva Tribe, and the Soboba Band of Luiseño Indians. A summary of the tribal consultation process for this Project is provided under Threshold a.

4.12.5 BASIS FOR DETERMINING SIGNIFICANCE

Section XVIII of Appendix G to the CEQA Guidelines addresses typical adverse effects to tribal cultural resources and includes the following guidance related to the evaluation of a project's impacts on tribal cultural resources (OPR, 2018). The proposed Project would result in a significant impact to tribal cultural resources if the Project or any Project-related component would:

- a: *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in term of the size and scope of the landscape, sacred place, or object with cultural value to a California Native 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 §21074.1(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.

4.12.6 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 §21074 as either a site, feature, place, cultural landscape that is geographically defined in term of the size and scope of the landscape, sacred place, or object with cultural value to a California Native 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 §21074.1(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.

As part of the AB 52 and SB 18 consultation processes required by State law, the City of Irwindale sent notification of the proposed Project on April 3, 2018 to the Native American tribes with possible traditional or cultural affiliation to the area in accordance with Ab 52 and SB 18 requirements. The City did not receive responses from any of the Native American tribes that received the AB 52 and SB 18 notifications. As such, the City of Irwindale concluded the AB 52 and SB 18 consultation processes for the Project in December 2018. The City of Irwindale has completed mandatory compliance with Public Resources Code § 21074 associated with the environmental review of the proposed Project and no significant tribal cultural resources have been identified. Furthermore, the Project site has been completely disturbed by historical sand and gravel quarry operations and is currently undergoing reclamation via ongoing IDEFO activities; given the extensive level of surface and subsurface alteration that have taken place over the years of the mining activities and the ongoing reclamation process, the potential for discovery of tribal cultural resources during the fine grading and site preparation phases of the proposed Project is considered to be nil. Similarly, the Project's proposed off-site improvements would occur within existing roadway rights-of-way that are already heavily disturbed under existing conditions. Based on the foregoing, it was determined that the Project would result in no impacts associated with the significance of tribal cultural resources.

4.12.7 CUMULATIVE IMPACT ANALYSIS

This cumulative impact analysis considers development of the proposed Project and installation of the Project's off-site improvements in conjunction with other development projects and planned development within the central San Gabriel Valley region. Although other development projects in the region may impact tribal cultural resources, the Project would have no impact on tribal cultural resources and therefore would have no potential to have a cumulatively considerable impact on such



resources. Furthermore, other projects will also be required to comply with SB 18 and/or AB 52. Accordingly, the Project would result in a less-than-cumulatively impact with respect to tribal cultural resources.

4.12.8 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: No Impact. The Project site has been completely disturbed by historical sand and gravel quarry operations and is currently undergoing reclamation via ongoing IDEFO activities; therefore, the potential for discovery of tribal cultural resources during the fine grading and site preparation phases of the proposed Project is considered to be nil. Furthermore, the City did not receive responses from any of the Native American tribes with possible traditional or cultural affiliation to the area that the City sent notification of the proposed Project to on April 3, 2018 in accordance with AB 52 and SB 18 requirements. Therefore, the Project would have no impact with respect to tribal cultural resources.

4.12.9 MITIGATION MEASURES

The Project would have no impact. Therefore, mitigation is not required.



4.13 UTILITIES AND SERVICE SYSTEMS

This Subsection addresses the topics of water service and supply, wastewater collection and treatment, storm water conveyance facilities, and solid waste collection and disposal. The information concerning water supplies and the Project's estimated water demand is based in part on information contained in the Water Supply Assessment (WSA) for The Park @ Live Oak [dated September 13, 2017] prepared by Water Systems Consulting, Inc. A copy of the WSA is provided as *Technical Appendix J1* to this EIR. The analysis contained in this Subsection is also based in part on information obtained from the Project's Groundwater Well Technical Memorandum (EIR *Technical Appendix J2*), Preliminary Hydrology Report (EIR *Technical Appendix G1*), and Sewer Area Study (EIR *Technical Appendix J3*), the City of Irwindale Municipal Code (City of Irwindale, 2018), the 2015 Urban Water Management Plan (UWMP) for the California-American Water (CAW) Southern Division - Los Angeles County District (CAW, 2015), and the California Department of Resources Recycling and Recovery (CalRecycle) website (CalRecycle, 2018a).

4.13.1 EXISTING CONDITIONS

A. Water Service

The Project site is a former sand and gravel quarry that is under an active reclamation process involving an Inert Debris Engineered Fill Operation (IDEFO). An IDEFO is a fill operation where inert debris is being placed into the quarry to raise it to natural grade, on which an end use can be developed. Water is supplied to the IDEFO, mostly for dust suppression purposes and maintaining required fill moisture content, by an on-site water well.

The majority of the Project site is located within the California American Water's (CAW) Duarte water service area. CAW's Southern Division - Los Angeles County District consists of the Baldwin Hills, Duarte, and San Marino water service areas. The water systems within these three service areas are not interconnected with each other and have independent water supplies. All three service areas of the Los Angeles County District are located in Los Angeles County, California. In 2017, the Los Angeles County District provided water to 28,060 connections and served a population of approximately 102,568 people. In 2017, this population made up 1% of the Los Angeles County population. Figure 4-1 of the WSA (EIR *Technical Appendix G1*) depicts the locations of all three of CAW's service areas in Los Angeles County. (WSC, 2018a, p. 9)

The Project site is located almost entirely within CAW's Duarte water service area, which is shown in Figure 4-2 of the WSA (EIR *Technical Appendix G1*). The Duarte water service area encompasses approximately 6,459 acres and is located approximately 20 miles northeast of downtown Los Angeles. The Duarte water service area spans both sides of Interstate 210 (I-210) immediately west of the Interstate 210/ Interstate 605 (I-605) freeway interchange. The San Gabriel River runs along the eastern border of the Duarte water service area. In 2017, CAW's Duarte water service area provided water to 7,470 customers in the cities of Azusa, Bradbury, Duarte, Irwindale, and Monrovia. CAW served approximately 29,160 people in the Duarte water service area in 2017. (WSC, 2018a, p. 9)



B. Water Supply

According to the Project’s WSA (EIR *Technical Appendix G1*), the current and future water supplies for the Duarte service area consist of groundwater from the Main San Gabriel Basin (MSGB), surface water, and wholesale purchases. Groundwater is the primary source of supply, with the amount of demand that is not met by groundwater allocations met by surface water diversion, and by purchasing replacement water (also known as supplemental water) for indirect offset of over-pumping groundwater in MSGB.

Historically, CAW has been able to supply 100% of its demand in the Duarte service area through its groundwater and surface water sources. CAW has historically exceeded its groundwater allocation in the MSGB and made up for the overproduction by purchasing replacement water from the Upper San Gabriel Valley Municipal Water District (Upper District). The use of surface water for non-potable irrigation is expected to be discontinued by 2020. Total historic and projected water supplies within the Duarte Service Area are shown in Table 4.13-1, *Duarte Service Area Water Supplies - Historic and Projected (Acre-Foot/Year)*, and the following subsections describe historic and projected supplies of each water source in further detail.

Table 4.13-1 Duarte Service Area Water Supplies - Historic and Projected (Acre-Foot/Year)

Water Supply Sources	2015 ¹	2020	2025	2030	2035
Duarte					
Groundwater – MSGB ²	2,770	2,770	2,770	2,770	2,770
Surface Water/MSGB ²	1,246	1,672	1,672	1,672	1,672
Surface Water for Irrigation ³	426	-	-	-	-
Upper District Replacement Water ⁴	987	2,241	2,375	3,065	3,272
Total	5,429	7,099	7,312	7,506	7,713

¹ The supplies from 2015 are based on actual production and purchases.

² For more information on the MSGB allocation see Section 6.1.1.1.

³ For more information on MSGB Surface Water see Section 6.1.2. The irrigation system provides non-potable water from a surface water supply and CAW is in the process of retiring the irrigation system. The full allocation of 1,672 AFY will be utilized per CAW’s status as an integrated producer within the MSGB.

⁴ The amount of demand in each year not met by the allocations in the MSGB is assumed to be pumped from the MSGB and untreated replacement water will be purchased from MWD through Upper District. For more information, see Section 6.1.3.

Source: (WSC, 2018a, Table 6-6)

2. Groundwater

As previously stated, groundwater is the primary source of supply for CAW’s Duarte service area. Projected groundwater supplies are determined by CAW’s stipulated allocation as an Integrated Producer as well as CAW’s ability to pump beyond their allocation in the MSGB. The Duarte service area overlies the MSGB, which is an unconfined aquifer that provides up to 90 billion gallons of



groundwater annually to San Gabriel Valley's 1.4 million residents. The total surface area of the MSGB is 167 square miles, and the MSGB contains approximately 2.8 trillion gallons of groundwater. Figure 4.7-1, *Groundwater Basins*, depicts the MSGB, which is bound by the San Gabriel Mountains to the north with smaller hills (including San Jose, Puente, Merced, and Repetto) forming the basin's easterly, southerly, and southwesterly boundaries. (WSC, 2018a, p. 21)

The amount of water that parties of the MSGB Judgment (Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., Los Angeles County Case No. 924128, Judgment entered January 4, 1973) may extract from the MSGB is not restricted, but the MSGB Judgment provides a means for replacing all annual extractions in excess of a Party's annual right with Supplemental Water. If a producer extracts water in excess of its portion of the annual Operating Safe Yield (OSY), it must pay a Replacement Water assessment, which is be used by the MSGB Watermaster to purchase Supplemental Water through three Responsible Agencies: Upper District, San Gabriel Valley Municipal Water District, and Three Valleys Municipal Water District. (WSC, 2018a, p. 21)

The MSGB Watermaster's Five-Year Water Quality and Supply Plan 2017-2018 to 2021-2022 serves as the groundwater management plan for the MSGB and is attached as Appendix B to the WSA (EIR *Technical Appendix G1*). For the purposes of supply projection, it is assumed that CAW's MSGB groundwater allocation will be equal to 1.84634% of the annually adopted OSY, which is set each year based on the hydrologic conditions of the MSGB. The OSY for Fiscal Year (FY) 2017/18-2021/22 has been adopted by the MSGB Watermaster and is 150,000 acre-feet per year (AFY) in FY 2017/18 and 130,000 AFY from FY 2018/19 to 2021/22. For the purposes of supply projection, the 10-year average OSY (FY 2012/13 to 2021/22) of 154,000 AFY is used for all subsequent years and as the average year, as shown in Table 4.13-2, *Main San Gabriel Basin OSY and CAW Allocations (AFY)*. Table 4.13-3, *Volume of Groundwater Pumped within the Duarte Service Area (AFY)*, shows the volume of groundwater that has been pumped from the MSGB within the Duarte Service Area since 2011, and Table 4.13-4, *Volume of Groundwater Projected to be Pumped within the Duarte Service Area (AFY)*, shows the volume of groundwater that is projected to be pumped from the MSGB within the Duarte Service Area through 2035. (WSC, 2018a, pp. 22-24)



Table 4.13-2 Main San Gabriel Basin OSY and CAW Allocations (AFY)

Calendar Year ¹	MSGB Operating Safe Yield	CAW Allocation (1.84634%)
CY 2004	170,000	3,139
CY 2005	205,000	3,785
CY 2006	240,000	4,431
CY 2007	225,000	4,154
CY 2008	195,000	3,600
CY 2009	175,000	3,231
CY 2010	170,000	3,139
CY 2011	190,000	3,508
CY 2012	205,000	3,785
CY 2013	190,000	3,508
CY 2014	165,000	3,046
CY 2015	150,000	2,770
CY 2016	150,000	2,770
CY 2017	150,000	2,770
CY 2018	140,000	2,585
CY 2019	130,000	2,400
CY 2020	130,000	2,400
CY 2021	130,000	2,400
10-Year Average (FY 12/13-FY 21/22)	154,000	2,770

¹ Based on Fiscal Year (FY) Operating Safe Yields from the *Five-Year Water Quality and Supply Plan 2017-2018 to 2021-2022* (15) Calendar year (CY) values calculated based on half of the previous FY plus half the subsequent FY.

Source: (WSC, 2018a, Table 6-1)

Table 4.13-3 Volume of Groundwater Pumped within the Duarte Service Area (AFY)

Basin Name	2011	2012	2013	2014	2015	2016	2017
MSGB	6,054	6,475	5,868	6,285	5,002	5,040	5,651
Groundwater as a percent of total water supply	94%	95%	86%	93%	92%	92%	96%

Source: (WSC, 2018a, Table 6-2)



Table 4.13-4 Volume of Groundwater Projected to be Pumped within the Duarte Service Area (AFY)

Basin Name ¹	2020	2025	2030	2035
MSGB	7,099	7,312	7,506	7,713
Groundwater as a percent of total water supply	100%	100%	100%	100%

¹ For more information on how these values were calculated, see Section 6.1. Includes Project additional demand.

Source: (WSC, 2018a, Table 6-3)

3. Surface Water

CAW is permitted to divert surface water from the San Gabriel River at a fixed annual allocation of 1,672 AFY. Historically, the surface water has been diverted from the San Gabriel River located in the San Gabriel watershed. Surface water that is released from the San Gabriel Reservoir is delivered through a weir located adjacent to the City of Pasadena power plant and water from Morris Reservoir is diverted directly from the San Gabriel River. Water from both sources is intercepted by CAW’s infrastructure and flows by gravity to the Woodlyn Lane and Lemon Irrigation reservoirs to supply Duarte’s irrigation system. (WSC, 2018a, p. 24)

4. Wholesale Water

CAW obtains wholesale water from the Upper District, which is a member agency of the Metropolitan Water District (MWD). MWD acquires water from the Colorado River Aqueduct and the California State Water Project (SWP) and distributes treated and untreated water to its member agencies. Untreated water from Upper District is used indirectly for groundwater replacement in the MSGB. The total current and projected supply from Upper District is shown in Table 4.13-5, *Current and Projected Wholesale Supplies (AFY)*, and is equal to the difference in projected demand and groundwater plus surface water allocations. (WSC, 2018a, p. 25)

Table 4.13-5 Current and Projected Wholesale Supplies (AFY)

	2015	2020	2025	2030	2035
Upper District Replacement Water¹	987	2,657	2,870	3,065	3,272

¹ For more information on how these values were calculated, see Section 6.1. Includes Project additional demand.

Source: (WSC, 2018a, Table 6-4)

Water producers within the MSGB are subject to the terms of the MSGB Judgment. Per the MSGB Judgment (refer to Appendix A of the WSA [EIR *Technical Appendix GI*]), parties are allowed to exceed their portion of the OSY, provided they pay an assessed replacement fee to the MSGB Watermaster. For more information regarding MSGB allocations and replacement water, refer to Section 6.1.1.1 of the WSA (EIR *Technical Appendix GI*). Most years, the MSGB is over-pumped



because total demand from the various producers, including CAW, exceeds the available OSY established by the Watermaster. The Watermaster uses the funds generated from the replacement fees to purchase replacement water from Responsible Agencies that have access to supplemental water. The authorized Responsible Agency for CAW is the Upper District, which purchases untreated water from MWD as Replacement Water that is delivered to spreading grounds to replenish the aquifer. The projected water supply for Upper District is shown in Table 4.13-6, *Upper District Projected Average Year Water Supply (AFY)*. (WSC, 2018a, p. 25)

Table 4.13-6 Upper District Projected Average Year Water Supply (AFY)

Upper District Sources	2015	2020	2025	2030	2035
Surface Water-Treated ¹	9,069	11,436	10,351	9,441	9,288
Surface Water-Untreated ²	39,841	42,000	42,000	42,000	42,000
Recycled Water	0	18,984	19,896	20,332	20,731
Supply Totals	51,499	72,420	72,247	71,773	72,019
Demand Totals	51,499	56,821	56,086	55,261	55,228
Difference	0	15,599	16,161	16,512	16,791

Source: Table Adapted from Upper District Final 2015 UWMP, Table 6-8, 6-9 and 7-2 (14)
¹ Upper District Receives treated imported water from MWD
² Upper District receives untreated imported surface water from MWD for groundwater replenishment

Source: (WSC, 2018a, Table 6-5)

C. Wastewater Service and Treatment

Under existing conditions, the Project site operates as an IDEFO, and is not developed with uses or structures that generate wastewater that discharges to the domestic sanitary sewer system. The nominal amounts of wastewater produced by the IDEFO operations are collected using portable systems and transported off-site. The Project site is located within the jurisdictional boundaries of District No. 22 of the Los Angeles County Sanitation Districts (LACSD). The LACSD is a partnership of 24 independent special districts that serve the wastewater and solid waste management needs of approximately 5.5 million people in Los Angeles County. The LACSD's service area covers approximately 824 square miles and encompasses 78 cities and unincorporated territory within the County. The LACSD operates ten (10) water reclamation plants (WRPs) and one ocean discharge facility (Joint Water Pollution Control Plant), which treat approximately 510 million gallons per day (mgd), 165 mgd of which are available for reuse. The capacities at these facilities range from 0.2 mgd (La Cañada WRP) to 400 mgd (Joint Water Pollution Control Plant); the San Jose Creek WRP is the largest of the water reclamation plants with a capacity of 100 mgd and an average flow of 64.1 mgd. Wastewater generated at the Project site would be conveyed to the San Jose Creek WRP, with biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP diverted to and treated at the Joint Water Pollution Control Plan in the City of Carson. The Joint Water Pollution Control Plan in the City of Carson has a design capacity of 400 mgd and currently produces an average flow of 263.4 mgd. (LACSD, 2019, pp. 3-4; Raza, 2018)



As previously shown on Figure 3-4, *Conceptual Sanitary Sewer Plan*, the following sewer lines owned and operated by the City of Irwindale exist within the immediate vicinity of the Project site:

- 15-inch sewer line in the segment of Arrow Highway that fronts portions of the northwesterly Project site boundary which conveys wastewater to the west.
- A 15-inch sewer line in Live Oak Avenue located southwest of the intersection with Arrow Highway which conveys wastewater to the northwest.
- A 21-inch sewer line in Live Oak Avenue that conveys wastewater to the west.

Wastewater generated in the Project area is conveyed by the City of Irwindale sanitary sewer system to the LACSD Joint Outfall B Unit 8G Trunk Sewer, which is located in Live Oak Avenue at Myrtle Avenue. The LACSD Joint Outfall B Unit 8G Trunk Sewer currently has a capacity of 4.2 mgd and conveyed a peak flow of 1.5 mgd when last measured in 2012. As discussed above, wastewater generated within the Project area would ultimately be conveyed to the San Jose Creek WRP and the Joint Water Pollution Control Plan in the City of Carson. (D&D Engineering, 2018b, pp. 2-4)

D. Storm Water Conveyance Facilities

Under existing conditions, the Project site is under an active reclamation process and lacks impervious surfaces that would generate large amounts of runoff during a rainstorm. Furthermore, the Project site does not currently contain any storm water management facilities such as storm water conveyance lines or water quality basins. The majority of storm water runoff generated on the Project site under existing conditions is contained within the Project site and infiltrates on-site in accordance with the current SWPPP applicable to the IDEFO activities at the site (DEA, 2017), with the exception of the southwest corner of the site where storm water flows in a southerly direction into the existing public storm drain system located in Live Oak Avenue. The Preliminary Hydrology Report (EIR *Technical Appendix GI*) calculated existing storm water flows generated on the Project site, which is summarized and discussed below in the response to Threshold c. (D&D Engineering, 2019, pp. 3-4)

E. Solid Waste Collection and Disposal

The ongoing reclamation activities at the Project site generally do not generate solid or liquid wastes that require landfill disposal, since the materials that are placed as inert fill material at the site have been pre-screened in accordance with the requirements of the IDEFO's Operations Plan and approved Grading Permit No. 05061504220003. There are no portable or temporary buildings on the Project site other than construction trailers and portable toilets, and no activities that could generate a measurable amount of solid waste. The nearest municipal landfill to the Project site is the Puente Hills Materials Recovery Facility (MRF) located in the City of Industry approximately 6.0 miles south of the Project site. The Puente Hills MRF processes waste collected in the City of Irwindale prior to disposal in the landfills and is discussed in further detail below. The Puente Hills Landfill is also located approximately 6.0 miles south of the Project site, but does not accept solid waste; however, according to the LACSD, the Puente Hills Landfill has the capacity to accept all soil dumps until otherwise noted (LACSD, n.d.). Other landfills available to serve solid waste generated in the City of Irwindale are the City of Agoura Hills, the Scholl Canyon Landfill in the City of Glendale, and the Mesquite Regional Landfill in Imperial County. LACSD is in the process of completing a waste-to-



rails system to transport waste to the Mesquite Regional Landfill that involves transfer stations and intermodal rail yards. The LACSD landfill facilities have sufficient permitted capacity to accommodate solid waste disposal needs collected in its service area, as described below.

- **Puente Hills Materials Recovery Facility, City of Industry.** The Puente Hills MRF is located in the City of Industry and is the nearest landfill to the proposed Project site. This is a large volume transfer/processing facility. This MRF does not have a cease operation date but it does have a maximum throughput of 4,400 tons per day. (CalRecycle, 2018b)
- **Calabasas Sanitary Landfill, City of Agoura Hills.** The Calabasas Landfill is located in the City of Agoura Hills. This landfill is anticipated to cease operation in January 2029. This landfill has a remaining capacity of 14,500,000 cubic yards as of December 2014 and has a maximum throughput of 3,500 tons per day. (CalRecycle, 2018c)
- **Scholl Canyon Landfill, City of Glendale.** The Scholl Canyon Landfill is located in the City of Glendale. This landfill is anticipated to cease operation in April 2030. This landfill has a remaining capacity of 9,900,000 cubic yards as of April 2011 and has a maximum throughput of 3,400 tons per day. (CalRecycle, 2018d)
- **Mesquite Regional Landfill, Imperial County.** The Mesquite Regional Landfill is located in Imperial County. This landfill is anticipated to cease operation in 2122. This landfill has a remaining capacity of 1,100,000,000 cubic yards as of March 2011, and is permitted to handle up to 20,000 tons of solid waste per day. (CalRecycle, 2018e)

4.13.2 APPLICABLE ENVIRONMENTAL REGULATIONS

The following is a brief description of the federal, State, and local environmental laws and related regulations related to utilities and service systems.

A. Federal Regulations

1. Applicable Water Supply Regulations

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 significantly 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, 2017f)

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. The Act authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with these primary (health-related) standards. The 1996 amendments to SDWA require that EPA consider a detailed risk and cost assessment, and best available peer-reviewed science, when developing these standards. State governments, which can be approved to implement these rules for EPA, also encourage attainment of secondary standards (nuisance-related). Under the Act, EPA also establishes minimum standards for state programs to protect underground sources of drinking water from endangerment by underground injection of fluids. (EPA, 2017e)

B. State Regulations

1. Applicable Water Supply Regulations

Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act was established to ensure adequate water supplies are available for future uses. To promote the conservation and efficient use of water, the Act requires local agencies to adopt a water efficient landscape ordinance. When such an ordinance had not been adopted, a finding as to why (based on the climatic, geologic, or topographical conditions) such an ordinance is not necessary, must be adopted. In the absence of such an ordinance or findings, the policies and requirements contained in the “model” ordinance drafted by the State of California shall apply within the affected jurisdiction.

Water Recycling in Landscaping Act

In 2000, Senate Bill 2095 (Water Recycling in Landscaping Act) was approved by Governor Davis requiring any local public or private entity that produces recycled water and determines that within 10 years it will provide recycled water within the boundaries of a local agency, to notify the local agency of that fact. In turn, local agencies are required to adopt and enforce within 180 days a specified recycled water ordinance, unless the local agency adopted a recycled water ordinance or other regulation requiring the use of recycled water in its jurisdiction prior to January 1, 2001. (DWR, 2004)

Urban Water Management Planning Act

The Urban Water Management Planning Act (UWMP Act) was proposed and adopted to ensure that water planning is conducted at the local level, as the State of California recognized that two water agencies in the same region could have very different impacts from a drought. The UWMP Act requires water agencies to develop Urban Water Management Plans (UWMPs) over a 20-year planning



horizon, and further required UWMPs to be updated every five years. UWMPs are exempt from compliance with CEQA. (DWR, 2016a, p. 1-2)

The UWMPs provide a framework for long term water planning and inform the public of a supplier's plans for long-term resource planning that ensures adequate water supplies for existing and future demands. This part of the California Water Code (CWC) requires urban water suppliers to report, describe, and evaluate:

- Water deliveries and uses;
- Water supply sources;
- Efficient water uses;
- Demand management measures; and
- Water shortage contingency planning. (DWR, 2016a, p. 1-3)

The UWMP Act has been modified over the years in response to the State's water shortages, droughts, and other factors. A significant amendment was made in 2009, after the drought of 2007-2009 and as a result of the governor's call for a statewide 20 percent reduction in urban water use by the year 2020. This was the Water Conservation Act of 2009, also known as SB X7-7. This Act required agencies to establish water use targets for 2015 and 2020 that would result in statewide savings of 20 percent by 2020. Beginning in 2016, retail water suppliers are required to comply with the water conservation requirements in SB X7-7 in order to be eligible for State water grants or loans. Retail water agencies are required to set targets and track progress toward decreasing daily per capita urban water use in their service area, which will assist the State in meeting its 20 percent reduction goal by 2020. (DWR, 2016a, p. 1-2)

Government Code § 66473.7(b)(2) (Senate Bill 221)

Under Senate Bill (SB) 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. SB 221 is intended as a 'fail safe' mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins. SB 221 requires the legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove a tentative map, must include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply must be requested by the subdivision applicant or local agency, at the discretion of the local agency, and is based on written verification from the applicable public water system within 90 days of a request. SB 221 does not apply to any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households. (DWR, 2003)



California Senate Bill 610

The California Water Code (Water Code) §§ 10910 through 10915 were amended by the enactment of SB 610 in 2002. SB 610 requires an assessment of whether available water supplies are sufficient to serve the demand generated by a proposed project, as well as the reasonably foreseeable cumulative demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions. Under SB 610, water assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to CEQA. (DWR, 2003) For the purposes of SB 610, “project” means any of the following:

- (1) A proposed residential development of more than 500 dwelling units.
- (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- (4) A proposed hotel or motel, or both, having more than 500 rooms.
- (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- (6) A mixed-use project that includes one or more of the projects specified in this subdivision.
- (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project. (DWR, 2003)

The Project proposes a Specific Plan that would provide for the construction of up to 1,550,000 s.f. of Industrial/Business Park and Commercial/Industrial building space, including a required minimum of 15,000 s.f. of commercial building space and up to a maximum of 98,600 s.f. of commercial building space. In accordance with Section 10912 (a)(5) of the California Water Code, a proposed industrial, manufacturing, processing plant, or industrial park planned to employ more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area must have a water supply assessment (WSA). As a result, a water supply assessment was required and is included as EIR *Technical Appendix J1*. As discussed in greater detail below, the Project’s WSA determined that adequate water supplies exist to serve the Project as it is proposed.

CA. Water Code § 10610 et seq. (Senate Bill 901)

Signed into law on October 16, 1995, Senate Bill (SB) 901 required every urban water supplier to identify as part of its urban water management plan, the existing and planned sources of water available to the supplier over a prescribed 5-year period. The code requires the water service purveyor to assess the projected water demand associated with a proposed project under environmental review. Later provisions of SB 901 required compliance in the event that the proposed Project involved the adoption of a specific plan, amendment to, or revision of the land use element of a general plan or specific plan that would result in a net increase in the state population density. Upon completion of the water assessment, cities and counties may agree or disagree with the conclusions of the water service



purveyors, but cannot approve projects in the face of documented water shortfalls without first making certain findings.

Executive Order B-29-15

Executive Order (EO) B-29-15 ordered the State Water Resources Control Board (SWRCB) to impose restrictions to achieve a 25-percent reduction in potable urban water usage through February 28, 2016; directed the California Department of Water Resources (DWR) to lead a statewide initiative, in partnership with local agencies, to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes; and directed the California Energy Commission to implement a statewide appliance rebate program to provide monetary incentives for the replacement of inefficient household devices. (DWR, 2017a)

Executive Order B-37-16

Signed on May 9, 2016, EO B-37-16 established a new water use efficiency framework for California. The order bolstered the state's drought resilience and preparedness by establishing longer-term water conservation measures that include permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating clearly wasteful practices, strengthening urban drought contingency plans, and improving agricultural water management and drought plans. (DWR, 2017a)

Executive Order B-40-17

Signed on April 7, 2017, EO B-40-17 ended the drought state of emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne, where emergency drinking water projects will continue to help address diminished groundwater supplies. It maintains water reporting requirements and prohibitions on wasteful practices. The order was built on actions taken in Executive Order B-37-16, which remains in effect. In a related action, state agencies, including the Department of Water Resources (DWR), released a plan to continue making water conservation a way of life. (DWR, 2017a)

Sustainable Groundwater Management Act (SGMA)

The Sustainable Groundwater Management Act (SGMA) established a new structure for managing California's groundwater resources at a local level by local agencies. SGMA required, by June 30, 2017, the formation of locally-controlled groundwater sustainability agencies (GSAs) in the State's high- and medium-priority groundwater basins and subbasins (basins). A GSA is responsible for developing and implementing a groundwater sustainability plan (GSP) to meet the sustainability goal of the basin to ensure that it is operated within its sustainable yield, without causing undesirable results. The GSP Emergency Regulations for evaluating GSPs, the implementation of GSPs, and coordination agreements were adopted by DWR and approved by the California Water Commission on May 18, 2016. (DWR, 2017b)



2. *Applicable Solid Waste Regulations*

California Solid Waste Integrated Waste Management Act (AB 939, 1989)

The Integrated Waste Management Act (IWMA) established an integrated waste management hierarchy to guide the California Integrated Waste Management Board (CIWMB) and local agencies in implementation, in order of priority: (1) source reduction, (2) recycling and composting, and (3) environmentally safe transformation and land disposal (it should be noted that the CIWMB no longer exists, and its duties have been assumed by CalRecycle). As part of the IWMA, the CIWMB was given a purpose to mandate the reduction of disposed waste. (CalRecycle, 1997a) The IWMA also required:

- The establishment of a task force to coordinate the development of city Source Reduction and Recycling Elements (SRREs) and a countywide siting element. (CalRecycle, 1997a)
- Each city, by July 1, 1991, to prepare, adopt and submit a SRRE to the county which includes the following components: waste characterization; source reduction; recycling; composting; solid waste facility capacity; education and public information; funding; special waste (asbestos, sewage sludge, etc.); and household hazardous waste. (CalRecycle, 1997a)
- Each county, by January 1, 1991, to prepare a SRRE for its unincorporated area, with the same components described above, and a countywide siting element, specifying areas for transformation or disposal sites to provide capacity for solid waste generated in the jurisdiction which cannot be reduced or recycled for a 15-year period.
- Each county to prepare, adopt, and submit to the Board an Integrated Waste Management Plan (IWMP), which includes all of the elements described above. (CalRecycle, 1997a)
- Each city or county plan to include an implementation schedule which shows: diversion of 25 percent of all solid waste from landfill or transformation facilities by January 1, 1995 through source reduction, recycling, and composting activities; and, diversion of 50 percent of all solid waste by January 1, 2000 through source reduction, recycling, and composting activities. (CalRecycle, 1997a)
- The CIWMB to review the implementation of each SRRE at least once every two years. (CalRecycle, 1997a)
- The IWMA required the CIWMB, in conjunction with an inspection conducted by a Lead Enforcement Agency (LEA), to conduct at least one inspection per year of each solid waste facility in the state. (CalRecycle, 1997a)

Additionally, the IWMA established a comprehensive statewide system of permitting, inspections, enforcement, and maintenance for solid waste facilities. (CalRecycle, 1997a)



Waste Reuse and Recycling Act (AB 1327)

The Waste Reuse and Recycling Act (WRRRA) required the CIWMB to approve a model ordinance for adoption by any local government for the transfer, receipt, storage, and loading of recyclable materials in development projects by March 1, 1993. The WRRRA also required local agencies to adopt a local ordinance by September 1, 1993 or allow the model ordinance to take effect. The WRRRA requires all development projects that are commercial, industrial, institutional, or marina in nature and where solid waste is collected and loaded, to provide an adequate area for collecting and loading recyclable materials over the lifetime of the project. The area is required to be provided before building permits are issued. (CalRecycle, 1997b)

Mandatory Commercial Recycling Program (AB 341)

Assembly Bill (AB) 341 (Chapter 476, Statutes of 2011 [Chesbro, AB 341]) directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. CalRecycle initiated formal rulemaking with a 45-day comment period beginning Oct. 28, 2011. The final regulation was approved by the Office of Administrative Law on May 7, 2012. AB 341 was designed to help meet California's recycling goal of 75% by the year 2020. AB 341 requires all commercial businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. In addition, multi-family apartments with five or more units are also required to form a recycling program. (CalRecycle, 2017)

2016 California Green Building Standards Code (CAL Green; Part 11 of Title 24, California Code of Regulations)

CALGreen became effective January 1, 2017, and is applicable to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout the State of California (including residential structures and elementary schools). § 5.408.3 of CALGreen requires that 100 percent of trees, stumps, rocks, and associated vegetation and soils resulting from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on-site until the storage site is developed.

C. Local Regulations

CAW 2015 Urban Water Management Plan

The Urban Water Management Planning Act requires every "urban water supplier" to prepare and adopt an Urban Water Management Plan (UWMP) and periodically update the plan at least once every five years. The current CAW UWMP was adopted in 2015. The UWMP identifies historic and projected water supplies available to District's service area; existing and projected water demand; available water rights; and programs to meet demand during an average year, single-dry year, and multiple-dry years. The UWMP is the foundational document for compliance with both California Water Code Sections from SB 610 and SB 221 for projects in the District. The CAW water supply sources include groundwater rights in the Main San Gabriel Basin. The UWMP is herein incorporated by reference, and available at the website cited in EIR Section 7.0, *References*. (CAW, 2015)



4.13.3 BASIS FOR DETERMINING SIGNIFICANCE

Section XIX of Appendix G to the CEQA Guidelines addresses typical adverse effects to utilities and service systems, and includes the following thresholds to evaluate a project's impacts on utilities and service systems (OPR, 2018). The Project would be considered to have a significant impact associated with utilities and service systems if the Project or any Project-related components would:

- a. *Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; or*
- b. *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;*
- c. *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;*
- d. *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or*
- e. *Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste.*

4.13.4 IMPACT ANALYSIS

Threshold a: *Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental effects?*

A. Water and Water Treatment Facilities

Water demand associated with the proposed Project would consist of interior plumbing devices (i.e., sinks, toilets, faucets), outdoor landscape irrigation, and various industrial process systems. Water service would be provided to the Project site by CAW. As was previously illustrated on Figure 3-3, *Conceptual Water Plan*, the Project proposes to connect to an existing off-site CAW pipeline located within Buena Vista Street approximately 0.4 mile north of the Project site. In order to connect to the existing CAW pipeline in Buena Vista Street, the Project proposes to construct a 16-inch water main in Avenida Barbosa extending north from the northerly Project site boundary to Buena Vista Street, and continuing northeasterly in Buena Vista Street to the proposed point of connection with the existing CAW pipeline in Buena Vista Street. The Project would also upsize approximately 1,450 linear feet of an existing 8-inch CAW pipeline located in Buena Vista Street (approximately 0.6 mile north of the Project site) to a 12-inch pipeline. The Project would also install a water main through the Project site that would convey domestic water to the future building users via a proposed network of private water



lines installed within the Project site. The location of water line stub-outs to the future buildings within The Park @ Live Oak would be determined based on the design of future implementing projects. Additionally, a 12-inch water main is proposed to be installed as part of the Project in Arrow Highway and Live Oak Avenue along the Project site's frontages with these rights-of-way that would connect to a proposed on-site 12-inch water main located along the easterly Project site boundary. As noted on Figure 3-3, the proposed on-site private 12-inch water main and 12-inch public water main in Arrow Highway and Live Oak Avenue may not be required if domestic water could instead be obtained from a private loop system utilizing the private 16-inch water main proposed in Private Drive A. In addition, as shown on Figure 3-3, the construction of a water supply well is proposed on-site at one of three potential locations along the northwesterly portion of the Project site.

The construction of the proposed water plan improvements described above has the potential to cause environmental effects associated with short-term air pollutant emissions, noise, and traffic movement disruptions and are an inherent part of the Project's construction process. All water utility construction work that occurs within a public street right of way must adhere to the construction control practices that reduce impacts that are specified in the State of California Department of Transportation Construction Manual, dated July 2017, published by Caltrans (Caltrans, 2017). Environmental impacts associated with the construction of the proposed on-site and off-site water lines and the on-site water supply well needed to serve the Project are evaluated throughout this EIR. Additionally, the potential impacts of the proposed on-site water supply well to groundwater supplies and water quality are addressed in EIR Subsection 4.7, *Hydrology and Water Quality*, and the Groundwater Well Technical Memorandum (EIR *Technical Appendix J2*). Where significant impacts are identified, feasible and enforceable mitigation measures are imposed on the Project to reduce impacts to the maximum practical effect. There are no unique impacts associated with the installation of water infrastructure to serve the Project, and impacts would be less than significant.

While the Project would result in an incremental increase in demand for water treatment capacity, the Project's water demand would not result in or require new or expanded water treatment facilities beyond those facilities that are already planned as part of the 2015 CAW UWMP. A WSA was prepared for the Project to evaluate the CAW's projected supplies and demands and is included as EIR *Technical Appendix G1*. As concluded by the Project's WSA:

"This WSA concludes that CAW's total projected water supplies available during average, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand for the Project, in addition to CAW's existing and planned future uses, provided that CAW's groundwater production capacity in MSGB is increased to provide the ability to access these supplies." (WSC, 2018a, p. 39)

As previously discussed, a groundwater supply well would be installed as part of the Project on the northwesterly portion of the Project site which would also supply water to the City of Hope Specific Plan expansion project, which is located approximately 1.0 mile north of the Project site in the City of Duarte. In order to provide both the Project and the City of Hope Specific Plan project with adequate water supply, the capacity of the proposed on-site groundwater supply well is anticipated to be up to



1,500 gallons per minute (gpm). As concluded in the WSA (EIR *Technical Appendix G1*) and discussed in further detail below within the response to Threshold d, with installation of the proposed on-site groundwater supply well, CAW's total projected water supplies available during average, single dry, and multiple dry water years during a 20-year projection would meet the projected water demand for the Project. Accordingly, the Project would not require any additional water or water treatment facilities beyond those which are inherent to the proposed Project and described and analyzed throughout this EIR. Impacts unique to the installation of water infrastructure would be less than significant.

B. Wastewater Treatment Facilities

As was previously shown in Figure 3-4, *Conceptual Sanitary Sewer Plan*, wastewater generated by the Project would be conveyed to existing City of Irwindale sewer lines located in Live Oak Avenue and Arrow Highway adjacent to the Project site via proposed lateral sewer connections. As discussed in the Project's Sewer Area Study (EIR *Technical Appendix J3*), the Project's wastewater would be conveyed by these existing sewer lines in a westerly direction to the LACSD Joint Outfall B Unit 8G Trunk Sewer located at the intersection of Live Oak Avenue and Myrtle Avenue. The Project's Sewer Area Study (EIR *Technical Appendix J3*) included a sewer pipe capacity analysis which concluded the existing sewer pipes and the LACSD Joint Outfall B Unit 8G Trunk Sewer have adequate available capacity to accommodate wastewater generated by the Project. (D&D Engineering, 2018b, p. 4)

Installation of sewer lateral connections for the Project that would occur within a public street right of way must adhere to the construction control practices that reduce impacts that are specified in the State of California Department of Transportation Construction Manual, dated July 2017, published by Caltrans (Caltrans, 2017). The composition of wastewater generated by the Project would be similar to composition of wastewater generated within homes, small businesses, offices, retail shops, etc. and would not require any alterations to the LACSD wastewater treatment requirements or to their treatment facilities. Impacts associated with the construction of the proposed sewer lateral connections are an inherent part of the Project's construction process and environmental effects associated with the Project's construction phase have been evaluated throughout this EIR. Mitigation measures have been identified to reduce construction-related impacts to the maximum feasible extent, and there are no environmental impacts attributable solely to the Project's sewer connections. Impacts would be less than significant.

Wastewater generated at the Project site ultimately would be conveyed to the San Jose Creek Water Reclamation Plant, which has a design capacity of 100 mgd and currently processes an average flow of 64.1 mgd. All biosolids and wastewater flows that would exceed the capacity of the San Jose Creek WRP would be diverted to and treated at the Joint Water Pollution Control Plant in the City of Carson. According to the Project's Sewer Area Study (EIR *Technical Appendix J3*), the Project would generate 0.81 mgd of wastewater. Given the remaining capacity of the San Jose Creek WRP is 35.9 mgd (design capacity of 100 mgd – 64.1 mgd = 35.9 mgd), the San Jose Creek WRP would be able to adequately accommodate the Project's contribution of 0.81 MGD of wastewater. As such, no improvements to any City of Irwindale or LACSD facilities would be required to ensure sewer service to the Project



site. As mentioned above, construction of the sewer lateral connections is inherent as part of the Project's construction impacts, which are analyzed throughout this EIR, therefore impacts would be less than significant.

C. Storm Water Drainage Facilities

The Project would involve the construction of storm water drainage facilities on-site, including water quality basins, storm drain pipes, and catch basins. The construction of storm water drainage facilities proposed by the Project would result in physical impacts to the surface and subsurface of the Project site, as well as physical impacts within the Live Oak Avenue right of way. These impacts are considered to be part of the Project's construction phase and are evaluated throughout the EIR accordingly. In instances where potentially significant impacts may occur during the Project's construction phase, such potential impacts have been identified under the appropriate issue area in this EIR. The construction of storm drain infrastructure as necessary to serve the proposed Project would not result in any potentially significant physical effects on the environment that are not already identified and disclosed as part of this EIR; additional mitigation measures would not be required. Impacts would be less than significant.

D. Dry Utilities (Electrical Power, Natural Gas, and Telecommunications)

Construction of the proposed Project would require connections to existing electricity, natural gas, and telecommunication facilities. The Project area already is served by these utilities, and it is anticipated that proposed improvements to provide service to the Project site would occur within existing improved rights-of-way off-site, or on-site within areas already planned for impact and development by the Project. The proposed connections to these utilities are inherent to the Project's construction phase, which has been evaluated throughout this EIR. Where significant construction-related impacts are identified, feasible mitigation measures are identified to reduce impacts to the maximum feasible extent. There are no components of the Project's proposed utility connections that would result in significant environmental effects not already addressed by this EIR. Accordingly, 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 majority of the Project site is located within the CAW Duarte water service area and the CAW is the operator of the public water system that would provide potable water service to the Project site. Due to the total building area (up to 1,550,000 s.f.) permitted by The Park @ Live Oak Specific Plan, the proposed Project's water demand is required to be evaluated in a WSA, in accordance with Section 10912 of the California Water Code. A WSA (included as EIR *Technical Appendix G1*) has been prepared by Water Systems Consulting, Inc. for the CAW to determine whether this Project's water demand has been adequately accounted for in the 2015 CAW UWMP and if the Project's water demand could have a significant impact on projected water supplies and resources. The WSA provides information as to whether there is sufficient water supply available to meet the Project's water demands



in addition to the CAW’s existing and planned future demands; whether adequate storage capacity exists to accommodate the Project’s fire flow requirements; and whether the existing water distribution system is suited to convey water to the Project. Provided below are the results of the WSA.

A. Water Supply Analysis

The Project’s WSA (EIR *Technical Appendix G1*) identified an existing water supply capacity deficit of 3,389 gpm (4.8 mgd) and a projected deficit of 223 gpm in 2025 for existing Duarte service area customers, which does not include the additional demands associated with the proposed Project (WSC, 2018a, p. 15). As detailed in the WSA (EIR *Technical Appendix G1*) and shown on Table 4.13-7, *Project Water Demand*, the total projected water demand for the Project would be approximately 114 AFY.

Table 4.13-7 Project Water Demand

<u>Land Use</u>	<u>Acres</u>	<u>Water Demand Factor¹</u>	<u>Demand Estimate (AFY)</u>
Retail/Commercial	10.29	1,200	28
Industrial	64.23	2,400	86
Streets	3.79	0	0
Total	78.3		114

¹ Water Demand Factor in gallons per day per acre, based on average of water demand factors from 10 water planning documents with similar types of use.

Source: (WSC, 2018a, Table 3-1)

The production capacity required to serve the projected demands of the Project is equal to the Maximum Daily Demand (MDD) of the Project, which is presented in Table 4.13-8, *Required Additional Production Capacity for the Project*. As shown, the Project would require a production capacity of 136 gpm by 2020. Because the Duarte System obtains 100% of its potable supply from groundwater wells and does not have access to any other potable supplies, the WSA (EIR *Technical Appendix G1*) recommended that a new water supply well be constructed to meet the demands of the Project. As described previously within the response to Threshold b, the Project Applicant proposes to install a water supply well on the northwesterly portion of the Project site that would supply water to the Project as well as the City of Hope Specific Plan expansion project (located approximately 1.0 mile north of the Project site). In order to provide both the Project and the City of Hope Specific Plan expansion project with adequate water supply, the on-site water supply well would be drilled to a maximum depth of 500 feet below ground surface (bgs) and would have a capacity of up to 1,500 gpm (the ultimate capacity of the well would be determined by the CAW). Additional details regarding the proposed on-site water supply well are provided in EIR Subsection 4.7, *Hydrology and Water Quality*, and The Park @ Live Oak Water Supply Well Technical Memorandum (EIR *Technical Appendix J2*). (WSC, 2018a, p. 17; WSC, 2018b, p. 5)



Table 4.13-8 Required Additional Production Capacity for the Project

Additional Project Water Demand	2020
ADD, gpm¹	71
MDD, gpm² (Required Production Capacity)	136
¹ Total Project Water Demand from Table 3-1, expressed in gpm	
² MDD is calculated at 1.92 x ADD based on peaking factor used for the Duarte Water System in CAW's 2013 CPS	

Source: (WSC, 2018a, Table 4-6)

The Project's total water demand, along with existing and planned future demands accounted for in the CAW 2015 UWMP during a 20-year period and through 2035 are shown in Table 4.13-9, *Duarte Supply and Demand Comparison - Average Year (AFY)*, Table 4.13-10, *Duarte Supply and Demand Comparison - Single Dry Year (AFY)*, and Table 4.13-11, *Duarte Supply and Demand Comparison - Multiple Dry-Years (AFY)*. As shown in these tables, the WSA concluded that CAW's total projected water supplies available during average, single dry, and multiple dry water years during a 20-year period would meet the projected water demand for the Project in addition to CAW's existing and planned future uses, provided that CAW's groundwater production capacity in MSGB is increased to provide the ability to access these supplies. As concluded in the WSA (EIR *Technical Appendix G1*) and shown in the tables below, with installation of the proposed on-site groundwater supply well, CAW's total projected water supplies available during average, single dry, and multiple dry water years during a 20-year projection would meet the projected water demand for the Project.

Table 4.13-9 Duarte Supply and Demand Comparison - Average Year (AFY)

	2020	2025	2030	2035
Supply totals	7,099	7,312	7,506	7,713
Demand totals	7,099	7,312	7,506	7,713
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Source: (WSC, 2018a, Table 8-1)

Table 4.13-10 Duarte Supply and Demand Comparison - Single Dry Year (AFY)

	2020	2025	2030	2035
Supply totals	7,099	7,312	7,506	7,713
Demand totals	7,099	7,312	7,506	7,713
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Source: (WSC, 2018a, Table 8-2)



Table 4.13-11 Duarte Supply and Demand Comparison- Multiple Dry-Years (AFY)

		2020	2025	2030	2035
Multiple-dry year first year supply	Supply totals	7,099	7,312	7,506	7,713
	Demand totals	7,099	7,312	7,506	7,713
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year second year supply	Supply totals	7,099	7,312	7,506	7,713
	Demand totals	7,099	7,312	7,506	7,713
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year third year supply	Supply totals	7,099	7,312	7,506	7,713
	Demand totals	7,099	7,312	7,506	7,713
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%

Source: (WSC, 2018a, Table 8-3)

B. Storage Capacity Analysis

The Project’s WSA (EIR *Technical Appendix G1*) included a storage capacity analysis which evaluated whether which pressure zone could accommodate the Project and to determine the extent of infrastructure improvements required to convey and deliver sufficient water supply to the Project. The WSA disclosed that required fire flow for the Project is 4,000 gpm for 4 hours. The Duarte distribution system includes seven (7) pressure gradients, with the Scott Gradient and Lemon Gradient being the



nearest to the Project site. The capacities of the Scott Gradient and Lemon Gradient were evaluated to determine the impact of the Project’s demand, as shown in Table 4.13-12, *Storage Capacity Analysis*. The storage surplus/deficit of the distribution system capacity of the Scott and Lemon Gradients were evaluated based on values and calculations in the 2013 Los Angeles County Comprehensive Planning Study (CPS). The Lemon Gradient storage capacity was determined to be approximately 1.02 million gallons which amounts to a 0.49-million-gallon deficit under existing conditions. Additionally, the WSA determined fire flow available from the Lemon zone is restricted due to small pipelines throughout the zone. Therefore, the WSA determined it would be infeasible for the Project to connect to the Lemon Gradient due to the existing storage capacity deficit and the small pipelines located throughout the Lemon Gradient which would not adequately accommodate the Project’s fire flow requirements (4,000 gpm for 4 hours). As shown on Table 4.13-12, factoring in the fire flow demands of the Project results in a storage deficit of 0.31 million gallons within the Scott Gradient. The existing Scott Reservoir is spatially constrained which makes expansion of the storage volume in the Scott Gradient a challenge because it would likely require acquisition of additional property at a similar elevation, which may be infeasible. In light of the Scott Gradient storage deficit, and as disclosed in the Project’s WSA, CAW prefers that the Project construct on-site fire storage and a booster pump to address the Scott Gradient storage deficit. As described in EIR Section 3.0, *Project Description*, the Project would construct the on-site fire storage and a booster pump on-site. (WSC, 2018a, pp. 39-40)

Table 4.13-12 Storage Capacity Analysis

Zone	Storage Volume (MG)	Effective Volume ¹ (MG)	Zone Demand ² (mgd)	Equalizing Volume ³ (MG)	NFF Volume ⁴ (MG)	Total Storage Needed (MG)	Surplus/Deficit (MG)
Scott							
Existing	1.50	1.45	5.16	0.77	0.63	1.40	0.05
With Project	1.50	1.45	5.36	0.80	0.96	1.76	-0.31
Lemon							
Existing	1.02	1.02	3.48	0.52	0.63	1.15	-0.31
With Project	1.02	1.02	3.68	0.55	0.96	1.51	-0.49
Notes:							
1. Effective storage volume is defined as the volume of water to maintain at least 40 psi at all service connections. Effective volume is the estimated value with planned improvements (CPS) and per CAW.							
2. Includes existing and project demands. Existing zone demands used for this analysis are MDD from CPS Table 5.4-5 which show constant current and future demands. Project demands are calculated using peaking factor of 1.92 per CPS.							
3. Equalizing Volume is assumed to be 15% of the demand (CPS).							
4. NFF (Needed Fire Flow) Volume= 3,500 gpm for 3 hours (0.63 MG) or 4000 gpm for 4 hours (0.96 MG).							

Source: (WSC, 2018a, Table 9-1)

C. Distribution System Capacity Analysis

The Project’s WSA included a distribution system capacity analysis that evaluated using the existing Duarte system model provided by CAW. The Scott Gradient was evaluated to determine system



capacity and identify required system upgrades. Specifically, the evaluation was conducted to determine whether the Project's fire flow requirements (4,000 gpm for 4 hours) could be met by the existing water distribution system. The distribution system capacity analysis model used in the WSA assumed the distribution system pipeline would be extended west along Buena Vista Street and south along Avenida Barbosa Street to reach the Project area. Additionally, the model assumed that a pipeline loop would surround the Project site; however, as was previously shown on Figure 3-3, *Conceptual Water Plan*, some of the pipeline segments forming the proposed loop around the Project site may not be required if fire service can be provided via lines to be installed in Private Drive A. The final pipeline alignments and sizes will be validated during the final design phase of the Project's water system once the future buildings are designed and located and associated fire protection requirements are further defined. The water distribution system capacity analysis indicated that friction losses within the existing water distribution system would be too great to provide the required 4,000 gpm fire flow to the Project site. To reduce friction losses within the existing distribution system, the WSA recommended that a segment of existing 8-inch pipeline in Buena Vista Street be replaced with a 12-inch pipeline to increase the available fire flow that could be conveyed through the existing system, which is proposed as part of the Project and depicted on Figure 3-3, *Conceptual Water Plan*. Additionally, the distribution system capacity analysis was used to determine the required size of the proposed pipelines connecting to and surrounding the Project site that are shown in Figure 3-3, *Conceptual Water Plan*. The results of the water distribution system capacity analysis concluded that with implementation of the Project's proposed improvements, the Project's fire flow requirements (4,000 gpm) would be met. (WSC, 2018a, pp. 40-41)

D. Conclusion

Based on the information provided above from the Project's WSA (EIR *Technical Appendix G1*), and in light of the Project's proposed improvements (including a new on-site groundwater supply well), the CAW would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. Thus, the proposed Project would have a less-than-significant impact on water supplies and no mitigation is warranted.

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?

As discussed above, the LACSD ten (10) water reclamation plants (WRPs) and one ocean discharge facility (Joint Water Pollution Control Plant) treat approximately 510 mgd, of which 165 mgd are available for reuse. The Project's wastewater flows would be conveyed to the San Jose Creek WRP, with biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP diverted to and treated at the Joint Water Pollution Control Plan in the City of Carson. The San Jose Creek WRP has a design capacity of 100 mgd and currently processes an average flow of 64.1 mgd. (Raza, 2018, p. 1)

Wastewater generated by the proposed Project would be conveyed via local sewer lines into the LACSD's regional sewer system for conveyance to wastewater treatment facilities maintained by the



LACSD. LACSD has adopted a Wastewater Ordinance for the operation and financing of their wastewater conveyance, treatment, and disposal facilities. The Wastewater Ordinance applies to all direct and indirect discharges of wastewater to any part of the sewerage system and regulates industrial wastewater discharges to protect the public sewerage system. The LACSD also charges Connection Fees and Surcharges. The Surcharge program requires all industrial companies discharging to the LACSD's sewerage system to pay their fair share of the wastewater treatment and disposal costs. The Connection Fee program requires all new users of the LACSD's sewerage system, as well as existing users that significantly increase the quantity or strength of their wastewater discharge, to pay their fair share of the costs for providing additional conveyance, treatment, and disposal facilities. The LACSD uses the fees for the expansion and improvement of their facilities, as needed, to serve existing and anticipated developments. Given the remaining capacity of the San Jose Creek WRP is 35.9 mgd (design capacity of 100 mgd – 64.1 mgd = 35.9 mgd), the San Jose Creek WRP would be able to adequately accommodate the Project's contribution of 0.81 MGD of wastewater. Construction of additional or expanded regional treatment facilities would not be required for this Project. With mandatory compliance with the LACSD Wastewater Ordinance, the Project's incremental effect on regional wastewater treatment capacity would be less than significant.

The Project is estimated by the LACSD to generate approximately 322,325 gpd of wastewater, while the Project's Sewer Area Study (EIR *Technical Appendix* calculated the Project would generate approximately 0.81 mgd of wastewater. Implementation of the proposed Project would utilize a small percentage of the available, excess treatment capacity at the San Jose Creek WRP, which has more than enough capacity to accommodate wastewater flows from the Project, as documented above. Accordingly, the Project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments, and the Project's impacts due to wastewater 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?

Construction and operation of the proposed Project would result in the generation of typical municipal solid wastes, requiring disposal at a landfill.

A. Construction Impact Analysis

Construction of the proposed Project would result in the generation of construction-related waste, primarily consisting of discarded materials and packaging. Based on the maximum building square footage of 1,550,000 s.f. and the US EPA's construction waste generation factor of 4.34 pounds per s.f. of non-residential uses, approximately 3,363.5 tons of waste would be generated during the building construction phase ($[1,550,000 \text{ s.f.} \times 4.34 \text{ pounds per s.f.}] \div 2,000 \text{ pounds per ton} = 3,363.5 \text{ tons}$) (EPA, 2009, p. 10). The Project's building construction is reasonably expected to occur over a period of approximately 387 days, which corresponds to approximately 8.7 tons of construction waste



being generated per day of building construction activity (3,363.5 tons ÷ 387 days = 8.7 tons per day) (Urban Crossroads, Inc., 2018a, Table 3-2). Additional waste would be expected from infrastructure installation and other Project-related construction activities. 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 1,681.8 tons during its construction phase (3,363.5 tons per day × 50% = 1,681.8 tons per day). The Project's construction phase is estimated to last for 387 days; therefore, the Project is estimated to generate approximately 4.3 tons of solid waste per day requiring landfill during construction.

Construction wastes associated with the proposed Project that are not recycled or reused would require disposal at an off-site landfill that accepts waste collected in the City of Irwindale by the LACSD. The nearest landfill to the Project site is the Puente Hills MRF in the City of Industry. The LACSD landfill facilities have sufficient permitted capacity to accommodate solid waste disposal needs collected in its service area. Based on the estimated peak generation of construction-related waste materials, which would occur during the building construction phase, the Project would generate approximately 8.7 tons per day, which represents approximately 0.001 percent of the daily capacity at Puente Hills MRF and the Calabasas Sanitary Landfill, 0.001 percent of the Scholl Canyon Landfill's permitted daily capacity, and 0.0002 percent of the Mesquite Regional Landfill's permitted daily capacity.

Based on the foregoing analysis, the Project's construction waste would not exceed the permitted daily capacity of any of the landfills that serve the City of Irwindale, and long-term planning efforts to establish a Waste-to-Rails program would further increase the City's landfill disposal capacity. Thus, construction activities associated with the Project would have a less-than-significant impact during construction on local landfills. Furthermore, the Project would be required to comply with AB 939 which requires that a minimum of 50% of all solid waste be diverted from landfills (by recycling, reusing, and other waste reduction strategies). Based on the foregoing, the Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Accordingly, the Project's construction activities would result in a less-than-significant impact with respect to Threshold d.

B. Operational Impact Analysis

Based on a daily waste generation factor of 1.42 pounds of waste per 100 square feet of industrial building area obtained from CalRecycle, long-term, on-going operation of the Project would generate approximately 11.01 tons of solid waste per day ($[1.42 \text{ pounds} \div 100 \text{ s.f.}] \times 1,550,000 \text{ s.f.} \div 2,000 \text{ pounds} = 11.01 \text{ tons per day}$). Pursuant 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 a maximum of 5.51 tons of solid waste per day requiring landfilling ($11.01 \text{ tons per day} \times 50\% = 5.51 \text{ tons per day}$). (CA Legislative Information, 2015)

Non-recyclable solid waste generated during long-term operation of the Project would be disposed at the Puente Hills MRF, the Calabasas Sanitary Landfill, the Scholl Canyon Landfill, and the Mesquite Regional Landfill. As described above, these landfills receive well below their maximum permitted



daily disposal volume; thus, waste generated by the Project's operation is not anticipated to cause the landfill to exceed its maximum permitted daily disposal volume (CalRecycle, 2018f). Because the Project would generate a relatively small amount of solid waste per day as compared to the permitted daily capacities at receiving landfills, impacts to regional landfill facilities during the Project's long-term operational activities would be less than significant.

Throughout operational activities, the Project would be required to comply with all applicable State and local solid waste regulations, goals, and policies which were previously summarized in EIR Subsection 4.13.2. Applicable solid waste regulations include the California Solid Waste Integrated Waste Management Act (AB 939) and the related Los Angeles County Integrated Waste Management Plan (CIWMP); the California Solid Waste Reuse and Recycling Act of 1991 (Cal Pub Res. Code § 42911); the California Mandatory Commercial Recycling Program (AB 341); and the solid waste provisions of CALGreen. The Project's required compliance with these solid waste regulations is evaluated in further detail in the response to Threshold e below. Accordingly, the Project would not generate solid waste in excess of State or local standards, and a less-than-significant impact would occur.

Threshold e: Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The California Integrated Waste Management Act (Assembly Bill [AB] 939), signed into law in 1989, established an integrated waste management system that focused on source reduction, recycling, composting, and land disposal of waste. In addition, the bill established a 50% waste reduction requirement for cities and counties by the year 2000, along with a process to ensure environmentally safe disposal of waste that could not be diverted. Per the requirements of the Integrated Waste Management Act, areas within Los Angeles County are subject to the County's Integrated Waste Management Plan (CIWMP), which outlines the goals, policies, and programs the County and its cities implement to create an integrated and cost-effective waste management system that complies with the provisions of AB 939 and its diversion mandates

In order to assist the City of Arcadia and the County of Los Angeles in achieving the mandated goals of the Integrated Waste Management Act, separate bins would be provided on-site to allow tenants to separate recyclable materials from refuse. Additionally, in accordance with the California Solid Waste Reuse and Recycling Act of 1991 (Cal Pub Res. Code § 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. 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; as such, impacts related to solid waste statutes and regulations would be less than significant.



4.13.5 CUMULATIVE IMPACT ANALYSIS

Operation of the proposed Project would require the construction of water, wastewater, storm water management, and dry utilities infrastructure, as well as solid waste disposal. In particular, as described above, the Project proposes to install an on-site water supply well and off-site water improvements that would ensure that the water demand and fire flow requirements for the Project are met. Development of public utility infrastructure is part of an extensive planning process involving utility providers and jurisdictions with discretionary review authority. The coordination process associated with the preparation of infrastructure plans is intended to ensure that adequate public utility services and resources are available to serve both individual development projects and cumulative growth in the region. Each individual development project is subject to review for utility capacity to avoid unanticipated interruptions in service or inadequate supplies. Coordination with the utility providers would allow for the provision of utility services to the Project and other developments. The Project and other planned projects are subject to connection and service fees to offset increased demand and assist in facility expansion and service improvements (at the time of need). The utility planning and coordination activities described above would ensure that less-than-cumulatively considerable impacts to utilities and service systems would not occur.

4.13.6 SIGNIFICANCE OF IMPACTS BEFORE MITIGATION

Threshold a: Less-than-Significant Impact. The CAW has sufficient capacity to serve the Project in light of its existing and projected commitments, and no new water supply entitlements would be required beyond those water system improvements proposed by the Project (depicted in Figure 3-3, *Conceptual Water Plan*). Additionally, the existing sewer system and water treatment facilities (San Jose Creek WRP and the Joint Water Pollution Control Plant in the City of Carson) that would serve the Project have adequate remaining capacities to accommodate the Project's wastewater treatment demands. Therefore, no additional wastewater treatment facilities or expansion of existing wastewater treatment facilities would be required to accommodate wastewater treatment flows generated by the Project. The Project area is already served by electric, gas, and telecommunications utilities, and it is anticipated that proposed improvements to provide service to the Project site would occur within existing improved rights-of-way off-site, or on-site within areas already planned for impact and development by the Project. The construction of storm drain infrastructure as necessary to serve the proposed Project would not result in any potentially significant physical effects on the environment that are not already identified and disclosed as part of this EIR; additional mitigation measures would not be required. The Project's proposed connections to these utilities, as well as installation of on-site and off-site storm water management, water, and wastewater infrastructure, are inherent to the Project's construction phase, which has been evaluated throughout this EIR. Mitigation measures are identified for construction-related effects that would reduce construction-phase impacts to the maximum feasible extent. There would be no significant impacts specifically related to the installation of the Project's proposed utility infrastructure beyond the overall construction-related effects of the Project as a whole. Impacts would be less than significant.

Threshold b: Less-than-Significant Impact. Based on the information provided from the proposed Project's WSA, the CAW would have sufficient water supplies available to serve the Project in normal,



dry, and multiple dry years. Thus, the proposed Project would have a less-than-significant impact in this regard and no mitigation is warranted.

Threshold c: Less-than-Significant Impact. The proposed Project's wastewater generation would not exceed the capacity of the LACSD's regional treatment facilities and payment of mandatory connection fees and surcharges established by the LACSD's Wastewater Ordinance would reduce the Project's incremental effect to below a level of significance.

Threshold d: Less-than-Significant Impact. The proposed Project's solid waste disposal needs can be accommodated by existing and planned landfills serving the City of Irwindale. The Project would comply with all applicable State and local standards, goals, and policies related to solid waste reduction and management. Therefore, the Project would have less-than-significant impacts related to solid waste generation.

Threshold e: No Impact. The proposed Project would comply with all applicable federal, state, and local statutes and regulations pertaining to management and reduction of solid waste. No impact associated with regulatory compliance would occur.

4.13.7 MITIGATION

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



5.0 OTHER CEQA CONSIDERATIONS

5.1 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

The CEQA Guidelines require that an EIR disclose the significant environmental effects of a project that cannot be avoided if the proposed project is implemented (CEQA Guidelines §15126(b)). As described in detail in Section 4.0 of this EIR, the proposed Project is anticipated to result in air quality, greenhouse gas, and transportation/traffic impacts to the environment that cannot be reduced to a level below significance after the implementation of relevant standard conditions of approval, compliance with applicable laws and regulations, and application of feasible mitigation measures with a proportional nexus to the Project's level of impact. The significant environmental effects of the proposed Project that cannot be feasibly mitigated are as follows:

- Air Quality Threshold a: Significant and Unavoidable Direct and Cumulatively Considerable Impact. Even with the incorporation of the required mitigation measures and regulatory requirements specified in EIR Subsection 4.2, the Project's operational emissions of NO_x and VOCs would exceed SCAQMD Daily Regional Thresholds for these pollutants, meaning the Project would conflict with Consistency Criterion No. 1 of the 2016 AQMP. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Irwindale to enforce that have a proportional nexus to the Project's level of impact, as the source of a large majority of these emissions is tailpipe emissions from cars and trucks traveling to and from the Project site. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site. As such, it is concluded that the Project's inconsistency with the SCAQMD 2016 AQMP would result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.
- Air Quality Threshold b: Significant and Unavoidable Direct and Cumulatively Considerable Impact. Even with the incorporation of the required mitigation measures and regulatory requirements specified in EIR Subsection 4.2, Project-related emissions of NO_x and VOCs would still be above the SCAQMD Daily Regional Thresholds for these pollutants. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Irwindale to enforce that have a proportional nexus to the Project's level of impact, as the source of a large majority of these emissions is tailpipe emissions from cars and trucks traveling to and from the Project site. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site. As such, it is concluded that the Project's long-term emissions of VOCs and NO_x would result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.



- Greenhouse Gas Emissions Thresholds a and b: Significant and Unavoidable Cumulatively Considerable Impact. Greenhouse gases would be emitted by the Project-related construction and operational activities, primarily from mobile sources (vehicles traveling to and from the Project site). Given the methodologies applied in the GHG analysis and the conservatively estimated number of traffic trips and vehicle miles traveled that are assumed in the analysis, the Project's annual GHG emissions is calculated at 46,531.47 MTCO₂e per year, which exceeds the 3,000 MTCO₂e per year threshold, which is the quantitative threshold of significance used by this EIR. Also, although the Project would not conflict with applicable regulations, policies, plans, and policy goals adopted for the purpose of reducing GHG emissions, there is a lack of substantial evidence to definitively conclude that the Project's incremental GHG emissions would not incrementally contribute to the State's potential inability to meet its climate change goals. Mitigation measures are imposed, but additional feasible mitigation measures with a proportional nexus to the Project's level of impact are not available to further reduce Project-related GHG emissions. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site.
- Transportation Threshold a: Significant and Unavoidable Direct and Cumulatively Considerable Impact. With the incorporation of all feasible mitigation measures, the addition of Project-related traffic to the existing and planned circulation network would directly impact two (2) intersections (Intersection #11 – Private Drive B at Arrow Highway [proposed by the Project] and Intersection #30 – Maine Avenue & Arrow Highway) and make cumulatively considerable contributions to 10 intersections that are not feasible to fully mitigate. The Project Applicant would make roadway improvements to address direct impacts and pay fair share fees to address cumulatively considerable impacts; however, because improvements to the affected facilities cannot be assured and may not be in place before the Project becomes operational, this EIR recognizes the impacts as significant and unavoidable, until the needed improvements are implemented.

The Project also would result in a significant direct and cumulatively considerable traffic impacts to I-605 Freeway facilities. All state highway system facilities in the Project study area are under the jurisdiction of Caltrans. As such, the City of Irwindale cannot assure the construction of improvements to state highway facilities that may be needed to improve traffic flow. Furthermore, Caltrans does not have any formal funding mechanism in place at this time to which development projects can make a fair-share payment to contribute to future improvements and off-set cumulatively considerable traffic impacts. The Project Applicant would be required to pay such fair-share payment to Caltrans, if a fee program is established by Caltrans prior to the issuance of Project building permits; however, there is no assurance that such a fee program will be established. Also, there is no assurance that planned improvements will be in place prior to the time that the Project begins to contribute traffic to the facilities.



5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE CAUSED BY THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED

The CEQA Guidelines require EIRs associated with projects involving a general plan amendment to address any significant irreversible environmental changes that would be involved in the proposed action should it be implemented (CEQA Guidelines §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 is not justified (e.g., the project results in the wasteful use of energy).

Determining whether the proposed Project could 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. There are no non-renewable resources present at the Project site; therefore, conversion of the land from its current state of an active quarry reclamation site to an industrial/commercial business park would have no direct effect on any such resources at the Project site.

Natural resources in the form of construction materials and energy resources would be used in the construction of the proposed Project, but development of the Project site as proposed would have no measurable effect on the availability of such resources, included resources that may be non-renewable (e.g., fossil fuels). Construction and operation of the proposed Project would not involve the use of large sums or sources of renewable energy. Additionally, the Project is required by law to comply with the City of Irwindale Green Building Code, compliance with which reduces a building operation's energy volume that is produced by fossil fuels. A more detailed discussion of energy consumption is provided in this EIR's Subsection 4.3, *Energy*.

On-site activities could potentially include commercial uses, business park uses, and industrial uses including but not limited to processing; assembling; manufacturing; warehousing; and distribution/storage of materials and products, along with ancillary office spaces and food service areas for employees. Non-renewable natural resources that would be consumed over the operating life of the Project could include fuels (petroleum and natural gas) for both on-site workers who would commute to the Project site and for the commerce vehicles that would deliver goods to/from the Project site. Depending on the specific occupants of the proposed Project's future buildings, various non-renewable natural resources could be consumed during operations, including metals (such as lead, copper etcetera). There also could be a variety of ancillary maintenance and fueling activities for equipment used inside the future buildings and in the truck loading areas of the industrial/business park buildings. These activities could involve consumption of liquid fuels such as gasoline and diesel, propane, or other gases. It is also possible that a gas station could occur on the Project site in one of the planning areas along Arrow Highway that would allow a gas station use, and that one or more of the industrial/business park building users could have a fuel dispensing island to support a fleet of maintenance/cargo handling vehicles and/or trucks, which would result in the consumption of fuel



onsite. The consumption of non-renewable resources to construct and operate the Project over the long-term would likely commit subsequent generations to the same use of the land and similar patterns of energy consumption, since the development of a project of this large-scale represents a substantial investment of capital and thus reduces the likelihood that the completed Project would be demolished and some alternative land uses developed in the future. However, the Project is not expected to reduce the availability of any natural resources associated with long-term operational activities.

EIR Subsection 4.6, *Hazards and Hazardous Materials*, provides an analysis of the proposed Project's potential to transport or handle hazardous materials which, if released into the environment, could result in irreversible damage to the environment. As concluded in the analysis, compliance with federal, State, and local regulations related to hazardous materials would be required of all contractors working on the property during the Project's construction and of all occupants that occupy the Project's building. As such, construction and long-term operation of the proposed Project would not have the potential to cause significant irreversible damage to the environment, including damage that may result from upset or accident conditions.

As demonstrated in the analysis presented throughout EIR Section 4.0, implementation of the proposed Project would result in significant and unavoidable environmental effects that cannot be feasibly reduced to below levels of significance (refer to EIR Subsection 5.1, above).

Although the Project would cause or contribute to significant unavoidable impacts associated with air quality, greenhouse gas emissions, and transportation; these effects would not commit surrounding properties to land uses other than the uses currently planned for those properties by the City of Irwindale, City of Baldwin Park, City of El Monte, and for unincorporated areas, the County of Los Angeles. The Project site is located in a portion of the City of Irwindale that is surrounded by uses that are compatible with the range of industrial and commercial business park uses proposed by The Park @ Live Oak Specific Plan. Specifically, land located to the north contains an aggregate materials mining and processing operations. The land east of the Project site includes a concrete ready-mix operation, an asphalt plant, and various other commercial/industrial uses. To the south of the Project site is the Irwindale Speedway, Hansen aggregate material quarry, and an additional mining site. To the west of the Project site is the I-605 Freeway beyond which are freight logistic operations, a ready-mix concrete plant, trailer truck storage, and construction material/equipment storage yards (refer to EIR Figures 2-3, 2-6, and 2-7). Use of the Project site as an industrial/commercial business park is compatible in character with surrounding development and the Project would not create any primary or secondary effects that would preclude the use of surrounding properties for their existing and intended uses.

5.3 GROWTH-INDUCING IMPACTS OF THE PROPOSED 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 §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, placing additional demands on public services and infrastructure systems, and in the generation of a variety of environmental impacts, which are addressed throughout Section 4.0, *Environmental Analysis*, of this EIR.

Because users of the Project's buildings are not yet known, the number of jobs that the Project would generate cannot be precisely determined. As stated in Subsection 4.7, *Land Use and Planning*, this EIR, research conducted by the Commercial Real Estate Development Association (NAIOP) on building and employment trends in the logistics industry found that employment intensity ranges, depending on the type of tenant and size of building, with employment intensity higher in smaller buildings and lower in larger buildings. An average across all building sizes, in 2003, was approximately 2,000 s.f. per employee (NAIOP, 2010, p. 11). Using the average of approximately 2,000 s.f. per employee, the Industrial/Business Park component of the proposed Project, with 1,451,400 s.f. of Industrial/Business Park building space, could create an estimated 726 jobs ($1,451,400 \text{ s.f.} \times [1 \text{ employee} / 2,000 \text{ s.f.}] = 725.7 \text{ employees}$). Table 4B of the Employment Density Study Summary Report prepared for the Southern California Association of Governments (SCAG) states that in Los Angeles County there is an average of 511 s.f. of building space per employee for the "Other Retail/Services" land use category (NCI, 2001, Table 4B). Based on Table 4B, future employment generated by the proposed commercial land uses at the Project site is anticipated to be approximately 193 employees ($98,600 \text{ s.f.} \times [1 \text{ employee} / 511 \text{ s.f.}] = 192.9 \text{ employees}$).

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. Economic growth would likely take place as a result of the proposed Project's operation as a commercial/industrial business park. The Project's construction-related and operational-related employees would purchase goods and services in the region, but any secondary increase in employment associated with meeting these goods and services needs is expected to be marginal, accommodated by existing goods and service providers, and highly unlikely to result in any new physical impacts to the environment based on the amount of available commercial and retail services available in areas near the Project site, including unincorporated Los Angeles County and the Cities of Duarte, Monrovia, Arcadia, Temple City, El Monte, and Baldwin Park. In addition, the Project would create jobs which likely would serve the housing units either already built or planned for development within the City of Irwindale and surrounding jurisdictions. Accordingly, the on-site employment generation would not induce substantial growth in the area because it is anticipated that the Project's future employees would already be living in the Irwindale/Los Angeles County area.

The City's General Plan land use designation for the Project site is Regional Commercial. The land adjacent to the Project site to the east (across I-605 Freeway) has the same General Plan land use designation of Regional Commercial. Land to the adjacent north of the Project site is designated Quarry Overlay by the City's General Plan. The land directly to the south of the Project site is



designated Commercial/Recreation and Industrial/Business Park by the City's General Plan. The area immediately surrounding the Project site is developed with a mix of mining, commercial and industrial land uses. As the Project vicinity is predominantly built-out, the development of the proposed Project is unlikely to affect the existing uses within the surrounding properties. There are no components of the Project that would remove obstacles to development in the local area because the majority of the surrounding area is developed. Future Project-related development would install upsized water utilities within the streets surrounding the Project site specifically to serve the domestic water needs of the Project and the City of Hope Campus Plan project (as described in further detail in the Project's Water Supply Assessment [EIR *Technical Appendix JI*]). The environmental impacts anticipated to result from implementation of the City of Hope Campus Plan were previously analyzed in The City of Hope Campus Plan EIR (SCH No. 2015101047) which was certified by the City of Duarte City Council in May 2018 by Duarte City Council Resolution No. 18-R-02. Since the Project's proposed off-site water infrastructure improvements have been sized specifically to serve the domestic water needs of the Project and the City of Hope Campus Plan project, it is anticipated these proposed off-site water utilities would not be available for general public use (meaning they would not indirectly induce off-site growth). Accordingly, the Project would not induce growth in the Project area. The development of the proposed The Park @ Live Oak Specific Plan on the Project site would not reasonably or foreseeably cause the redevelopment of other properties or cause development on other properties.

Furthermore, the Project's potential influence on other nearby properties to redevelop at greater intensities and/or different uses than the City's General Plan and Zoning Code allow is speculative beyond the rule of reason. CEQA does not require the analysis of speculative effects (CEQA Guidelines §151454). If any other property owner were to propose redevelopment of a property in the Project vicinity or in any part of the City, the redevelopment project would require evaluation under CEQA based on its own merits, including an analysis of direct and cumulatively considerable effects.

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 site is located within a predominantly industrial/commercial portion of the City of Irwindale and is bordered by mining, commercial, and industrial uses. The operation and maintenance of the Project would generate employment, but at a lower rate compared to the existing General Plan land use designation of Regional Commercial. As such, any potential growth-inducing impact of the employment of persons at the Project site was conservatively accounted for in the City's General Plan under the site's existing Regional Commercial land use designation. Accordingly, the proposed Project would not directly promote growth either at the Project site or at the adjacent and surrounding properties that was not accounted for in the City's General Plan.



In conclusion, it is unlikely, speculative, and 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 AS PART OF THE INITIAL STUDY PROCESS

5.4.1 AGRICULTURAL AND FORESTRY RESOURCES

The Project site is a former aggregate mine site that is undergoing reclamation and there is no Farmland or other types of agricultural resources on site under existing conditions. As concluded by the California Department of Conservation's (CDC) Farmland Mapping and Monitoring Program, the Project site is not mapped by the FMMP as containing Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (CDC, 2017). No FMMP mapped farmlands are located in the City of Irwindale; as such, the proposed Project has no potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. The Project site is not located on land within Williamson Act contracts; as such, the proposed Project has no potential to conflict with existing zoning for agricultural use or Williamson Act contract. The Project site is not located on designated forest lands or timberlands and no forest land or timberland is located on or near the Project site. The proposed Project would not result in conversion of Farmland to non-agricultural uses or the conversion of forest land to non-forest uses.

5.4.2 BIOLOGICAL RESOURCES

The Project site is a former aggregate mine site, and approximately 77.1 acres of the 78.3-acre Project site is under an active reclamation process involving an IDEFO. Accordingly, the Project site is heavily disturbed, and does not contain any known candidate, sensitive, or special status species. In addition, there are no adopted, approved, or proposed Habitat Conservation Plans; Natural Community Conservation Plans; or other approved local, regional, or State habitat conservation plans that cover habitats located within the City of Irwindale (City of Irwindale, 2008, pp. 50-53). Helix Environmental Planning, Inc. (Helix) performed a literature review and a general biological survey/focused special-status plant survey of the Project site on March 6, 2018 and September 4, 2018, the results of which are discussed in detail in the Biological Resources Letter Report (EIR *Technical Appendix K*). As previously shown in EIR Table 2-1, *Existing Vegetation Communities and Land Uses*, Helix identified a total of five (5) vegetation communities or land uses on the Project site, including Disturbed, Disturbed/Buckwheat Scrub, Non-Native Vegetation, Ornamental, and Developed. As previously shown in Table 2-1 and discussed in EIR *Technical Appendix K*, the Project site predominantly contains disturbed vegetation communities/land uses, which is characterized as mostly unvegetated except for several plant species with a high tolerance for disturbance, such as Russian thistle (*Salsola tragus*), scale-broom (*Lepidospartum squamatum*), hairy yerba santa (*Eriodictyon trichocalyx var. trichocalyx*), tree tobacco (*Nicotiana glauca*), castor bean (*Ricinus communis*), and shortpod mustard (*Hirschfeldia incana*). The San Gabriel River is located approximately 1,700 feet to the southeast of the Project site on the opposite side of the I-605 Freeway and would not be affected by the proposed Project. Helix did not identify any drainage features, wetlands, or other special aquatic sites on the



Project site during the general biological survey performed at the Project site on March 6, 2018. Furthermore, Helix did not identify any special-status animal species (those listed or candidate listed as federally threatened or endangered by United States Fish and Wildlife Service [USFWS]; and/or state listed or candidate listed as threatened or endangered or considered species of special concern [SSC] by the California Department of Fish and Wildlife [CDFW]) at the Project site, nor are any expected to occur at the Project site. Although the Project site contains vegetation that could be potential habitat for nesting birds, the Project would be required to comply with the Mandatory Bird Treaty Act (MBTA), which requires that ground-disturbing activities occur⁴ outside of the breeding season (September 1 through January 14) unless it is determined via a pre-construction survey that no nesting birds (or birds displaying breeding or nesting behavior) are present immediately prior to ground-disturbing activities. Mandatory compliance with MBTA would avoid impacts to nesting birds during the Project's ground-disturbing construction activities. Complete lists of the plant and animal species observed during the general biological survey performed at the Project site are provided in Attachments A and B of EIR *Technical Appendix K*, respectively. (Helix, 2018, pp. 1-6)

The IDEFO is permitted by City of Irwindale Grading Permit No. 05061504220003, issued on November 16, 2016, (City of Irwindale, 2016) and is covered by a Stormwater Pollution Prevention Plan (SWPPP) dated March 2017 (DEA, 2017) and an Operations Plan dated March 21, 2017 (Arcadia Reclamation Inc., 2017) which allow for reclamation of the site through the placement of approximately 2.5 million cubic yards of fill material. Reclamation of the site as authorized by Grading Permit No. 05061504220003 and the associated SWPPP and Operations Plan is an existing, permitted activity and is not subject to evaluation in this EIR. Since the Project site has operated as a former aggregate sand and gravel quarry from approximately the early 1940s to the late 1990s and has subsequently been undergoing reclamation as an IDEFO since 2002, the Project site is devoid of any sensitive biological resources, as verified by the biological resource surveys conducted at the Project site in 2018 (summarized above). Moreover, as described above, the disturbance of any sensitive vegetation or other species at the Project site by the ongoing rough grading and IDEFO activities was previously authorized and is not the subject of this EIR. Therefore, the Project would not result in substantial adverse effects on species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

5.4.3 CULTURAL RESOURCES

The Project site has been disturbed by former aggregate mining activities and is undergoing active reclamation. There are no historic structures found on-site. Additionally, the City's General Plan Table 5-5, *Existing Historic Resources in Irwindale*, provides a list of historic resources documented by the City, none of which are located on the Project site.

A Cultural Resources Record Search obtained by Brian F. Smith and Associates (BFSA) documented that no known archaeological resources are located on the Project site. The subject property has been disturbed by a former surface mine and does not contain any archaeological resources. Given the extensive level of surface and subsurface alteration that have taken place over the years of the active surface mine activities and the ongoing reclamation process, the potential for discovery of



archaeological materials during the grading and site preparation phases of the proposed Project is considered to be nil. Regardless, because the Project proposes a Specific Plan, the Project is subject to compliance with California Government Code Sections 65352, 65352.3, and 65352.4, which requires local governments to consult with Native American tribes prior to making certain decisions on projects involving a General Plan Amendment. Refer to EIR Subsection 4.12, *Tribal Cultural Resources*, which concludes that no tribal cultural resources are located on the Project site.

Given the extensive level of surface and subsurface alterations that have taken place over the years of the active surface mine and the ongoing reclamation activities, the potential for discovery of human remains during the fine grading and site preparation phases of the proposed Project is considered to be extremely remote. Regardless, in the event that human remains are discovered, State regulations mandate that a procedure be followed. If human remains are encountered during excavation activities, all work is required by State law to halt and the County Coroner shall be notified (California Public Resources Code Section 5097.98). The Coroner will determine whether the remains are of forensic interest. If the Coroner, with the aid of the City-approved Archaeologist, determines that the remains are prehistoric, he/she will contact the NAHC. The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD will make his/her recommendation within 48 hours of being granted access to the site. The recommendation of the MLD shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code Section 7050.5). If the landowner rejects the recommendations of the MLD, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (PRC Section 5097.98).

5.4.4 MINERAL RESOURCES

The Project site does not contain a known mineral resource that would be of value to the region or of the State because such resources have been depleted as a result of previous sand and gravel mining activity. Accordingly, the proposed Project has no potential to result in the loss of availability of locally-important mineral resource recovery site that would be of value to the region and the residents of the State. No impacts to mineral resources would occur.

5.4.5 POPULATION AND HOUSING

The proposed Project would have a beneficial effect on the City's employment base by redeveloping a former quarry site with a new industrial/commercial business park. The new jobs generated by The Park @ Live Oak project would replace jobs generated by the former mine and provide additional employment opportunities for residents in the area. However, the Project is not anticipated to induce substantial unplanned population growth in the area or other nearby communities. There are no homes located on the Project site and there are no people living on the property; as such, the Project would not result in displacement of people or housing and would not necessitate the construction of replacement housing elsewhere.



5.4.6 RECREATION

The Project does not propose any type of residential use or other land use that may generate a population that would increase the use of existing neighborhood and regional parks or other recreational facilities. Accordingly, implementation of the proposed Project would not result in the increased use or substantial physical deterioration of an existing neighborhood or regional park. Additionally, the Project does not propose to construct any new on- or off-site recreation facilities. The Project would not expand the existing off-site recreational facilities; therefore, no impacts related to the construction or expansion of recreational facilities would occur with the implementation of the proposed Project.

5.4.7 WILDFIRE

The Project site is not located in or near a State Responsibility Area; the site is located in an urbanized portion of the City of Irwindale and is not located within or immediately adjacent to any wildlands. The FHSZ map for the City of Irwindale that was prepared by CAL FIRE does not depict the Project site as being located within a “Very High Fire Hazard Severity Zone.” The CAL FIRE FHSZ Map for Irwindale depicts the nearest VHFHSZ approximately 875 feet to the northeast of the Project site, on the opposite side of the I-605 Freeway, in the approximate location of the open space area that is associated with San Gabriel River flood control operations. (CAL FIRE, 2011) Should a wildfire affect this area, I-605 serves as a fire break. Given the facts that the Project site is not located in a VHFHSZ, is separated from the nearest mapped VHFHSZ by the I-605 Freeway, and is required to be constructed in accordance with mandatory fire prevention and protection features such as fire hydrants and sprinklers, the Project has no reasonable potential to exasperate wildfire hazard risk or expose Project site occupants to pollutant concentrations resulting from a wildfire or the uncontrolled spread of a wildfire. The Project site is surrounded by fully constructed roadways and has no potential to interfere with an emergency response plan or emergency evacuation plan or cause downstream flooding or mudslides as a result of water application to fight a wildfire. Lastly, the only infrastructure components proposed by the Project associated with fire protection are the on-site fire flow storage (with a capacity of up to 0.96 million gallons) and a booster station. The proposed infrastructure is required for fire protection services and would not exacerbate fire risk or result in temporary or ongoing impacts to the environment. Based on the foregoing, less-than-significant impacts related to wildfires would occur.



6.0 ALTERNATIVES

CEQA Guidelines § 15126.6(a) indicates the scope of alternatives to a proposed project that must be evaluated:

“An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selection of a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.”

As discussed in Section 4.0 of this EIR, the proposed Project would result in a significant adverse environmental effect that cannot be mitigated to below a level of significance after the implementation of Project design features, mandatory regulatory requirements, and feasible mitigation measures. The unavoidable significant impacts are:

- Air Quality Threshold a: Significant and Unavoidable Direct and Cumulatively Considerable Impact. Even with the incorporation of the required mitigation measures and regulatory requirements specified in EIR Subsection 4.2, the Project’s operational emissions of NO_x and VOCs would exceed SCAQMD Daily Regional Thresholds for these pollutants, meaning the Project would conflict with Consistency Criterion No. 1 of the 2016 AQMP. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Irwindale to enforce that have a proportional nexus to the Project’s level of impact, as the source of a large majority of these emissions is tailpipe emissions from cars and trucks traveling to and from the Project site. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site. As such, it is concluded that the Project’s inconsistency with the SCAQMD 2016 AQMP would result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.
- Air Quality Threshold b: Significant and Unavoidable Direct and Cumulatively Considerable Impact. Even with the incorporation of the required mitigation measures and regulatory requirements specified in EIR Subsection 4.2, Project-related emissions of NO_x and VOCs would still be above the SCAQMD Daily Regional Thresholds for these pollutants. No other mitigation measures are available that are feasible for the Project Applicant to implement and for the City of Irwindale to enforce that have a proportional nexus to the Project’s level of impact, as the source of a large majority of these emissions is tailpipe emissions from cars and



trucks traveling to and from the Project site. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site. As such, it is concluded that the Project's long-term emissions of VOCs and NO_x would result in a significant and unavoidable impact on both a direct and cumulatively considerable basis.

- Greenhouse Gas Emissions Thresholds a and b: Significant and Unavoidable Cumulatively Considerable Impact. Greenhouse gases would be emitted by the Project-related construction and operational activities, primarily from mobile sources (vehicles traveling to and from the Project site). Given the methodologies applied in the GHG analysis and the conservatively estimated number of traffic trips and vehicle miles traveled that are assumed in the analysis, the Project's annual GHG emissions is calculated at 46,531.47 MTCO_{2e} per year, which exceeds the 3,000 MTCO_{2e} per year threshold, which is the quantitative threshold of significance used by this EIR. Also, although the Project would not conflict with applicable regulations, policies, plans, and policy goals adopted for the purpose of reducing GHG emissions, there is a lack of substantial evidence to definitively conclude that the Project's incremental GHG emissions would not incrementally contribute to the State's potential inability to meet its climate change goals. Mitigation measures are imposed, but additional feasible mitigation measures with a proportional nexus to the Project's level of impact are not available to further reduce Project-related GHG emissions. The City of Irwindale does not have the jurisdictional authority or enforcement capacity to regulate motor vehicle engines, fuel type use, or the types of vehicles that access the Project site.
- Transportation Threshold a: Significant and Unavoidable Direct and Cumulatively Considerable Impact. With the incorporation of all feasible mitigation measures, the addition of Project-related traffic to the existing and planned circulation network would directly impact two (2) intersections (Intersection #11 – Private Drive B at Arrow Highway [proposed by the Project] and Intersection #30 – Maine Avenue & Arrow Highway) and make cumulatively considerable contributions to 10 intersections that are not feasible to fully mitigate. The Project Applicant would make roadway improvements to address direct impacts and pay fair share fees to address cumulatively considerable impacts; however, because improvements to the affected facilities cannot be assured and may not be in place before the Project becomes operational, this EIR recognizes the impacts as significant and unavoidable, until the needed improvements are implemented.

The Project would result in a significant direct and cumulatively considerable traffic impacts to I-605 Freeway facilities. All state highway system facilities in the Project study area are under the jurisdiction of Caltrans. As such, the City of Irwindale cannot assure the construction of improvements to state highway facilities that may be needed to improve traffic flow. Furthermore, Caltrans does not have any funding mechanism in place at this time to allow development projects to contribute a fair-share payment to contribute to future improvements and off-set cumulatively considerable traffic impacts. The Project Applicant would be required to pay such fair-share payment to Caltrans, if a fee program is established by Caltrans prior to the issuance of Project building permits; however, there is no assurance that such a fee program



will be established. Also, there is no assurance that planned improvements will be in place prior to the time that the Project begins to contribute traffic to the facilities.

6.1 ALTERNATIVES UNDER CONSIDERATION

CEQA Guidelines § 15126.6(e) requires that an alternative be included that describes what would reasonably be expected to occur on the property in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services (i.e., “no project” alternative). For projects that include a revision to an existing land use plan, the “no project” alternative is considered to be the continuation of the existing land use plan into the future. Although the Project proposes an amendment to the City of Irwindale General Plan, the infrastructure to support development of the property in accordance with the General Plan’s existing land use designation of “Regional Commercial” is not presently available. Also, development of the Project site with regional commercial uses instead of the uses proposed by The Park @ Live Oak Specific Plan would result in greater environmental effects and the purpose of an alternatives evaluation is to reduce environmental effects. As such, continuation of the Regional Commercial land use designation on the Project site is discussed below under Subsection 6.2, *Alternatives Considered and Rejected*. For projects other than a land use plan (for example, a development project on an identifiable property), the “no project” alternative is considered to be a circumstance under which the project does not proceed (CEQA Guidelines § 15126(e)(3)(A-B)). For the alternatives analysis in this EIR, the potential scenario where the Project does not proceed is considered to be the “No Project/No Development Alternative.”

The following scenarios are identified by the City of Irwindale as potential alternatives to implementation of the proposed Project. The Industrial Business Park Alternative is considered the Environmentally Superior Alternative pursuant to CEQA Guidelines § 15126.6.

6.1.1 NO PROJECT/NO DEVELOPMENT ALTERNATIVE

The No Development Alternative considers no development on the Project site beyond that which occurs under existing conditions. As such, the entire 78.3-acre site would remain vacant and undeveloped at the completion of the IDEFO activities currently occurring at the Project site under the approved Grading Permit No. 05061504220003. Under this alternative, no improvements would be made to the Project site following completion of IDEFO activities and the work permitted by Grading Permit No. 05061504220003. This alternative was selected by the Lead Agency to compare the environmental effects of the proposed Project with an alternative that would leave the property in its existing (post-IDEFO activities) condition.

6.1.2 INDUSTRIAL BUSINESS PARK ALTERNATIVE

The Industrial Business Park Alternative contemplates development of the entirety of the Project site with Industrial/Business Park land uses (as described in EIR Section 3.0, *Project Description*). This alternative would effectively implement the proposed The Park @ Live Oak Specific Plan land use plan with the exception that commercial land uses would no longer be permitted within any of the Planning Areas (the proposed Project allows for up to 98,600 s.f. of commercial building square



footage within Planning Areas 1A, 2A, 3A, and 4, combined). All other aspects of The Park @ Live Oak Specific Plan would remain unchanged under this alternative. Up to 1,451,400 s.f. of industrial/business park uses would be developed under this alternative. The Industrial Business Park Alternative reduces the Project's vehicular trip generation through eliminating the Project's most traffic-intensive land use (commercial) and developing those areas with a land use (industrial/business park), which would effectively result in an approximately 63% reduction in total daily vehicle trips (actual vehicles) compared to the proposed Project. Because this alternative would generate substantially fewer vehicle trips, it would result in concomitant reductions to the Project's significant and unavoidable impacts to air quality, GHG emissions, and transportation impacts. Pursuant to CEQA Guidelines § 15126.6, the Industrial Business Park Alternative is identified as the Environmentally Superior Alternative.

6.1.3 HIGH-CUBE WAREHOUSE ALTERNATIVE

The High-Cube Warehouse Alternative contemplates restricting the range of permitted uses in Planning Areas 1, 2, and 3 (designated for Industrial/Business Park land uses by The Park @ Live Oak Specific Plan) to only high-cube warehouse land uses. Specifically, this alternative contemplates homogenous development of Planning Areas 1, 2, and 3 with buildings that would only accommodate building users that meet the definition of "short-term high cube transload warehouses" by the Institution of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017), Code 154, which includes transload and short-term high-cube warehouse facilities. According to the ITE Manual, 10th Edition, transload facilities have a primary function of consolidation and distribution of pallet loads (or larger) for manufacturers, wholesalers, or retailers. Transload facilities typically have little storage duration, high throughput, and are high-efficiency facilities. Short-term high-cube warehouses are high-efficiency distribution facilities often with custom/special features built into structure movement of large volumes of freight with only short-term storage of products. Therefore, this alternative contemplates development of Planning Areas 1, 2, and 3 with up to 1,451,400 s.f. of high-cube transload and short-term storage warehouse building square footage. All other aspects of The Park @ Live Oak Specific Plan would remain unchanged under this alternative.

The High-Cube Warehouse Alternative reduces the Project's vehicular trip generation through the application of ITE Code 154 to Planning Areas 1, 2, and 3 to calculate the total daily trips (actual vehicles) that would be generated by these Planning Areas. To calculate the Project's trip generation for Planning Areas 1 through 3, the Traffic Impact Analysis (EIR *Technical Appendix II*) for the proposed Project applied ITE Code 154 (High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) and ITE Code 155 (High-Cube Fulfillment Center Warehouse) to Planning Area 1; ITE Code 110 (General Light Industrial), ITE Code 150 (Warehousing), and ITE Code 154 (High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) to Planning Area 2; and ITE Code 140 (Manufacturing) and ITE Code 150 (Warehousing) to Planning Area 3. This alternative applies ITE Code 154 (High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) to Planning Areas 1 through 3 because it has the lowest daily vehicle trip generation rate (1.4 vehicles per thousand square feet per day) compared to all of the other above-listed ITE codes. As such, the High Cube Warehouse Alternative would result in an approximate 22.8% reduction in total



daily vehicle trips compared to the proposed Project. Because this alternative would generate substantially fewer vehicle trips (approximately 22.8%), it would result in concomitant reductions to the Project's significant and unavoidable impacts to air quality, GHG emissions, and transportation impacts.

6.2 ALTERNATIVES CONSIDERED AND REJECTED

An EIR is required to identify any alternatives that were considered by the Lead Agency but were rejected as infeasible. Among the factors described by CEQA Guidelines § 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 proposed Project, CEQA Guidelines § 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...”

Alternatives can be dismissed from analysis 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 from further evaluation are described below.

6.2.1 ALTERNATIVE SITES

CEQA does not require that an analysis of alternative sites always be included in an EIR. However, if the surrounding circumstances make it reasonable to consider an alternative site then this alternative should be considered and analyzed in the EIR. In making the decision to include or exclude analysis of an alternative site, the “key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR” (CEQA Guidelines § 15126.6(f)(2)).

Under existing conditions, the entire 78.3-acre Project site is disturbed as a result of historical mining activities and ongoing IDEFO activities. No permanent buildings or other prominent man-made features are present on the Project site. There are no other properties for sale in the City of Irwindale that are of similar size and poised for new development or redevelopment that the Project Applicant has the reasonable possibility of controlling and that would have fewer developmental and environmental constraints than the Project site evaluated in this EIR.

Furthermore, development of the Project in an alternative location would have similar impacts as would occur with implementation of the Project at its proposed location because the Project's



significant and unavoidable impacts (i.e., NO_x, VOCs, and greenhouse gas emissions from vehicles traveling to/from the Project site, as well as traffic-related impacts to the local circulation system and CMP system) is not related to the presence/absence of sensitive resources on the Project site or its location near sensitive receptors; but, rather, is related to the scope of expected operations on the site. In fact, if an alternative site were selected for the Project that was located farther from Interstate 605 (I-605), Interstate 210 (I-210), and/or Interstate 10 (I-10) than the Project site under consideration is located adjacent to I-605, the severity of the Project's vehicular-related impacts would increase as miles traveled for vehicles accessing/exiting the site would increase.

For these reasons, an alternative sites analysis is not required for the Project.

6.2.2 GENERAL PLAN CONSISTENCY ALTERNATIVE

The General Plan Consistency Alternative (GPCA) considers development of the site with land uses that are consistent with the existing applicable Irwindale General Plan land use designations. As shown on Figure 2-4, *Existing General Plan Land Use Designations*, the Irwindale General Plan designates the entire 78.3-acre Project site as "Regional Commercial." In comparison to the proposed Project, (which allows for the site to be developed with up to 98,600 square feet (s.f.) of commercial land uses within Planning Areas 1A, 2A, 3A and 4 combined), the GPCA would allow for the entire Project site to be developed with Regional Commercial land uses. According to the Community Development Element of the Irwindale General Plan, the "Regional Commercial" land use designation is intended to "...encourage a balanced mix of commercial, office professional, and light manufacturing uses along a number of high-visibility traffic corridors" (City of Irwindale, 2008, p. 40). The maximum development intensity (Floor Area Ratio) applicable to the "Regional Commercial" land use designation is 2.0 to 1.0. The existing Regional Commercial General Plan land use designation applicable to the Project site would generate more vehicular trips compared to the mix of industrial, business park, and commercial land uses proposed by The Park @ Live Oak Specific Plan land use plan. Because the GPCA would allow for the entirety of the Project site to be developed with a more traffic-intensive land use (Regional Commercial), it would result in increased vehicular trips with corresponding increases in the potential for impacts to air quality, GHG emissions, noise, and traffic as compared to the proposed Project.

Because the GPCA would be likely to substantially increase several of the potential environmental impacts of the proposed Project without avoiding any of the significant and unavoidable environmental impacts of the proposed Project, the GPCA was considered but rejected.

6.3 ALTERNATIVE ANALYSIS

The following discussion compares the impacts of each alternative considered by the Lead Agency with the impacts of the proposed Project (as disclosed in Section 4.0, *Environmental Analysis*, of this EIR). A conclusion is provided for each topic as to whether the alternative results in one of the following: (1) reduction of elimination of the proposed Project's impact, (2) a greater impact than would occur under the proposed Project, (3) the same impact as the proposed Project, or (4) a new impact in addition to the proposed Project's impacts. Table 6-1, *Alternatives to the Proposed Project*



– *Comparison of Environmental Impacts*, at the end of this section compares the impacts of the alternatives against those of the proposed Project and identifies the ability of the alternative to meet the basic objectives of the Project. As described in EIR Subsection 3.2, the proposed Project’s basic objectives are:

- A. Maximize the development potential of a former sand and gravel quarry as soon as feasibly possible so that the property will be economically productive when reclamation activities cease.
- B. Create a comprehensive master plan for the development of the former sand and gravel quarry as an industrial/commercial business park that will attract quality tenants.
- C. Develop an industrial/commercial business park that is feasible to construct and operate and that is economically competitive with other similar centers in the southern California region, which will assist the City of Irwindale in competing economically on a domestic and international scale through the efficient and cost-effective movement of goods.
- D. Provide economic and job growth opportunities in and near the City of Irwindale by diversifying the available range of industrial, business park, and retail uses through the development of a large property with employment-generating land uses with long-term economic viability that complements the diversity of uses already present and planned in the City.
- E. Provide for uses that will generate tax revenue for the City of Irwindale through increased property and sales taxes from point-of sale tenants and retail purchases in order to support the City’s ongoing municipal operations.
- F. Provide an attractive, state-of-the-art industrial/commercial business park that meets current industry standards for operational design criteria and minimizes conflicts to the extent possible with surrounding existing and planned uses.
- G. Provide opportunities for warehouse/distribution building users to locate in the City of Irwindale by offering buildings with loading bays in close proximity to existing I-605 on- and off-ramps.
- H. Provide industrial/commercial business park that takes advantage of the proximity to I-605 and its connection to other freeways and transportation corridors to reduce traffic congestion on surface streets and to reduce concomitant vehicular-related air pollutant emissions associated with inefficient travel patterns.
- I. Fill an existing need for truck-based goods distribution facilities in the land-constrained metropolitan region of Los Angeles County.
- J. Accommodate new development in a phased, orderly manner that is coordinated with the provision of necessary infrastructure and public improvements.



6.3.1 NO DEVELOPMENT ALTERNATIVE

The No Development Alternative considers no development on the Project site beyond that which occurs under existing conditions. As such, the entire 78.3-acre site would remain vacant and undeveloped at the completion of the IDEFO activities currently occurring at the Project site under the approved Grading Permit No. 05061504220003. Under this alternative, no improvements would be made to the Project site following completion of IDEFO activities and closure of Grading Permit No. 05061504220003. This alternative was selected by the Lead Agency to compare the environmental effects of the proposed Project with an alternative that would leave the property in its existing (post-IDEFO activities) condition. No buildings, permanent man-made structures/facilities or other discernable man-made features will be present on the Project site at the completion of IDEFO activities. Refer to the description of the Project site's existing physical conditions in Section 2.0, *Environmental Setting*, of this EIR.

A. *Aesthetics*

The Project site does not contain any unique aesthetic resources, nor does it serve as a prominent scenic vista. The site is currently undergoing IDEFO reclamation activities permitted under approved Grading Permit No. 05061504220003 and is visually characterized by two (2) large former quarry pits located on the eastern and western areas of the Project site that are being backfilled. The Project site is barren with the exception of sparse shrubbery and vegetation and construction equipment associated with the on-going inert landfill operations at the Project site. Four (4) evenly-spaced dual-faced static billboards are located along the easterly Project site boundary and are visible from the I-605 freeway. Pole-mounted overhead power lines also run along the easterly Project site boundary and are visible from the I-605 freeway. An evenly-spaced row of ornamental trees occurs along the Project site's frontage with Arrow Highway. Under the No Development Alternative, the visual character and quality of the site would be maintained in its condition at the completion of reclamation activities and Grading Plan No. 05061504220003 which would be a vacant graded property with no roadways or other man-made structures. Buildout of the site with the proposed Project would create a cohesive development that would utilize the entire site. The Project would be fully landscaped. Selection of this alternative would result in a greater long-term aesthetic impact than the proposed Project because a large vacant lot would be less compatible with the character of surrounding land uses than would an industrial/commercial business park that includes buildings characterized by high-quality building materials and attractive architecture and landscaping.

B. *Air Quality*

The No Development Alternative would result in no short-term construction activities or long-term operational activities that have the potential to result in the emissions of air pollutants or odors. Under the No Development Alternative there would be no impacts due to emissions of criteria pollutants, exposure of sensitive receptors to substantial pollutant concentration, or the creation of objectionable odors. All of the Project's short- and long-term air quality effects would be avoided under this alternative.



C. Energy

The proposed Project's impacts associated with energy would be less than significant. Because no development would occur under the No Development Alternative, no potential impacts would occur associated with energy because there would be no improvements to the site that would consume energy under construction or operations. Accordingly, this alternative would avoid the proposed Project's less-than-significant impacts to energy.

D. Geology and Soils

The No Development Alternative would result in no further grading of the property beyond the grading that is already occurring at the property in accordance with the on-going IDEFO activities and approved Grading Permit No. 05061504220003. Accordingly, this alternative would further reduce the Project's less-than-significant impacts to geology or soils associated with grading of the property. Because no structures would be constructed on-site, there would be no risks to humans associated with seismic ground shaking or geologic hazards. Selection of this alternative would avoid the Project's less-than-significant impacts to geology and soils.

E. Greenhouse Gas Emissions

Under the No Development Alternative, no development would occur on the Project site; therefore, there would be no sources of near-term or long-term GHG emissions. Selection of this alternative would avoid all of the Project's near- and long-term effects associated with GHG emissions.

F. Hazards and Hazardous Materials

As with the Project, under the No Development Alternative, IDEFO activities would continue to occur on the Project site until completion, beyond which no development would occur. Accordingly, under the No Development Alternative, no impacts related to hazards or hazardous materials would occur with respect to construction or operation of a development project. Under the No Development Alternative, wildfire-related hazards would remain the same as existing conditions, but would be increased in comparison to the Project because none of the Project's fire protection improvements would be implemented. Therefore, selection of this alternative would avoid the Project's less-than-significant impacts related to hazards and hazardous materials, with the exception of wildfire hazards.

G. Hydrology and Water Quality

No changes to the hydrology and drainage conditions that will be present following completion of the IDEFO activities and grading under Grading Permit No. 05061504220003 would occur under the No Development Alternative. No storm water improvements would be constructed and rainfall would be discharged from the site as sheet flow, as occurs under existing conditions and following implementation of IDEFO activities and implementation of Grading Permit No. 05061504220003. Additionally, under this alternative, much of the storm water leaving the site would not be treated to minimize waterborne pollutants and would continue to contain sediment and other potential pollutants, as occurs under existing conditions and following implementation of IDEFO activities and



implementation of Grading Permit No. 05061504220003. As such, selection of this alternative would not reduce impacts to hydrology and water quality as compared to the proposed Project, and may even increase impacts due to the absence of storm water management features such as water quality basins.

H. Land Use and Planning

The No Development Alternative would result in no fine grading or development of the property; therefore, the Project site would remain vacant following completion of IDEFO activities and grading under Grading Permit No. 05061504220003. Under existing conditions, the Project site is designated “Regional Commercial” by the Irwindale General Plan. This alternative would preclude implementation of the planned use of the property (Regional Commercial), whereas the Project would involve a GPA that would facilitate a minimum of 15,000 s.f. and maximum of 98,600 s.f. of commercial development and up to 1,535,000 s.f. of industrial/business park development at the Project site. Accordingly, because selection of this alternative would entirely preclude development of the property with the uses envisioned for the site by the City’s General Plan, the alternative would increase the Project’s less-than-significant impacts to Land Use and Planning.

I. Noise

The No Development Alternative would not result in construction on-site and, therefore, would not generate any near-term noise associated with construction. Additionally, because the property would not be developed and no traffic trips would be generated, the No Development Alternative would not contribute to an incremental increase in area-wide noise levels. Selection of this alternative would avoid all of the Project’s noise effects.

J. Public Services

The proposed Project’s impacts to public services would be less than significant. The No Development Alternative would not result in any new development within the Project site, which would result in a corresponding reduction in the demand for public services when compared to the proposed Project. Accordingly, the proposed Project’s less-than-significant impacts associated with public services would be avoided under this alternative.

K. Transportation

Under the No Development Alternative, no new development would occur; therefore, no traffic would be generated by the vacant property following completion of IDEFO activities and grading under Grading Permit No. 05061504220003. Because no traffic would be generated under this alternative, the proposed Project’s significant direct and cumulatively considerable impacts to the local roadway system and CMP facilities would be avoided under this alternative.

L. Tribal and Cultural Resources

The No Development Alternative would leave the property in its existing condition (reflecting completion of IDEFO activities and implementation of Grading Plan No. 05061504220003). No fine



grading would occur under this alternative. However, since the site has historically operated as sand and gravel quarry and subsequently undergoing mine reclamation activities, the subsurface of the Project site has been substantially disturbed. Accordingly, under the No Development Alternative, potential impacts to subsurface tribal cultural resources that may exist beneath the ground surface would be similar to those of the Project (less than significant).

M. Utilities and Service Systems

The proposed Project's impacts associated with utilities and service systems would be less than significant. Because no development would occur under the No Development Alternative, no potential impacts would occur associated with utilities and service systems. Accordingly, this alternative would avoid the proposed Project's less-than-significant impacts to utilities and service systems.

N. Conclusion

Implementation of the No Development Alternative would result in no physical environmental impacts beyond those that have historically occurred on the property. All significant effects of the proposed Project would be avoided by the selection of this alternative. Because this alternative would avoid all of the Project's environmental impacts, it warrants consideration as the "environmentally superior alternative." However, pursuant to CEQA Guidelines § 15126.6(e)(2), if a no project alternative is identified as the "environmentally superior alternative" then the EIR shall also identify an environmentally superior alternative among the other alternatives. The Industrial Business Park Alternative, as described in Subsection 6.1.2, is identified as the environmentally superior alternative. The No Development Alternative would fail to meet all of the Project's objectives.

6.3.2 INDUSTRIAL BUSINESS PARK ALTERNATIVE

The Industrial Business Park Alternative contemplates development of the entirety of the Project site with Industrial/Business Park land uses (as described in EIR Section 3.0, *Project Description*). This alternative would effectively implement the proposed The Park @ Live Oak Specific Plan land use plan with the exception that commercial land uses would no longer be permitted within any of the Planning Areas (the proposed Project allows for up to 98,600 s.f. of commercial building square footage within Planning Areas 1A, 2A, 3A, and 4, combined). All other aspects of The Park @ Live Oak Specific Plan would remain unchanged under this alternative. Up to 1,451,400 s.f. of industrial/business park uses could be developed under this alternative. The Industrial Business Park Alternative reduces the Project's vehicular trip generation through eliminating the Project's most traffic-intensive land use (commercial) and developing those areas with a land use (Industrial/Business Park), which would effectively result in an approximately 63% reduction in total daily vehicle trips (actual vehicles) compared to the proposed Project. Because this alternative would generate substantially fewer vehicle trips, it would result in concomitant reductions to the Project's significant and unavoidable impacts to air quality, GHG emissions, and transportation impacts. Pursuant to CEQA Guidelines § 15126.6, the Industrial Business Park Alternative is identified as the Environmentally Superior Alternative.



The following impact areas would have identical impacts under this alternative as the proposed Project:

- Aesthetics
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Public Services
- Tribal Cultural Resources
- Utilities and Service Systems

The impact areas analyzed below are dependent on traffic generation rates and associated operational emissions and therefore differ from the proposed Project as a result of the elimination of commercial land uses that would occur under the Industrial Business Park Alternative.

A. Air Quality

Under the Industrial Business Park Alternative, the extent of construction activities would be identical to the proposed Project. As such, neither this alternative nor the proposed Project would result in the violation of an air quality standard or contribution to a projected air quality violation during the construction phase.

This alternative would generate approximately 5,366 actual vehicle trips per day as compared to the 14,607 actual vehicle trips (not adjusted for PCE) that would be generated by the proposed Project. This is due to the fact that commercial land uses would not be permitted, thereby eliminating the high traffic volumes that are associated with commercial uses on the property. Only the Industrial/Business Park land uses permitted by The Park @ Live Oak Specific Plan would occur on the Project site. As such, the average daily vehicle traffic associated with long-term operation of the Industrial Business Park Alternative would be approximately 63.3% less than traffic that would be generated by the proposed Project. As a result, air pollutant emissions associated with long-term operation of this alternative would be concomitantly decreased as compared to the proposed Project. As such, this alternative would reduce, but likely not avoid, the Project's significant direct and cumulatively considerable unavoidable impact (long-term) to air quality associated with VOC and NO_x emissions.

Because both the Project and this alternative would generate operational emissions of VOCs and NO_x that would exceed the SCAQMD daily regional thresholds, they would both result in an inconsistency with the 2016 SCAQMD AQMP and hence result in similar significant and unavoidable direct and cumulatively considerable impacts. Although, the severity of this impact would be less under the Industrial Business Park Alternative.

Diesel particulate matter (DPM) emissions would be slightly reduced under this alternative due to the small reduction in truck trips associated with elimination of the commercial land uses. Nonetheless, because a majority of the Project's truck trips are associated with industrial and business park land uses, there would not be a substantial reduction in the level of DPM emissions compared to the proposed Project. Therefore, this alternative would result in similar less-than-significant impacts associated with carcinogenic and non-carcinogenic risks related to DPM exposure.



The Industrial Business Park Alternative would generate odors during short-term construction activities (e.g., diesel exhaust, architectural coatings, asphalt) and long-term operation (e.g., diesel exhaust). However, and similar to the proposed Project, these odors would occur intermittently, be of short-term duration, and would not be substantial. Similar to the proposed Project, short-term construction and long-term operation of this alternative would not create objectionable odors affecting a substantial number of people and impacts would be less than significant with compliance with mandatory regulatory requirements and implementation of feasible mitigation measures.

B. Energy

The commercial components of the Project would not be constructed under the Industrial Business Park Alternative; as such, the extent of construction activities would be reduced compared to the proposed Project. As such, both the Project and this alternative would result in slightly reduced energy and fuel consumption during construction activities.

Due to the decrease in the amount of traffic associated with this alternative (63.3% fewer average daily vehicle trips), operational fuel consumption would measurably decrease as compared to the proposed Project. Because the Industrial Business Park Alternative would result in a reduced building footprint compared to the proposed Project, building energy consumption would be concomitantly reduced as compared to the Project.

Accordingly, this alternative would generally result in decreased impacts related to energy.

C. Greenhouse Gas Emissions

Due to the decrease in the amount of traffic associated with this alternative (63.3% fewer average daily vehicle trips), mobile-source GHG emissions would decrease as compared to the proposed Project. Because the Industrial Business Park Alternative would result in a slightly reduced building footprint compared to the proposed Project, non-mobile source operational GHG emissions (indirect emissions associated with for building energy consumption) would be slightly reduced. Given the alternative's decrease in mobile emissions, the Project's GHG impacts would be decreased under this alternative but would remain significant and unavoidable.

D. Noise

Noise associated with the Industrial Business Park Alternative would occur during short-term construction activities and under long-term operation. The types of construction activities conducted on the site would be substantially similar to the proposed Project, and the peak daily noise levels generated during the construction phase would also be substantially similar. As such, both this alternative and the proposed Project would result in less-than-significant short-term noise levels during construction.

Under long-term operational conditions, noise generated by the Industrial Business Park Alternative primarily would be associated with vehicles traveling to and from the site and on-site vehicle idling,



maneuvering and parking. This alternative would generate approximately 9,241 fewer average daily trips than the Project and, therefore, would contribute less traffic-related noise to local roadways than the Project. The Industrial Business Park Alternative would result in less-than-significant off-site, traffic-related noise impacts during long-term operation, which is the same conclusion reached for the Project. As such, noise impacts due to on-site activities would be less than significant and reduced compared to the proposed Project.

E. Transportation

This alternative would generate approximately 5,366 average actual vehicle trips on a daily basis. In comparison, the proposed Project would generate approximately 14,607 average actual vehicle trips on a daily basis. The level of reduction represents a drop of approximately 63.3% in daily traffic trips that would occur with selection of this alternative which would reduce the severity of impacts to study area intersections, roadway segments, CMP facilities, and freeway facilities.

F. Conclusion

Selection of the Industrial Business Park Alternative would reduce, but not avoid the Project's significant unavoidable impacts to air quality, greenhouse gas emissions, and traffic. The Industrial Business Park Alternative would also further reduce the Project's less-than-significant energy consumption and noise impacts. As compared to the proposed Project, the Industrial Business Park Alternative would result in similar less-than-significant impacts to aesthetics, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, public services, tribal cultural resources, and utilities and service systems.

The Industrial Business Park Alternative would meet some but not all of the Project's objectives due to the removal of the commercial uses. This alternative would meet Project Objective A by maximizing the development potential of a former sand and gravel quarry upon the completion of its reclamation process so that the property will be economically productive. This alternative would partially meet Objective B by creating a comprehensive master plan for the development of the former sand and gravel quarry, but would only implement the industrial component of the Project's originally proposed industrial/commercial business park that would attract quality tenants. Notwithstanding this alternative's lack of commercial uses, the Industrial Business Park Alternative would generally achieve Project Objective C (to develop an industrial/commercial business park that is feasible to construct and operate and that is economically competitive with other similar centers in the southern California region, which will assist the City of Irwindale in competing economically on a domestic and international scale through the efficient and cost-effective movement of goods). Notwithstanding this alternative's lack of retail uses, the Industrial Business Park Alternative would generally achieve Project Objective D (to provide economic and job growth opportunities in and near the City of Irwindale by diversifying the available range of industrial, business park, and retail uses through the development of a large property with employment-generating land uses with long-term economic viability that complements the diversity of uses already present and planned in the City). Due to the lack of commercial uses, this alternative would preclude the generation of tax revenue for the City of Irwindale through retail purchases, and would therefore potentially fail to achieve Project Objective E.



This alternative would still provide an attractive state-of-the-art industrial business park development that meets current industry standards for operational design criteria and minimizes conflicts to the extent possible with surrounding existing and planned uses, it would not include any commercial uses and therefore would only partially achieve Project Objective F. The Industrial Business Park Alternative would provide opportunities for warehouse/distribution building users to locate in the City of Irwindale by offering buildings with loading bays in close proximity to existing I-605 on- and off-ramps, and would therefore achieve Project Objective G. This alternative would still provide an industrial/commercial business park that takes advantage of the proximity to I-605 and its connection to other freeways and transportation corridors to reduce traffic congestion on surface streets and to reduce concomitant vehicular-related air pollutant emissions associated with inefficient travel patterns; however, it would not include a commercial component as originally intended by Project Objective H. This alternative would achieve Project Objective I through filling an existing need for distribution facilities in Los Angeles County. Lastly, the Industrial Business Park Alternative would achieve Project Objective J by accommodating new development in a phased, orderly manner that is coordinated with necessary infrastructure and public improvements because it would still implement the phasing plan and infrastructure improvements from The Park @ Live Oak Specific Plan. Because this alternative would generally attain most of the primary objectives of the Project with reduced environmental impacts, it is considered to be environmentally superior to the proposed Project.

6.3.3 HIGH-CUBE WAREHOUSE ALTERNATIVE

The High-Cube Warehouse Alternative contemplates restricting the range of permitted uses in Planning Areas 1, 2, and 3 (designated for Industrial/Business Park land uses by The Park @ Live Oak Specific Plan) to only high-cube warehouse land uses. Specifically, this alternative contemplates homogenous development of Planning Areas 1, 2, and 3 with buildings that would only accommodate building users that meet the definition of “short-term high cube transload warehouses” by the Institution of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017), Code 154, which includes transload and short-term high-cube warehouse facilities. According to the ITE Manual, 10th Edition, transload facilities have a primary function of consolidation and distribution of pallet loads (or larger) for manufacturers, wholesalers, or retailers. Transload facilities typically have little storage duration, high throughput, and are high-efficiency facilities. Short-term high-cube warehouses are high-efficiency distribution facilities often with custom/special features built into structure movement of large volumes of freight with only short-term storage of products. Therefore, this alternative contemplates development of Planning Areas 1, 2, and 3 with up to 1,451,400 s.f. of high-cube transload and short-term storage warehouse building square footage. All other aspects of The Park @ Live Oak Specific Plan would remain unchanged under this alternative.

The High-Cube Warehouse Alternative reduces the Project’s vehicular trip generation through the application of ITE Code 154 to Planning Areas 1, 2, and 3 to calculate the total daily trips (actual vehicles) that would be generated by these Planning Areas. To calculate the Project’s trip generation for Planning Areas 1 through 3, the Traffic Impact Analysis (EIR *Technical Appendix II*) for the proposed Project applied ITE Code 154 (High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) and ITE Code 155 (High-Cube Fulfillment Center Warehouse) to Planning



Area 1; ITE Code 110 (General Light Industrial), ITE Code 150 (Warehousing), and ITE Code 154 (High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) to Planning Area 2; and ITE Code 140 (Manufacturing) and ITE Code 150 (Warehousing) to Planning Area 3. This alternative applies ITE Code 154 (High-Cube Transload and Short-Term Storage Warehouse [Without Cold Storage]) to Planning Areas 1 through 3 because it has the lowest daily vehicle trip generation rate (1.4 vehicles per thousand square feet per day) compared to all of the other above-listed ITE codes. As such, the High Cube Warehouse Alternative would result in an approximate 22.8% reduction in total daily vehicle trips compared to the proposed Project. Because this alternative would generate substantially fewer vehicle trips (approximately 22.8%), it would result in concomitant reductions to the Project's significant and unavoidable impacts to air quality, GHG emissions, and transportation impacts.

The following impact areas would have identical impacts under this alternative as the proposed Project:

- Aesthetics
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Public Services
- Tribal Cultural Resources
- Utilities and Service Systems

The impact areas analyzed below are dependent on traffic generation rates and associated operational emissions and therefore differ from the proposed Project as a result of the restricted land uses imposed by the High-Cube Warehouse Alternative.

A. Air Quality

Under the High-Cube Warehouse Alternative, the extent of construction activities would be identical to the proposed Project. As such, neither this alternative nor the proposed Project would result in the violation of an air quality standard or contribution to a projected air quality violation during the construction phase.

This alternative would generate approximately 11,272 actual vehicle trips per day, which was calculated by applying ITE Code 154 for High-Cube Transload and Short-Term Storage Warehouse to Planning Areas 1, 2, and 3, with the trip generation methodology for the commercial uses identical to the Project (refer to the Project's Traffic Impact Analysis [EIR *Technical Appendix II*] and EIR Section 4.11, *Transportation*, for detailed information regarding trip generation methodology). This alternative would result in a 22.8% reduction in actual vehicle trips compared to the Project which would generate 14,607 actual vehicle trips (not adjusted for PCE). This is due to the fact that Industrial/Business Park building occupants would be restricted to only those that meeting the ITE Manual, 10th Edition, definition of only High-Cube Transload and Short-Term Storage Warehouse buildings. As such, the average daily vehicle traffic associated with long-term operation of the High-Cube Transload and Short-Term Storage Warehouse Alternative would be approximately 22.8% less than traffic that would be generated by the proposed Project. As a result, air pollutant emissions associated with long-term operation of this alternative would be concomitantly decreased as compared



to the proposed Project. As such, this alternative would reduce, but not avoid, the Project's significant direct and cumulatively considerable unavoidable impact (long-term) to air quality associated with VOCs and NO_x emissions.

Because both the Project and this alternative would generate operational emissions of VOCs and NO_x that would exceed the SCAQMD daily regional thresholds, they would both result in an inconsistency with the 2016 SCAQMD AQMP and hence result in similar significant and unavoidable direct and cumulatively considerable impacts.

Diesel particulate matter (DPM) emissions would be increased under this alternative, since the High-Cube Transload and Short-Term Storage Warehouse land use (consistent with ITE Code 154) generates a higher rate of truck trips as compared to the other land uses proposed by the Project which are represented by a different mix of ITE codes that generate a lower rate of truck trips. Therefore, this alternative would result in slightly increased impacts associated with carcinogenic and non-carcinogenic risks related to DPM exposure as compared to the Project.

The High-Cube Warehouse Alternative would generate odors during short-term construction activities (e.g., diesel exhaust, architectural coatings, asphalt) and long-term operation (e.g., diesel exhaust). However, and similar to the proposed Project, these odors would occur intermittently, be of short-term duration, and would not be substantial. Similar to the proposed Project, short-term construction and long-term operation of this alternative would not create objectionable odors affecting a substantial number of people and impacts would be less than significant with compliance with mandatory regulatory requirements and implementation of feasible mitigation measures.

B. Energy

Under the High-Cube Warehouse Alternative, the extent of construction activities would be identical to the proposed Project. As such, both the Project and this alternative would result in similar quantity of energy and fuel consumption during construction activities.

Due to the decrease in the amount of traffic associated with this alternative (22.8% fewer average daily vehicle trips), operational fuel consumption would decrease as compared to the proposed Project. Because the High-Cube Warehouse Alternative would result in a similar building footprint as the proposed Project, building energy consumption would be similar as compared to the Project.

Accordingly, this alternative would generally result in decreased impacts related to energy due to transportation fuel source demand reductions.

C. Greenhouse Gas Emissions

Due to the decrease in the amount of traffic associated with this alternative (22.8% fewer average daily vehicle trips), mobile-source GHG emissions would decrease as compared to the proposed Project. Because the High-Cube Warehouse Alternative would result in a similar building footprint as the proposed Project, non-mobile source operational GHG emissions (indirect emissions associated with



for building energy consumption) would be similar. Given the alternative's decrease in mobile emissions, the Project's GHG impacts would be decreased under this alternative but would remain significant and unavoidable.

D. Noise

Noise associated with the High-Cube Warehouse Alternative would occur during short-term construction activities and under long-term operation. The types of construction activities conducted on the site would be identical to the proposed Project, and the peak daily noise levels generated during the construction phase would also be identical. As such, both this alternative and the proposed Project would result in less-than-significant short-term noise levels during construction.

Under long-term operational conditions, noise generated by the High-Cube Warehouse Alternative primarily would be associated with vehicles traveling to and from the site and on-site vehicle idling, maneuvering and parking. This alternative would generate approximately 3,335 fewer average daily trips than the Project and, therefore, would contribute less traffic-related noise to local roadways than the Project. The High-Cube Warehouse Alternative would result in less-than-significant off-site, traffic-related noise impacts during long-term operation, which is the same conclusion reached for the Project. As such, noise impacts due to on-site activities would be less than significant and reduced compared to the proposed Project.

E. Transportation

This alternative would generate approximately 11,272 average actual vehicle trips on a daily basis. In comparison, the proposed Project would generate approximately 14,607 average actual vehicle trips on a daily basis. The level of reduction represents a drop of approximately 22.8% in daily traffic trips that would occur with selection of this alternative which would reduce the severity of impacts to study area intersections, roadway segments, CMP facilities, and freeway facilities.

F. Conclusion

Selection of the High-Cube Warehouse Alternative would reduce, but not avoid the Project's significant unavoidable impacts to air quality, greenhouse gas emissions, and traffic. The High-Cube Warehouse Alternative would result in greater impacts to The High-Cube Warehouse Alternative would also further reduce the Project's less-than-significant energy consumption and noise impacts. As compared to the proposed Project, the High-Cube Warehouse Alternative would result in similar less-than-significant impacts to aesthetics, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, public services, tribal cultural resources, and utilities and service systems

The High-Cube Warehouse Alternative would meet some but not all of the Project's objectives due to the removal of the commercial uses. This alternative would meet Project Objective A by maximizing the development potential of a former sand and gravel quarry as soon as feasibly possible so that the property will be economically productive when reclamation activities cease. This alternative would



successfully achieve Objective B by creating a comprehensive master plan for the development of the former sand and gravel quarry with an industrial/commercial business park that would attract quality tenants. The High-Cube Warehouse Alternative would generally achieve Project Objective C (to develop an industrial/commercial business park that is economically competitive with other similar centers in the southern California region), but to a lesser extent than the Project because in order to ensure that this alternative's impacts are as indicated in the preceding analysis, the Project Applicant would be required to restrict potential occupants to the land uses and trip generation rates outlined by ITE Code 154 for High-Cube Transload and Short-Term Storage Warehouse. Notwithstanding this alternative's limitations to restrict potential occupants to the land uses and trip generation rates outlined by ITE Code 154 for High-Cube Transload and Short-Term Storage Warehouse, the High-Cube Warehouse Alternative would generally achieve Project Objective D (to provide economic and job growth opportunities in and near the City of Irwindale by diversifying the available range of industrial, business park, and retail uses through the development of a large property with employment-generating land uses with long-term economic viability that complements the diversity of uses already present and planned in the City). This alternative would include identical commercial land uses compared to the Project and would therefore achieve Project Objective E through because it would generate a similar amount of tax revenue for the City of Irwindale through retail purchases. This alternative would implement the design guidelines from The Park @ Live Oak Specific Plan which would result in an attractive state-of-the-art industrial/commercial business park development that meets current industry standards for operational design criteria and minimizes conflicts to the extent possible with surrounding existing and planned uses; therefore, this alternative would achieve Project Objective F. The Industrial Business Park Alternative would provide opportunities for warehouse/distribution building users to locate in the City of Irwindale by offering buildings with loading bays in close proximity to existing I-605 on- and off-ramps, albeit to a lesser extent compared to the Project due to its limitations to restrict potential occupants to the land uses and trip generation rates outlined by ITE Code 154 for High-Cube Transload and Short-Term Storage Warehouse. Accordingly, this alternative would achieve Project Objective G, but less effectively than the Project. Similar to the Project, this alternative would provide an industrial/commercial business park that takes advantage of the proximity to I-605 and its connection to other freeways and transportation corridors to reduce traffic congestion on surface streets and to reduce concomitant vehicular-related air pollutant emissions associated with inefficient travel patterns, and as such would achieve Project Objective H as effectively as the Project. This alternative would achieve Project Objective I through filling an existing need for distribution facilities in Los Angeles County. Lastly, the Industrial Business Park Alternative would achieve Project Objective J by accommodating new development in a phased, orderly manner that is coordinated with necessary infrastructure and public improvements because it would still implement the identical phasing plan and infrastructure improvements proposed in The Park @ Live Oak Specific Plan.



Table 6-1 Alternatives to the Proposed Project – Comparison of Environmental Impacts

ENVIRONMENTAL TOPIC	PROPOSED PROJECT SIGNIFICANCE OF IMPACTS AFTER MITIGATION	LEVEL OF IMPACT COMPARED TO THE PROPOSED PROJECT		
		NO DEVELOPMENT ALTERNATIVE	INDUSTRIAL BUSINESS PARK ALTERNATIVE	HIGH-CUBE WAREHOUSE ALTERNATIVE
Aesthetics	Less-than-Significant Impact	Increased	Similar	Similar
Air Quality	Significant and Unavoidable Direct and Cumulatively-Considerable Impact	No Impact	Reduced	Reduced
Energy	Less-than-Significant Impact	No Impact	Reduced	Reduced
Geology and Soils	Less-than-Significant Impact	No Impact	Similar	Similar
Greenhouse Gas Emissions	Significant and Unavoidable Direct and Cumulatively-Considerable Impact	No Impact	Reduced	Reduced
Hazards and Hazardous Materials	Less-than-Significant Impact	No Impact	Similar	Similar
Hydrology and Water Quality	Less-than-Significant Impact	Increased	Similar	Similar
Land Use and Planning	Less-than-Significant Impact	Increased	Similar	Similar
Noise	Less-than-Significant Impact	No Impact	Reduced	Reduced
Transportation	Significant and Unavoidable Direct and Cumulatively-Considerable Impact	No Impact	Reduced	Reduced
Tribal Cultural Resources	Less-than-Significant Impact	Similar	Similar	Similar
Utilities Service and Systems	Less-than-Significant Impact	No Impact	Similar	Similar
ABILITY TO MEET THE BASIC OBJECTIVES OF THE PROJECT				
Objective A: Maximize the development potential of a former sand and gravel quarry as soon as feasibly possible so that the property will be economically productive when reclamation activities cease.		No	Yes	Yes
Objective B: Create a comprehensive master plan for the development of the former sand and gravel quarry as an		No	Yes, but less effectively than Project	Yes



Table 6-1 Alternatives to the Proposed Project – Comparison of Environmental Impacts

ENVIRONMENTAL TOPIC	PROPOSED PROJECT SIGNIFICANCE OF IMPACTS AFTER MITIGATION	LEVEL OF IMPACT COMPARED TO THE PROPOSED PROJECT		
		NO DEVELOPMENT ALTERNATIVE	INDUSTRIAL BUSINESS PARK ALTERNATIVE	HIGH-CUBE WAREHOUSE ALTERNATIVE
	industrial/commercial business park that will attract quality tenants.			
	Objective C: Develop an industrial/commercial business park that is feasible to construct and operate and that is economically competitive with other similar centers in the southern California region, which will assist the City of Irwindale in competing economically on a domestic and international scale through the efficient and cost-effective movement of goods.	No	Yes, but less effectively than Project	Yes, but less effectively than Project
	Objective D: Provide economic and job growth opportunities in and near the City of Irwindale by diversifying the available range of industrial, business park, and retail uses through the development of a large property with employment-generating land uses with long-term economic viability that complements the diversity of uses already present and planned in the City.	No	Yes, but less effectively than Project	Yes; but less effectively than the Project
	Objective E: Provide for uses that will generate tax revenue for the City of Irwindale through increased property and sales taxes from point-of sale tenants and retail purchases in order to support the City's ongoing municipal operations.	No	Yes, but less effectively than Project	Yes; but less effectively than the Project
	Objective F: Provide an attractive, state-of-the-art industrial/commercial business center that meets current industry standards for operational design criteria and minimizes conflicts to the extent possible with surrounding existing and planned uses.	No	Yes, but less effectively than Project	Yes
	Objective G: Provide opportunities for warehouse/distribution building users to locate in the City of Irwindale by offering buildings with loading bays in close proximity to existing I-605 on- and off-ramps.	No	Yes	Yes, but less effectively than Project
	Objective H: Provide industrial/commercial business park that takes advantage of the proximity to I-605 and its connection to other freeways and transportation corridors	No	Yes, but less effectively than Project	Yes



Table 6-1 Alternatives to the Proposed Project – Comparison of Environmental Impacts

ENVIRONMENTAL TOPIC	PROPOSED PROJECT SIGNIFICANCE OF IMPACTS AFTER MITIGATION	LEVEL OF IMPACT COMPARED TO THE PROPOSED PROJECT		
		NO DEVELOPMENT ALTERNATIVE	INDUSTRIAL BUSINESS PARK ALTERNATIVE	HIGH-CUBE WAREHOUSE ALTERNATIVE
	to reduce traffic congestion on surface streets and to reduce concomitant vehicular-related air pollutant emissions associated with inefficient travel patterns.			
	Objective I: Fill an existing need for truck-based goods distribution facilities in the land-constrained metropolitan region of Los Angeles County.	No	Yes	Yes
	Objective J: Accommodate new development in a phased, orderly manner that is coordinated with the provision of necessary infrastructure and public improvements.	No	Yes	Yes



7.0 REFERENCES

7.1 PERSONS CONTRIBUTING TO EIR PREPARATION

7.1.1 CITY OF IRWINDALE

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7.2 DOCUMENTS APPENDED TO THIS EIR

The following reports, studies, and supporting documentation were used in preparing The Park @ Live Oak Specific Plan EIR and are bound separately as Technical Appendices. A copy of the Technical Appendices is available for review at the City of Irwindale Planning Division, located at 16102 Arrow Highway, Irwindale, California 91706.



- Appendix A: Initial Study for The Park @ Live Oak EIR, Notice of Preparation (NOP), and Written Comments on the NOP.
- Appendix B1: Urban Crossroads, Inc. 2018a. *The Park @ Live Oak Air Quality Impact Analysis*. July 5, 2018.
- Appendix B2: Urban Crossroads, Inc. 2018b. *The Park @ Live Oak Mobile Health Risk Assessment*. July 5, 2018.
- Appendix B3: Urban Crossroads, Inc. 2019. *The Park @ Live Oak Supplemental Air Quality Assessment*. February 20, 2019.
- Appendix C: Urban Crossroads, Inc. 2018c. *The Park @ Live Oak Energy Analysis*. July 5, 2018.
- Appendix D: HD Geosolutions, Inc. 2018. *Geotechnical Report for Environmental Impact Report, The Park at Live Oak [APN8532-001-002 & -004], 1220 - 1270 Arrow Highway, Irwindale, California*. May 3, 2018.
- Appendix E: Urban Crossroads, Inc. 2018d. *The Park @ Live Oak Greenhouse Gas Analysis*. July 5, 2018.
- Appendix F: Anacapa Geoservices Inc. 2018. *Phase I Environmental Site Assessment*. January 15, 2018.
- Appendix G1: D&D Engineering, Inc. 2019. *The Park @ Live Oak Preliminary Hydrology Report*. January 29, 2019.
- Appendix G2: D&D Engineering, Inc. 2018a. *The Park @ Live Oak Low Impact Development (LID)*. May 23, 2018.
- Appendix H: Urban Crossroads, Inc. 2018e. *The Park @ Live Oak Noise Impact Analysis*. June 26, 2018.
- Appendix I1: Urban Crossroads, Inc. 2018f. *The Park @ Live Oak Traffic Impact Analysis*. December 12, 2018.
- Appendix I2: Urban Crossroads, Inc. 2018g. *The Park @ Live Oak Access Evaluation*. May 14, 2018.
- Appendix J1: Water Systems Consulting, Inc. 2018a. *California-American Water Southern Division-Los Angeles County District Draft Water Supply Assessment for the Park at Live Oak Specific Plan*. June 5, 2018



- Appendix J2: Water Systems Consulting, Inc. 2018b. *The Park at Live Oak Water Supply Well Technical Memorandum*. August 3, 2018
- Appendix J3: D&D Engineering, Inc. 2018b. *The Park @ Live Oak Sewer Area Study*. June 12, 2018.
- Appendix K: Helix Environmental Planning, Inc. 2018. *Biological Resources Letter Report*. September 6, 2018.
- Appendix L: Brian F. Smith and Associates, Inc. 2018. *Cultural Resources Study for the 1270 Arrow Highway Project*. January 17, 2018.
- Appendix M: David Taussig & Associates. 2017. *Fiscal & Economic Impacts Resulting from the Proposed Industrial and Retail Site Summary Memorandum*. February 23, 2017.
- Appendix N: Written Correspondence.

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.

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- T&B Planning, Inc., 2019 T&B Planning Inc. 2019. *The Park @ Live Oak Specific Plan*. Available for review at the City of Irwindale Planning Division: 16102 Arrow Highway, Irwindale, CA 91706.

7.4 DOCUMENTS AND WEBSITES CONSULTED

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