PROPOSED

MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY

FOR THE

5175 VINCENT AVENUE PROJECT

DECEMBER 2018

Prepared for:

City of Irwindale
Community Development Department
Planning Division
5050 North Irwindale Avenue
Irwindale, CA 91706

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

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A Land Use Planning, Design, and Environmental Firm

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Proposed Mitigated Negative Declaration for the 5175 Vincent Avenue Project

Lead Agency: City of Irwindale
Community Development Department
Planning Division
5050 North Irwindale Avenue
Irwindale, CA 91706

Project Title: 5715 Vincent Avenue

Project Location: The 5715 Vincent Avenue Project site (project site) is located north of a Los Angeles County-owned pit, east of Allen Drive, south of Arrow Highway, and west of Vincent Avenue in Irwindale, California. The project site totals approximately 26.05 acres and is comprised of two vacant parcels; one of which is an undeveloped, recently filled, former aggregate mine pit known as the Manning Pit. The 2018 Assessor's Parcel Numbers (APNs) for the project site are 8417-034-015 and 8417-034-016 (formally APNs: 8417-034-904, 8417-034-910, and 8417-034-911). The elevation of the site ranges from approximately 400 feet to 460 feet above mean sea level. The property is immediately adjacent to unincorporated Los Angeles County to the south and east.

Project Description: The proposed project includes development of a concrete tilt-up, high-cube industrial warehouse building of approximately 545,735 square feet (sf) (540,447 sf of ground floor area and 5,000 sf of mezzanine area), associated parking (including 199 standard parking stalls and 181 trailer stalls), and utility and landscaping improvements.

In addition to the proposed landscaping throughout the project site, a grass open space area would be provided at the northeastern corner of the project site, adjacent to Vincent Avenue. This area would include picnic tables and benches.

Access to the project site would be provided at two locations: one entrance off Vincent Avenue in the southeastern corner of the site, and another entrance off Vincent Avenue in the northeastern corner of the site. The parking stalls would be provided along the perimeter of the site.

The proposed project would connect to existing City infrastructure to provide water, sewer, and storm drainage utilities. Existing storm drain, sewer, water, and gas lines/pipes are currently located along Vincent Avenue and Allen Drive. Additionally, storm water facilities (i.e., storm drains and storm drain catch basins) currently exist at the existing industrial park area adjacent north of the site.

The on-site stormwater runoff would be conveyed via curb gutter, ribbon gutter, downspouts, and sheet flow into proposed catch basins. From the basins, the filtered runoff would be routed via storm drain pipes to a proposed underground infiltration/detention system. Underground infiltration would be utilized as a combination of storm water treatment/storage and on-site detention system. Any excess flow would be routed off-site via a 30-inch storm drain pipe prior to ultimately discharging to an existing 90-inch storm drain pipe which is owned and maintained by the Los Angeles County Flood Control District.

In order to meet the City of Irwindale and County of Los Angeles storm water quality requirements, a combination of a rain garden and/or an underground infiltration/detention system would be utilized as low impact development treatment devices to treat the low-flow. Water quality treatment areas would be provided throughout the project site, mainly along the perimeter of the site. A proposed rain garden and bio-retention area would be provided within a 20-foot landscape area along the eastern project boundary, adjacent to Vincent Avenue. The proposed storm drain system has been sized for infiltration and detention purposes which is much larger than the required storm water treatment volume.

Police protection service would be provided by the Irwindale Police Department. The Los Angeles County Fire Department would provide fire protection service. Electricity will be provided by Southern California Edison and natural gas will be provided by the Southern California Gas Company.

Findings:

In accordance with the California Environmental Quality Act, the City of Irwindale has prepared an Initial Study to determine whether the proposed project may have a significant adverse effect on the environment. The Initial Study and Proposed Mitigated Negative Declaration reflect the independent judgment of City of Irwindale staff. On the basis of the Initial Study, the City of Irwindale hereby finds:

> *Although the proposed project could have a significant adverse effect on the environment, there will not be a significant adverse effect in this case because the project has incorporated specific provisions to reduce impacts to a less than significant level and/or the mitigation measures described herein have been added to the project. A Mitigated Negative Declaration has thus been prepared.*

The Initial Study, which provides the basis and reasons for this determination, is attached and/or referenced herein and is hereby made a part of this document.

_____ _____

Signature Date

Proposed Mitigation Measures:

The following Mitigation Measures are extracted from the Initial Study. These measures are designed to avoid or minimize potentially significant impacts, and thereby reduce them to an insignificant level. A Mitigation Monitoring and Reporting Program (MMRP) is an integral part of project implementation to ensure that mitigation is properly implemented by the City of Irwindale and the implementing agencies. The MMRP will describe actions required to implement the appropriate mitigation for each CEQA category including identifying the responsible agency, program timing, and program monitoring requirements. Based on the analysis and conclusions of the Initial Study, the impacts of proposed project would be mitigated to less-than-significant levels with the implementation of the mitigation measures presented below.

AIR QUALITY

Mitigation Measure Air-1: *All construction activities shall comply with the applicable SCAQMD Rules and Regulations, including Rule 403. Contractors shall implement Best Available Control Technology for construction activities. This requirement shall be noted on the project improvement plans.*

BIOLOGICAL RESOURCES

Mitigation Measure Bio-1: *Prior to any permit issuance for grubbing, grading, tree trimming/removal or prior to engaging in such activities that would occur between the breeding season for native birds (February 15 through July 31), the project applicant shall retain the services of a qualified ornithologist to conduct an ornithological survey of the construction zone. The City will require the developer to submit a copy of the executed contract for such services prior to the issuance of any grading permits. The ornithological survey shall occur not more than seven days prior to the initiation of those grading/construction activities. If the ornithologist detects any occupied nests of native birds within the construction zone or in close proximity to, they shall be mapped on construction plans and the project applicant will fence off the area(s) supporting bird nests with temporary construction fencing, providing a minimum buffer of 200 feet between the nest and limits of construction. (This buffer zone shall be at least 500 feet for raptors until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project.) The construction crew will be instructed to avoid any activities in the zone until the bird nest(s) is/are no longer occupied, per a subsequent survey by the qualified ornithologist. Alternatively, the project applicant will consult as appropriate with the USFWS to discuss the potential loss of nests of native birds covered by the MBTA to obtain the appropriate permit from the USFWS.*

GEOLOGY AND SOILS

Mitigation Measure Geo-1: *The project applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of*

BMPs will be subject to approval by the City and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB and City.

Mitigation Measure Geo-2: *Prior to earthmoving activities for the project, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*

HAZARDS AND HAZARDOUS MATERIALS

Mitigation Measure Haz-1: *Subject to an approved Conditional Use Permit, and prior to the commencement of a business operation that involves the transport, storage, use, or disposal of a significant quantity hazardous material within the project site, the business owner shall submit a Hazardous Materials Business Plan (HMBP) for review and approval by the Los Angeles County Fire Department Health Hazardous Materials Division. The HMBP shall establish management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. The HMBP shall also identify the appropriate area for mixing/loading pesticides and fertilizers and for fuel dispensing, which shall be separated to ensure safety. The areas shall be designed with spillage catchments such that any accidental spillage is prevented from entering waterways. The business owner shall also consult with the Los Angeles County Fire Department Health Hazardous Materials Division to ensure that the particular business operations are compliant with all local, state, and federal regulations relative to their operations (i.e. proper permits for the installation and use of an underground storage of hazardous substances (USTs)). The approved HMBP and any other permit deemed to be required in order to commence the specific business operations shall be maintained onsite and all personnel shall acknowledge that they have reviewed and understand the HMBP and any other permit requirements.*

NOISE

Mitigation Measure Noise 1: *The following measures shall be included in the project design prior to the approval of building plans:*

- *All HVAC equipment shall be located within mechanical rooms where possible or shielded from view with solid or grated barriers;*
- *Emergency generators shall comply with the City's noise criteria at the nearest noise-sensitive receivers;*
- *The delivery/loading activities along the eastern site of the site shall be shielded by installing an 8' sound wall.*

TRANSPORTATION AND TRAFFIC

Mitigation Measure Trans-1*: Prior to issuance of building permits, project applicant shall pay the applicable fair share fee to Caltrans, the City of Irwindale, the City of Azusa, or the County of Los Angeles towards the following improvements in order to satisfy the fair share obligation:*

I-605 Freeway SB On-Ramp/ Live Oak Avenue (#1)

- *Construct an additional left-turn lane at the westbound approach. Construct a receiving lane on the southern leg. Modify the existing traffic signal to accommodate the new lane configuration.*

I-605 Freeway NB Ramps/Live Oak Avenue (#2)

- *Install a traffic signal.*
- *Construct an additional right-turn lane at the northbound approach.*
- *Construct an additional right-turn lane at the southbound approach.*

Azusa Canyon Road/Arrow Highway (#9)

- *Re-stripe to create a shared through/right-turn lane at the eastbound approach. Modify the existing traffic signal to accommodate the new lane configuration.*

Vincent Avenue/Gladstone Street (#17)

- *Re-stripe to create a shared left-turn/through/right-turn lane at the northbound approach. Modify the existing traffic signal to accommodate the new lane configuration.*

Vincent Avenue/Arrow Highway (#18)

- *Re-stripe to create a shared through/right-turn lane at the eastbound approach. Modify the existing traffic signal to accommodate the new lane configuration.*

Fair share payments for each improvement shall be submitted to the lead agency which will construct the improvement(s).

Mitigation Measure Trans-2*: Prior to issuance of the certificate of occupancy, the project applicant shall construct the following site and roadway improvements:*

- *Vincent Avenue along the project site frontage shall be constructed at its ultimate half-section width, including landscaping and parkway improvements, in conjunction with development or as required by the City of Irwindale.*
- *Sufficient parking spaces shall be provided to meet City of Irwindale parking code requirements in order to service on-site parking demand.*
- *Sight distance at project access driveways shall comply with applicable City of Irwindale/Caltrans sight distance standards. The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met. Such plans must be reviewed by the City and approved as consistent with this measure prior to issue of grading permits.*
- *On-site traffic signing and striping shall be implemented in conjunction with detailed construction plans for the project. On-site traffic control plans shall comply with the California Manual of Uniform Traffic Control Devices (2014).*
- *As is the case for any roadway design, the City of Irwindale shall periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.*

The improvement plan shall be submitted to the City of Irwindale for review and approval.

TABLE OF CONTENTS

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INITIAL STUDY CHECKLIST

PROJECT TITLE

5175 Vincent Avenue Project

LEAD AGENCY NAME AND ADDRESS

City of Irwindale
Community Development Department
Planning Division
5050 North Irwindale Avenue
Irwindale, CA 91706

CONTACT PERSON AND PHONE NUMBER

Brandi Jones, Senior Planner
City of Irwindale
Community Development Department
Planning Division
5050 North Irwindale Avenue
Irwindale, CA 91706
BJones@IrwindaleCA.gov
(626) 430-2260

PROJECT SPONSOR'S NAME AND ADDRESS

Mark Gabay
Charles Company
9034 West Sunset Boulevard
West Hollywood, CA 90069

PROJECT LOCATION AND SETTING

The 5175 Vincent Avenue Project site (project site) is located north of a Los Angeles County-owned pit, east of Allen Drive, south of Arrow Highway, and west of Vincent Avenue in Irwindale, California (Figures 1 and 2). The project site totals approximately 26.05 acres and is comprised of two vacant parcels; one of which is an undeveloped, recently filled, former aggregate mine pit known as the Manning Pit. (Figure 3). The 2018 Assessor's Parcel Numbers (APNs) for the project site are 8417-034-015 and 8417-034-016 (formally APNs: 8417-034-904, 8417-034-910, and 8417-034-911) (Figure 4). The elevation of the site ranges from approximately 400 feet to 460 feet above mean sea level (MSL). The property is immediately adjacent to unincorporated Los Angeles County to the south and east.

PROJECT BACKGROUND

The project site is the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project, which proposed reclamation of the historic mining pit. Mining of the Manning Pit began in the 1930s and was completed in the 1970s. The City of Irwindale acquired the northern portion of the pit (approximately 37 acres) in the late 1980s from the County of Los Angeles, and the County retained the remainder (approximately 45 acres) which is currently used as a supplemental water recharge basin in conjunction with the Irwindale Recharge Basin, located just to the west.

After its acquisition, the City began backfilling the site with a variety of construction debris. However, backfilling was stopped in 1992 when it was discovered that improper filling methods had been used by the contractor. In 2008, the City approved new remediation plans and an Initial Study/Mitigated Negative Declaration (which was subsequently amended in 2009) to excavate the improperly filled site and backfill again according to all local, regional, state and federal standards. At the end of 2017, approximately 4.45 million cubic yards of material has been imported to fill both the site and construct the southern boundary slope. Approximately 590,000 cubic yards of material is needed to complete both the grading operations and the construction of the southern boundary slope. The backfilling project is anticipated to be completed in late 2018.

PROJECT DESCRIPTION

The proposed project includes development of a concrete tilt-up, high-cube industrial warehouse building of approximately 545,735 square feet (sf) (540,447 sf of ground floor area and 5,000 sf of mezzanine area), associated parking (including 199 standard parking stalls and 181 trailer stalls), and utility and landscaping improvements.

A high-cube warehouse is a building that typically has at least 200,000 gross sf of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. A typical high-cube warehouse has a high level of on-site automation and logistics management. The automation and logistics enable highly-efficient processing of goods through the high-cube warehouse. High-cube warehouses are generally grouped into five types: fulfillment center, parcel hub, cold storage facility, transload facility, and short-term storage facility. The exact use of the proposed high-cube warehouse would fall into one of these five types. The proposed site plan is shown on Figure 5.

In addition to the proposed landscaping throughout the project site, a grass open space area would be provided at the northeastern corner of the project site, adjacent to Vincent Avenue. This area would include picnic tables and benches.

Access to the project site would be provided at two locations: one entrance off Vincent Avenue in the southeastern corner of the site, and another entrance off Vincent Avenue in the northeastern corner of the site. The parking stalls would be provided along the perimeter of the site.

The proposed project would connect to existing City infrastructure to provide water, sewer, and storm drainage utilities. Existing storm drain, sewer, water, and gas lines/pipes are currently located along Vincent Avenue and Allen Drive. Additionally, storm water facilities (i.e., storm drains and storm drain catch basins) currently exist at the existing industrial park area adjacent north of the site.

The on-site stormwater runoff would be conveyed via curb gutter, ribbon gutter, downspouts, and sheet flow into proposed catch basins. From the basins, the filtered runoff would be routed via storm drain pipes to a proposed underground infiltration/detention system. Underground infiltration would be utilized as a combination of storm water treatment/storage and on-site detention system. Any excess flow would be routed off-site via a 30-inch storm drain pipe prior to ultimately discharging to an existing 90-inch storm drain pipe which is owned and maintained by the Los Angeles County Flood Control District.

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system would be utilized as low impact development treatment devices to treat the low-flow. Water quality treatment areas would be provided throughout the project site, mainly along the perimeter of the site. A proposed rain garden and bio-retention area would be provided within a 20-foot landscape area along the eastern project boundary, adjacent to Vincent Avenue. The proposed storm drain system has been sized for infiltration and detention purposes which is much larger than the required storm water treatment volume.

Police protection service would be provided by the Irwindale Police Department. The Los Angeles County Fire Department (LACoFD) would provide fire protection service. Electricity will be provided by Southern California Edison and natural gas will be provided by the Southern California Gas Company.

GENERAL PLAN AND ZONING

The project site is designated as "Industrial/Business Park" and "Residential" by the City's General Plan Land Use Map (Figure 6) and is zoned as M-2 “Heavy Manufacturing” (Figure 7). As shown in Figure 6, the project applicant is requesting a General Plan Amendment to change the current designation from "Residential" to "Industrial/Business Park" for a portion of APN 8417-034-016. The project site is also subject to the Irwindale Commercial & Industrial Design Guidelines.

REQUESTED ENTITLEMENTS AND OTHER APPROVALS

The City of Irwindale is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050.

This document will be used by the City of Irwindale to take the following actions:

- Adoption of the Mitigated Negative Declaration (MND);
- Adoption of the Mitigation Monitoring and Reporting Program (MMRP);
- Site Plan and Design Review (Discretionary Application) to approve the proposed site plan, which includes site configuration, design, location, and impact of the proposed use, and the compliance of the project with the established Zoning Code standard and the "City of Irwindale Commercial and Industrial Design Guidelines";
- General Plan Amendment to approve the change of the current General Plan designation from "Residential" to "Industrial/Business Park" for a portion of APN 8417-034-016; and
- Approval of the Lot Line Adjustment to combine APNs 8417-034-015 and 8417-034-016.

The following agencies may be required to issue permits or approve certain aspects of the proposed project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- Regional Water Quality Control Board (RWQCB) – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- South Coast Air Quality Management District (SCAQMD) – Construction activities would be subject to the SCAQMD permits, codes, and requirements.

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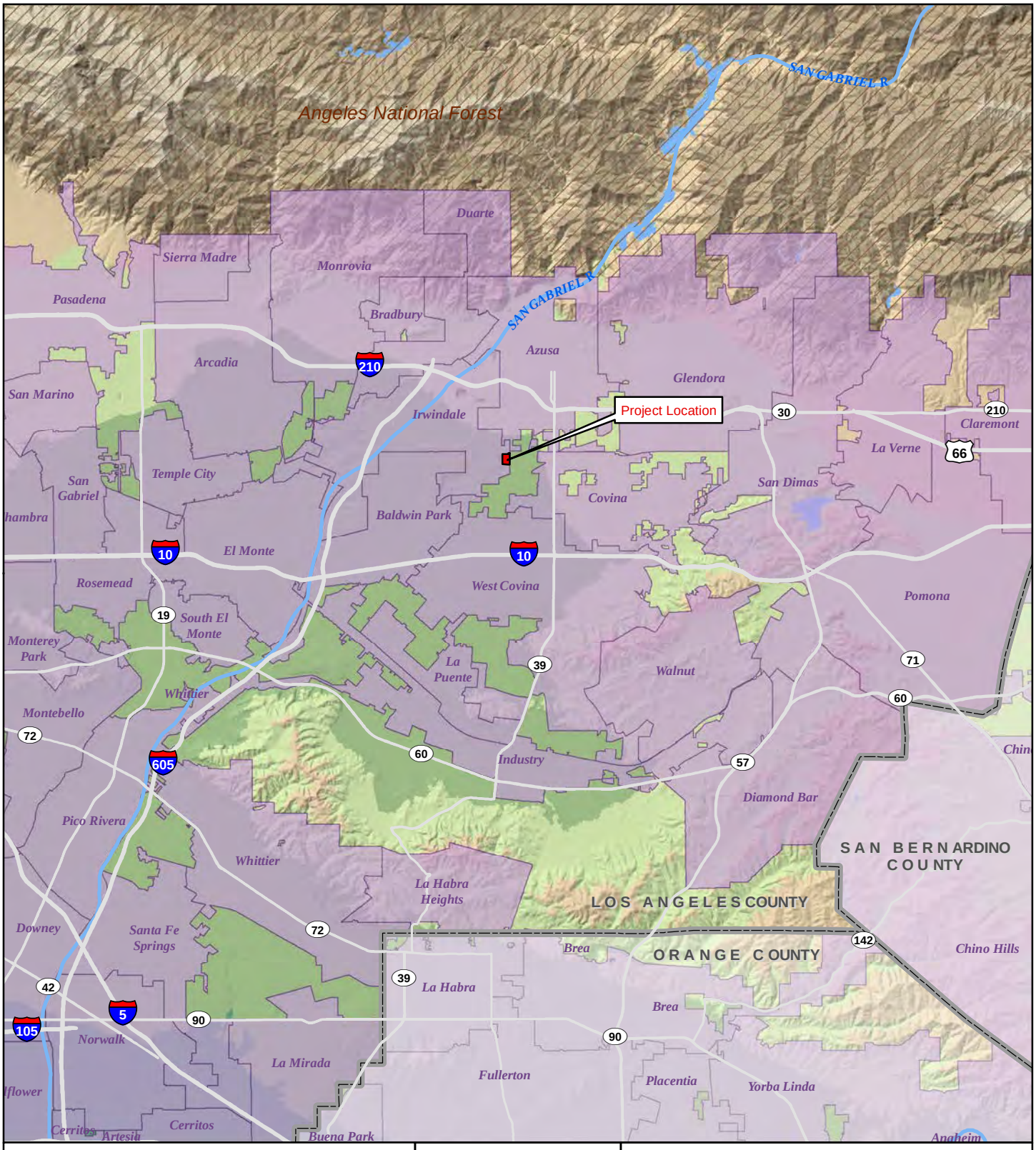

Legend

- Project Boundary
- City Areas
- County Boundary
- National Forest

Sources: CalAtlas; Los Angeles County; Orange County; San Bernardino County. Map date: May 14, 2018.

0 1 2
Miles

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 1. Regional Location Map

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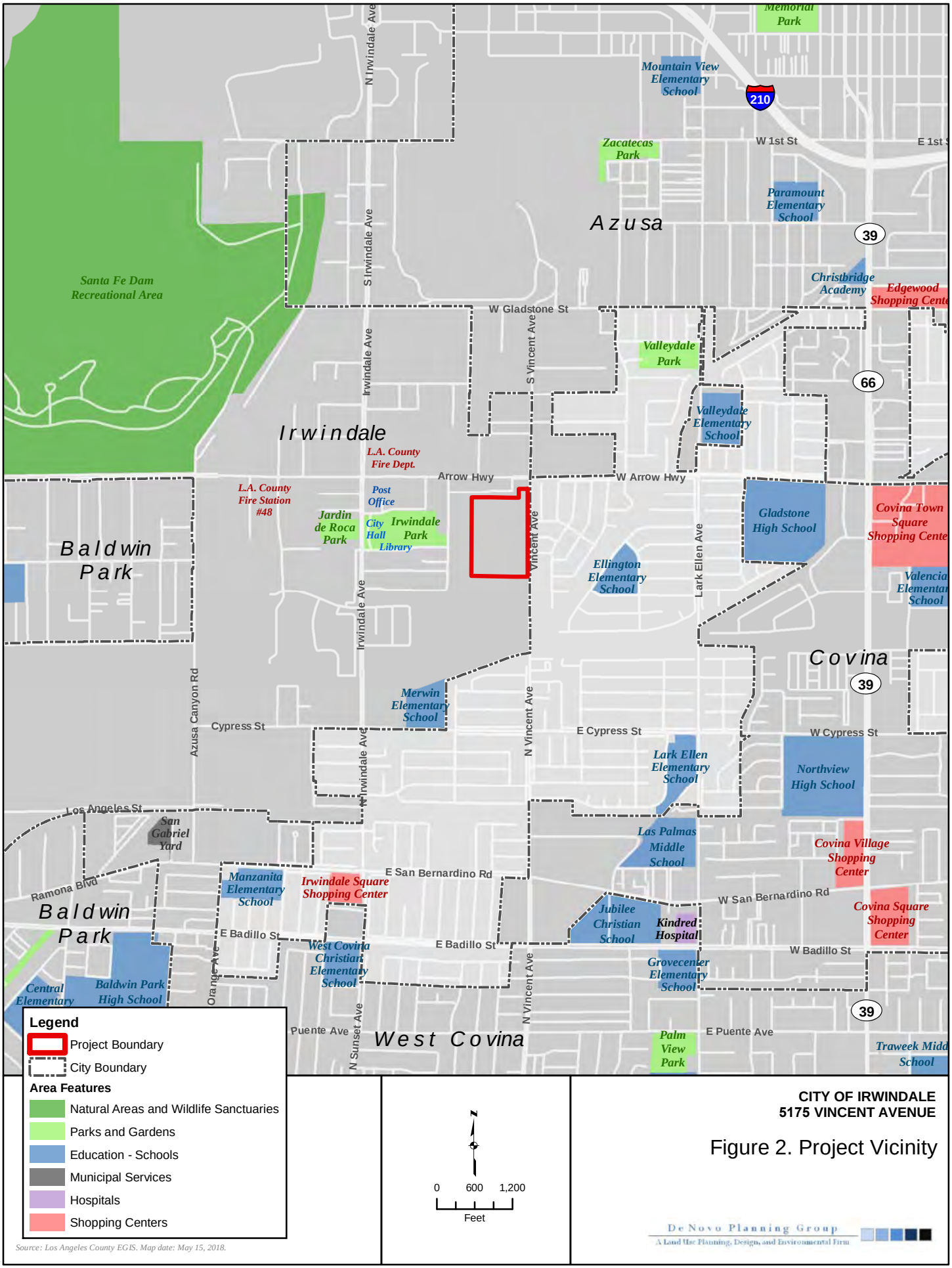

Source: Los Angeles County EGIS. Map date: May 15, 2018.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 2. Project Vicinity

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Legend

Project Boundary

N

0 100 200

Feet

Source: Los Angeles County; ArcGIS Online World Imagery Map Service. Map date: May 14, 2018.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 3. Aerial View of Project Site

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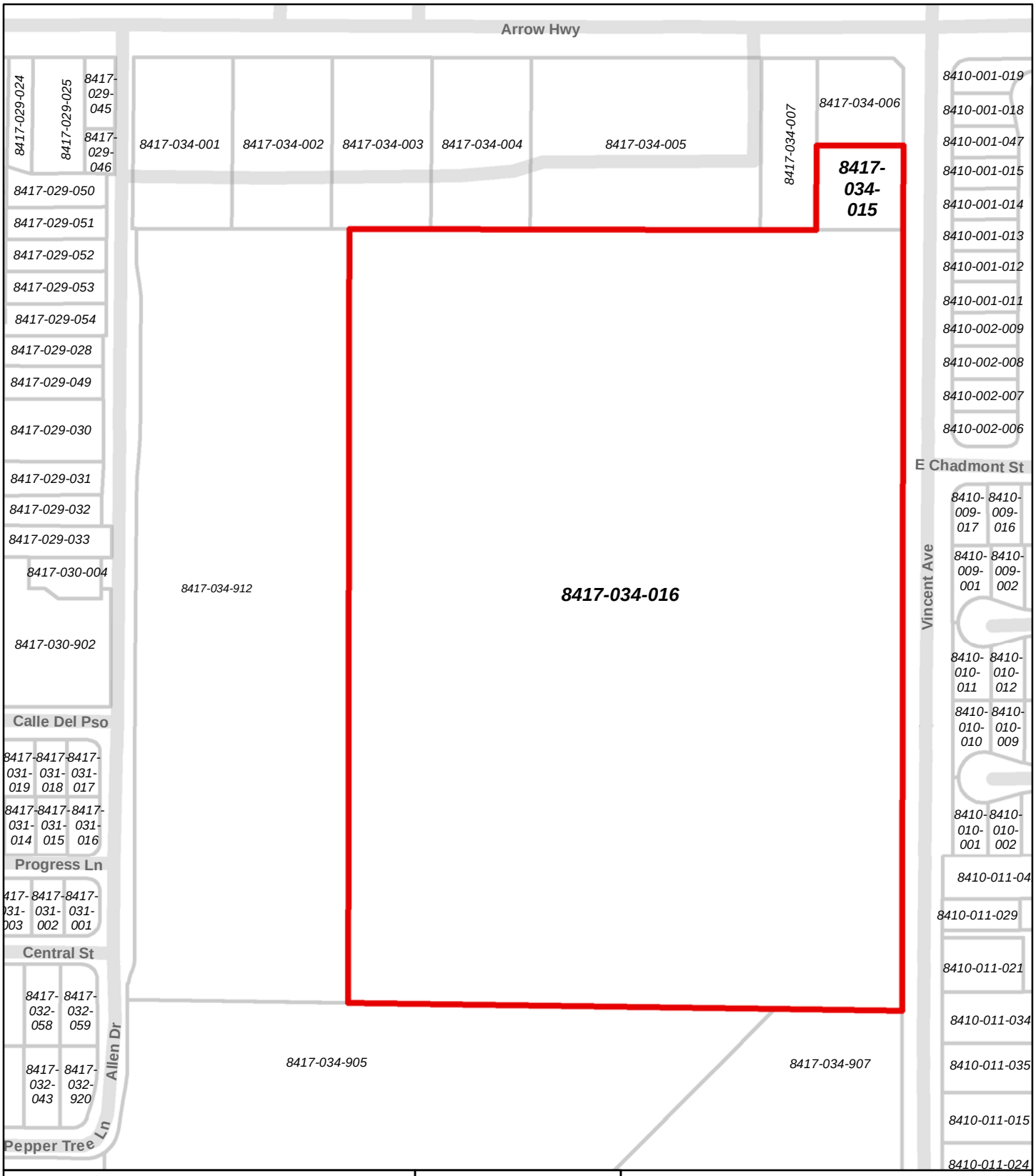

Legend

Project Boundary

Assessor Parcel Boundary

N

0 100 200

Feet

Source: Los Angeles County EGIS; Office of the Assessor, County of Los Angeles. Map date: May 14, 2018.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 4. Assessor's Parcel Map

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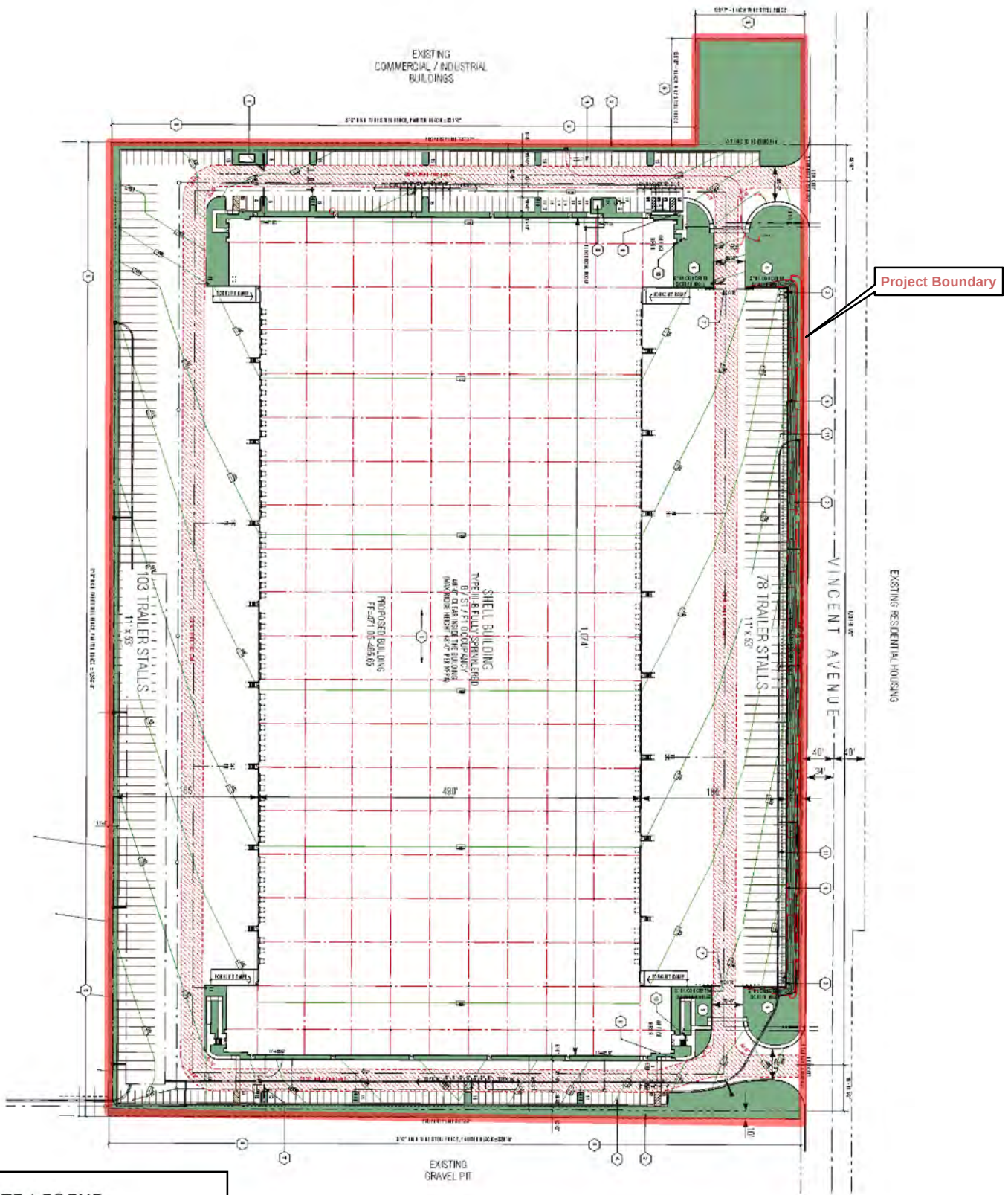

SITE LEGEND:

- ON-SITE LANDSCAPED AREA
- OFF-SITE LANDSCAPED AREA
- SITE PROPERTY LINES
- CITY CURB AND GUTTER
- LINES STREET CENTERLINES
- ON-SITE CURB LINES
- ON-SITE PARKING

N

0 50 100

Feet

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 5. Site Plan

Source: RGA Office of Architectural Design, Site Plan-Warehouse Use. Map date: May 15, 2018.

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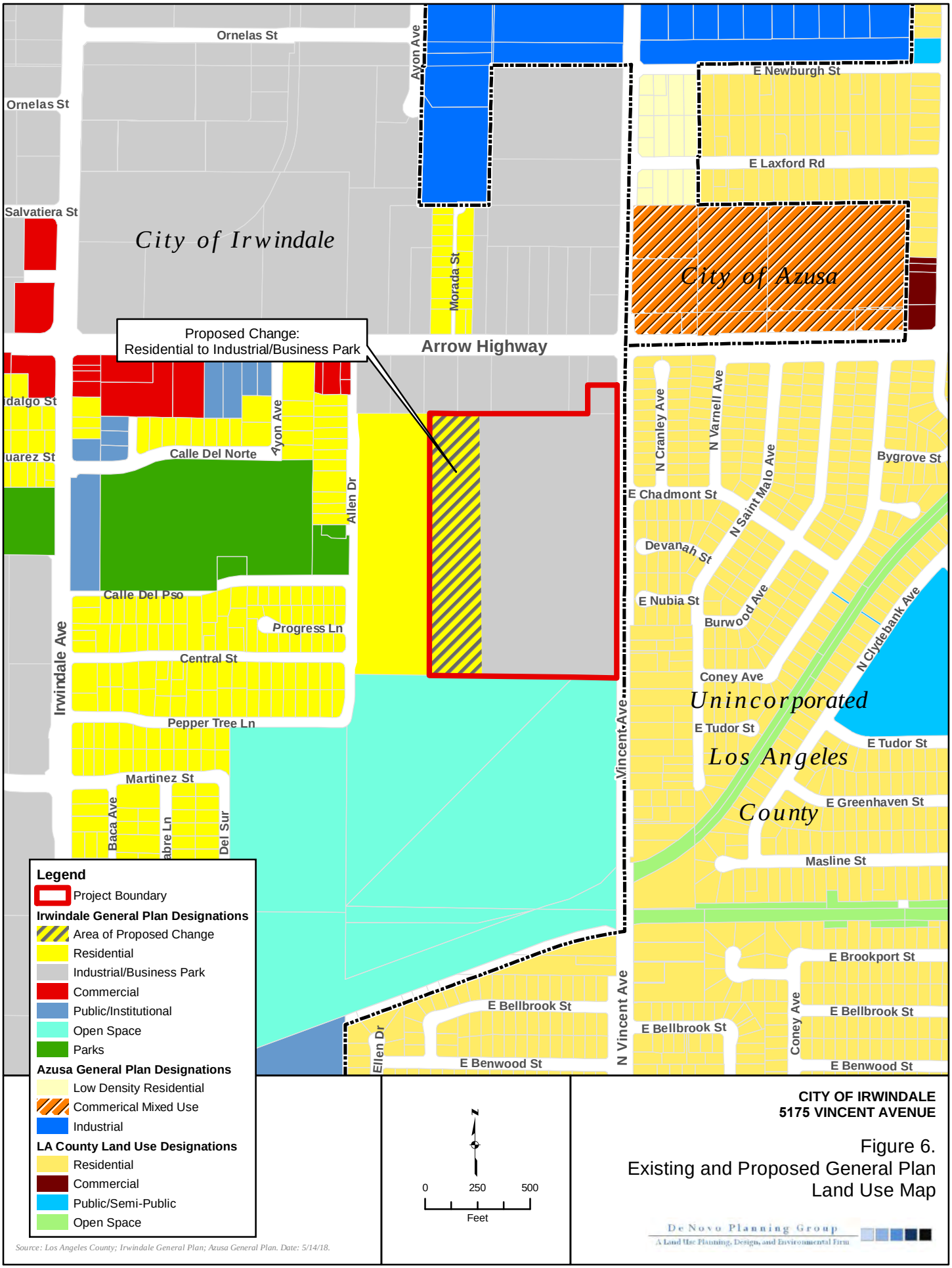

Source: Los Angeles County; Irwindale General Plan; Azusa General Plan. Date: 5/14/18.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 6.
Existing and Proposed General Plan Land Use Map

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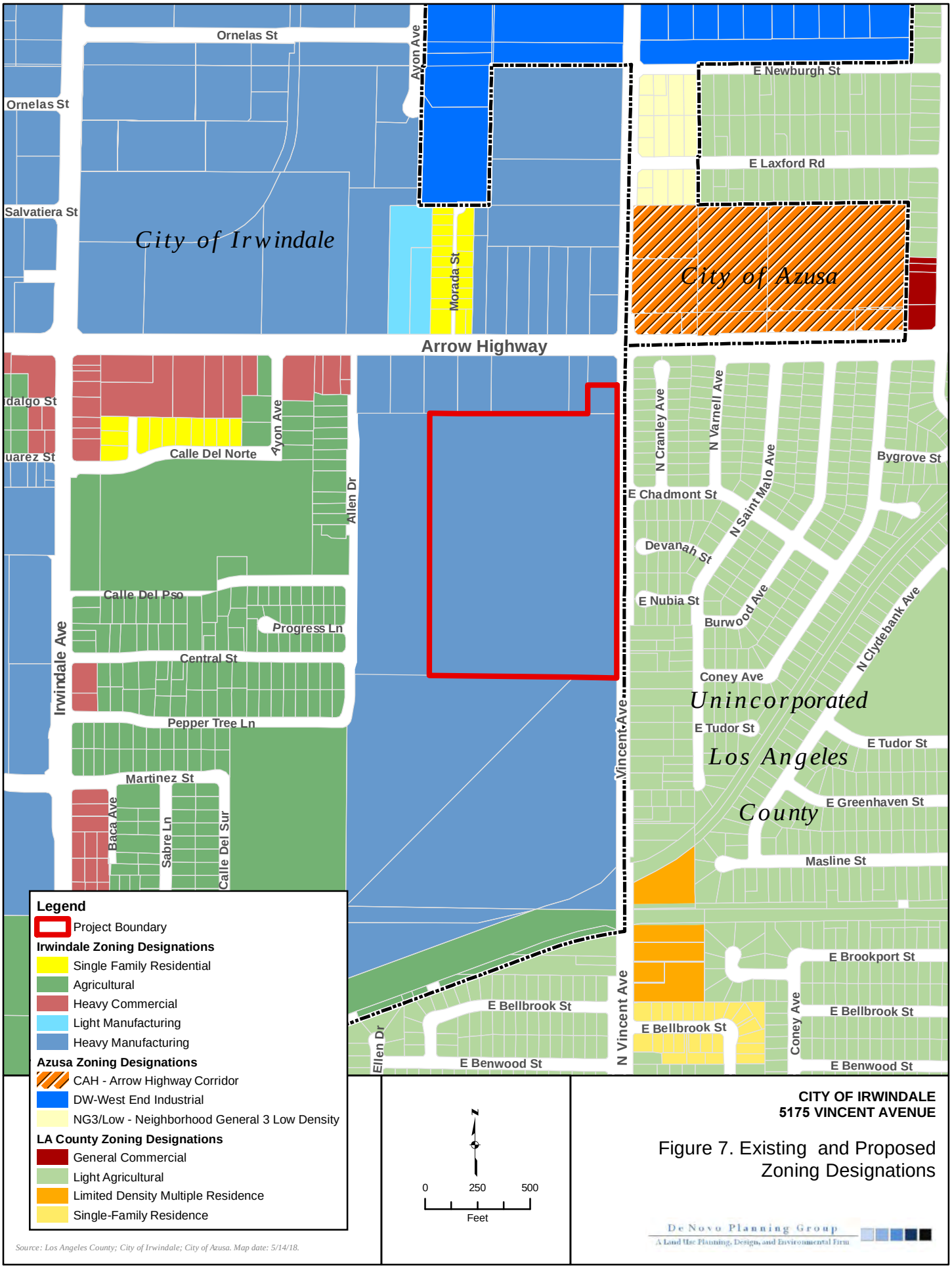

Source: Los Angeles County; City of Irwindale; City of Azusa. Map date: 5/14/18.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 7. Existing and Proposed Zoning Designations

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

None of the environmental factors listed below would have potentially significant impacts as a result of development of this project, as described on the following pages.

	Aesthetics		Agriculture and Forest Resources		Air Quality
	Biological Resources		Cultural Resources		Geology and Soils
	Greenhouse Gasses		Hazards and Hazardous Materials		Hydrology and Water Quality
	Land Use and Planning		Mineral Resources		Noise
	Population and Housing		Public Services		Recreation
	Transportation and Traffic		Tribal Cultural Resources		Utilities and Service Systems
	Mandatory Findings of Significance				

DETERMINATION

On the basis of this initial evaluation:

	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

EVALUATION INSTRUCTIONS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
   a) The significance criteria or threshold, if any, used to evaluate each question; and
   b) The mitigation measure identified, if any, to reduce the impact to less than significant.

EVALUATION OF ENVIRONMENTAL IMPACTS

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries, upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the project.

ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 19 environmental topic areas.

I. AESTHETICS

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Responses to Checklist Questions

Responses a), c): According to the City's General Plan, there are no scenic vistas within the project area. The San Gabriel Mountains, located to the north of the project site, are scenic resources and an important part of the local scenery.

For analysis purposes, a scenic vista can be discussed in terms of a foreground, middleground, and background viewshed. The middleground and background viewshed is often referred to as the broad viewshed. Examples of scenic vistas can include mountain ranges, valleys, ridgelines, or water bodies from a focal point of the forefront of the broad viewshed, such as visually important trees, rocks, or historic buildings. An impact would generally occur if a project would change the view to the middle ground or background elements of the broad viewshed, or remove the visually important trees, rocks, or historic buildings in the foreground.

Development of the proposed project will not significantly disrupt middleground or background views from public viewpoints. The proposed project would result in changes to the foreground views from the public viewpoint by adding a warehouse building to a site that is undeveloped and contains a recently filled former aggregate mine pit. Upon build-out, the project would be of similar visual character to adjacent industrial developments. For motorists travelling along nearby roadways, such as Vincent Avenue, the project would appear to be a continuation of adjacent urban development and would not present unexpected and otherwise unpleasant aesthetic values within the general project vicinity.

The greatest visual change would apply to neighbors that are adjacent to the project site with a direct view of the area. Views of the project site are generally visible from immediately adjacent residences, but are somewhat obscured by existing fencing. Upon development of the project,

landscaping would be provided throughout the project site. The proposed landscaping includes a variety of plants and support materials at varying heights that would provide some shielding from existing residences in the vicinity.

The change in character of the project site, once developed, is anticipated by the General Plan and would be visually compatible with surrounding existing industrial uses to the north. Setbacks and landscaping around the perimeter of the site will buffer the foreground viewshed from residents in the immediate vicinity. Therefore, implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Response b): The project site is not located within view of a state scenic highway. The nearest highway subject to this program is State Route (SR) 2, an Officially Designated State Scenic Highway, located approximately 4.0 miles north of the project site. Therefore, the proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Implementation of the proposed project would have ***no impact*** relative to this topic.

Response d): The project site is currently undeveloped and contains a recently filled former aggregate mine pit. The site does not contain existing lighting. There is a potential for the proposed project to create new sources of light and glare. Examples of lighting would include construction lighting, street lighting, security lighting along sidewalks, exterior building lighting, interior building lighting, and automobile lighting. Examples of glare would include reflective building materials and automobiles.

Residential development to the south, east, and west of the site, and streets to the north, south, east, and west, currently produce a moderate amount of nighttime lighting from street lighting, residential interiors, and exterior building lighting. With development of the project, sources of nighttime lighting would be added and would increase nighttime lighting in the area with a type and intensity of lighting. When viewed from more distant areas, the lighting associated with the warehouse development could appear to slightly increase skyglow in the area because the existing project site is currently dark.

The proposed project would be subject to the City of Irwindale's Site Plan and Design Review process (Chapter 17.70 of the City's Municipal Code), which provides direction on appropriate project lighting. The proposed project would also be designed consistent with the City's Commercial and Industrial Design Guidelines (2009), which contain standards to prevent lighting from spillover onto adjacent property.

Outdoor lighting would be installed in conformance with all City codes and ordinances, applicable safety and illumination requirements, and California Title 24 requirements. Lighting would be installed at pedestrian crossings, as appropriate for public safety, and where lighting is needed for public safety. Limited safety and security lighting and indirect shielded lighting would also be provided. Further, proposed lighting would also be placed to ensure it illuminates only the intended areas and does not penetrate into residential communities.

Development on the project site would also increase daytime glare because of an increase in the number of windows and use of certain types of building materials. There is a certain amount of daytime glare associated with developed areas, and such glare is to be expected; however, it is not expected that the proposed project would result in any significant level of glare. The City reviews the final buildings material incorporated into the building design to confirm it complies

with the Site Plan and Design Review process and the Design Guidelines. Implementation of the proposed project would have a ***less than significant*** relative to this topic***.***

II. AGRICULTURE AND FOREST RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

Responses to Checklist Questions

Response a): The project site is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The project site does not contain prime farmland, unique farmland, or farmland of statewide importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. The proposed project would result in the conversion of undeveloped land which contains a former mine pit to non-agricultural use. Implementation of the proposed project would have ***no impact*** relative to this issue.

Response b): The project site is not zoned for agricultural use nor is it under a Williamson Act contract. The proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. Implementation of the proposed project would have ***no impact*** relative to this issue.

Response c): The project site is not forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526). The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. Implementation of the proposed project would have ***no impact*** relative to this issue.

Response d): The project site is not forest land. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. Implementation of the proposed project would have ***no impact*** relative to this issue.

Response e): The project site does not contain agricultural land or forest land. The project site totals approximately 26.05 acres and is comprised of two vacant parcels; one of which is an undeveloped, recently filled, former aggregate mine pit (commonly known as the Manning Pit). None of the land within the City of Irwindale is designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The lands adjacent to the site contain residential and

industrial uses. The proposed project does not involve changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use, or conversion of forest land to non-forest use. Implementation of the proposed project would have ***no impact*** relative to this issue.

III. AIR QUALITY

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?		X		
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	

Existing Setting

The project site is located within the South Coast Air Basin (SoCAB), which is governed by the South Coast Air Quality Management District (SCAQMD). This agency is responsible for monitoring air pollution levels and ensuring compliance with federal and state air quality regulations within SoCAB and has jurisdiction over most air quality matters within its borders.

The SCAQMD and the Southern California Association of Governments (SCAG) are responsible for preparing the air quality management plan (AQMP), which addresses federal and state Clean Air Act requirements. The AQMP details goals, policies, and programs for improving air quality in the SoCAB.

The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017. The purpose of the 2016 AQMP for the SoCAB is to set forth a comprehensive and integrated program that will lead the region into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update to the SoCAB's commitment towards meeting the federal 8-hour ozone standards. The AQMP would also serve to satisfy recent U.S. Environmental Protection Agency (USEPA) requirements for a new attainment demonstration of the revoked 1-hour ozone standard, as well as a vehicle-miles-travelled (VMT) emissions offset demonstration. Specifically, the AQMP would serve as the official State Implementation Plan (SIP) submittal for the federal 2006 24-hour $PM_{2.5}$ standard. In addition, the AQMP updates specific new control measures and commitments for emissions reductions to implement the attainment strategy for the 8-hour ozone SIP. The 2016 AQMP sets forth programs which require integrated planning efforts and the cooperation of all levels of government: local, regional, state, and federal.

Responses to Checklist Questions

Response a): The proposed project is located within the SoCAB, which is under the jurisdiction of the SCAQMD. As such, SCAQMD's 2016 AQMP is the applicable air quality plan for the proposed project. Projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG are considered to be consistent with the AQMP growth projections, since the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP. Additionally, because SCAG's regional growth forecasts are based upon, among other things, land uses designated in general plans, a project that is consistent with the land use designated in a general plan would also be consistent with the SCAG's regional forecast projections, and thus also with the AQMP growth projections.

The project site is identified in the General Plan as "Industrial/Business Park" (eastern portion) and "Residential" (western portion). The project applicant is requesting a General Plan Amendment to change the current designation from "Residential" to "Industrial/Business Park" for a portion of APN 8417-034-016. The Industrial/Business Park designation allows light industry, heavy industry, distribution, or commercial uses. The proposed high-cube industrial warehouse is consistent with the Industrial/Business Park designation. Therefore, the proposed project would be consistent with the land use objectives identified in the General Plan.

Thus, because the proposed development is consistent with the intent of General Plan land use policies, the growth resulting from the proposed project is anticipated to be consistent with SCAG's regional forecast projections and, in turn, would also be consistent with the growth projections accounted for in SCAQMD's AQMP. The proposed project would not conflict with, or obstruct, implementation of the AQMP and this impact would be ***less than significant.***

Responses b-c): Air quality emissions would be generated during construction and operation of the proposed project. Construction-related air quality impacts and operational air quality impacts are addressed separately below.

Construction-Related Emissions

Construction Activities/Schedule: Construction activities will consist of multiple activities over many months. These construction activities can be described as site improvements (grading, underground infrastructure, and topside improvements) and vertical construction (building construction and architectural coatings). For purposes of this analysis, it is assumed that the entire project is built-out over a period of approximately two years, between 2019 and 2020. The assumptions made for the air quality and greenhouse gas emissions analysis are included as Appendix A.

Site Improvements: For purposes of this analysis it is assumed that site improvements are installed in one phase. The site improvement phase of construction will begin with site preparation. Site preparation is anticipated to be completed with the filling operation that has been underway as separate reclamation project. After the site is filled and reclamation is completed, site grading will begin. This activity will involve the use of excavators, graders, dozers, loaders, and backhoes to move soil around the project site to create specific engineered grade elevations and soil compaction levels. After grading and compaction is complete, all underground infrastructure would be installed. This includes the excavation of trenches to install storm water, wastewater, potable water, and dry utilities, and then backfilling and compacting the soil over the infrastructure. Grading and infrastructure for the project site is anticipated to take approximately 30 days and will include vehicle trips from construction workers. *(Note: It would be possible to grade the site under a more compacted schedule with extra equipment operating or under a longer timeframe with less equipment.).*

The last task is to install the topside improvements, which includes pouring concrete curbs, gutters, sidewalks, and access aprons and then paving of all streets and parking lots. This task will involve the use of pavers, paving equipment, and rollers and will take approximately 20 days and will include vehicle trips from construction workers. *(Note: It would be possible to install the topside improvements under a more compacted schedule with extra equipment operating or under a longer timeframe with less equipment).*

Building Construction/Architectural Coatings: Building construction involves the vertical construction of the proposed structure and landscaping around the structure. This task will involve the use of cranes, forklifts, generator sets, and small tractors/loaders/backhoes. For purposes of this analysis it is assumed that the entire project is constructed in approximately 300 days. Architectural coatings involve the interior and exterior painting associated with the structure. This task will generally be completed within 100 days and will begin within two months after building construction begins.

Construction Emissions: A quantification of the emissions of nitrogen oxides (NO_X), carbon monoxide (CO), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) that will be emitted by project construction has been performed. The California Emission Estimator Model (CalEEMod) (v. 2016.3.2) was used to estimate construction emissions for the proposed project. CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify criteria pollutant and GHG emissions from land use projects. Below is a list of model assumptions used in the construction screens of CalEEMod. Table 1 presents the estimated construction phase schedule, which shows the duration of each construction phase. Table 2 shows the off-road construction equipment used during construction for each phase. Following these tables are a list of default factors that were used in the model.

Model Assumptions (Construction)

Table 1: Construction Phase

Phase #	*Phase Name*	*Start Date*	*End Date*	*# Days/Week*	*# Days*
1	Site Preparation	1/1/2019	1/14/2019	5	10
2	Grading	1/15/2019	2/25/2019	5	30
3	Building Construction	2/26/2019	4/20/2019	5	300
4	Paving	4/21/2020	5/18/2020	5	20
5	Architectural Coating	5/19/2020	10/5/2020	5	100

SOURCE: CALEEMOD (V.2016.3.2)

Table 2: Off-Road Equipment

Equipment Type	*Unit Amount*	*Hours/Day*	*Horsepower*	*Load Factor*
Site Preparation				
Rubber Tired Dozers	3	8.00	247	0.40
Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading				
Excavators	2	8.00	158	0.38
Graders	1	8.00	187	0.41
Rubber Tired Dozers	1	8.00	247	0.40
Tractors/Loaders/Backhoes	2	8.00	97	0.37
Scrapers	2	8.00	367	0.48

Equipment Type	Unit Amount	Hours/Day	Horsepower	Load Factor
Building Construction				
Cranes	1	7.00	231	0.29
Forklifts	3	8.00	89	0.20
Generator Sets	1	8.00	84	0.74
Tractors/Loaders/Backhoes	3	7.00	97	0.37
Paving				
Pavers	2	8.00	130	0.42
Paving Equipment	2	8.00	132	0.36
Rollers	2	8.00	80	0.38
Architectural Coatings				
Air Compressors	1	6.00	78	0.48

SOURCE: CALEEMOD (V.2016.3.2)

Table 3 shows the maximum daily construction emissions for the construction activities during the anticipated construction timeframe in pounds per day (lbs/day).

Table 3: Maximum Daily Construction Emissions (Unmitigated)

Thresholds	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
	≤ 75 lbs/day	***≤ 100 lbs/day***	***≤ 550 lbs/day***	***≤ 150 lbs/day***	***≤ 150 lbs/day***	***≤ 55 lbs/day***
2019	4.85	54.60	34.34	0.09	20.66	12.18
2020	50.83	30.98	31.08	0.08	4.75	2.08
Maximum	**50.83**	**54.60**	**34.34**	**0.09**	**20.66**	**12.18**
Regional Threshold Exceeded in any Year?	**No**	**No**	**No**	**No**	**No**	**No**

NOTE: LBS/DAY = POUNDS PER DAY.

SOURCE: CALEEMOD (V.2016.3.2)

The SCAQMD has established construction-related emissions thresholds of significance as follows: 100 pounds per day (lbs/day) of NO_x, 75 lbs/day of ROG, 550 lbs/day of CO, 150 lbs/day of SO_2, 150 lbs/day of PM_{10}, and 55 lbs/day of $PM_{2.5}$. If the proposed project's emissions exceed the SCAQMD's regional threshold of significance for construction-generated emissions, the proposed project would have a significant impact on air quality and all feasible mitigation is required to be implemented to reduce emissions. As shown in Table 3 above, annual construction emissions of NO_x, ROG, CO, SO_2, $PM_{2.5}$, and PM_{10} would not exceed the SCAQMD thresholds of significance in any given year.

The project will be subject to SCAQMD Rule 403 (Fugitive Dust) during construction. SCAQMD Rule 403 does not require a permit for construction activities, but rather, sets forth general and specific requirements for all construction sites (as well as other fugitive dust sources) in the SoCAB. The general requirement prohibits a person from causing or allowing emissions of fugitive dust from construction (or other fugitive dust source) such that the presence of such dust remains visible in the atmosphere beyond the property line of the emissions source. SCAQMD Rule 403 also prohibits a construction site from causing an incremental PM_{10} concentration impact at the property line of more than 50 micrograms per cubic meter as determined through PM_{10} high-volume sampling, but the concentration standard and associated PM_{10} sampling do not apply if specific measures identified in the rule are implemented and appropriately documented. In accordance with Rule 403, the SCAQMD requires that contractors implement Best Available

Control Technology (BACT) for construction activities. Rule 403 identifies two sets of specific measures, one for all projects and another set of conditions for projects that exceed 50 acres. The proposed project will be required to implement Rule 403 during construction activities to ensure particulates are minimized.

Construction of the proposed project would not exceed SCAQMD's regional air quality significance thresholds for construction emissions. Nevertheless, out of an abundance of caution, the proposed project would incorporate Mitigation Measure Air-1. Impacts related to construction emissions as a result of the proposed project would be ***less than significant with mitigation***.

> ***Mitigation Measure Air-1:*** *All construction activities shall comply with the applicable SCAQMD Rules and Regulations, including Rule 403. Contractors shall implement Best Available Control Technology for construction activities. This requirement shall be noted on the project improvement plans.*

Operational Emissions

The SCAQMD is tasked with implementing programs and regulations required by the Federal Clean Air Act and the California Clean Air Act. In that capacity, the SCAQMD has prepared plans to attain Federal and State ambient air quality standards. To achieve attainment with the standards, the SCAQMD has established regional thresholds of significance for criteria pollutant emissions in its *SCAQMD Air Quality Significance Thresholds* (2015) document. Projects with emissions below the regional thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan".

The proposed project would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions) and it would increase area source emissions and energy consumption. The mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings.

CalEEMod (v.2016.3.2) was used to estimate emissions for buildout of the proposed project. Table 4 shows the emissions, which include mobile, area source, and energy emissions of criteria pollutants that would result from operations of the proposed project.

Table 4: Operational Buildout Generated Emissions (Unmitigated)

Thresholds	***ROG***	***NO_X***	***CO***	***SO_2***	***PM_{10}***	***$PM_{2.5}$***
	≤ 55 lbs/day	***≤ 55 lbs/day***	***≤ 550 lbs/day***	***≤ 150 lbs/day***	***≤ 150 lbs/day***	***≤ 55 lbs/day***
Area	12.11	<0.01	0.08	<0.01	<0.01	<0.01
Energy	0.01	0.13	0.11	<0.01	<0.01	<0.01
Mobile	4.99	25.14	74.84	0.25	19.60	5.41
Total	**17.12**	**25.27**	**75.03**	**0.25**	**19.62**	**5.42**
Regional Threshold Exceeded in any Year?	**No**	**No**	**No**	**No**	**No**	**No**

NOTE: LBS/DAY = POUNDS PER DAY.

SOURCE: CALEEMOD (V.2016.3.2)

The long-term operational emissions estimate for buildout of the proposed project incorporates the potential area source and vehicle emissions, and emissions associated with utility and water usage, and wastewater and solid waste generation.

The SCAQMD has established their regional thresholds of significance by which the project emissions are compared against to determine the level of significance. The SCAQMD has established operations related regional emissions thresholds of significance as follows: 55 lbs/day of NO_x, 550 lbs/day of CO, 55 lbs/day of $PM_{2.5}$, and 150 lbs/day of PM_{10}. If the proposed project's emissions will exceed the SCAQMD's regional threshold of significance for operational-generated emissions, the proposed project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible. As shown in Table 4 above, annual emissions of ROG, NO_x, CO, SO_2, $PM_{2.5}$, and PM_{10} would not exceed the SCAQMD regional thresholds of significance. Because the annual emissions of ROG, NO_x, CO, SO_2, $PM_{2.5}$, and PM_{10} would not exceed the SCAQMD thresholds of significance, impacts associated with operational air emissions as a result of the proposed project would be ***less than significant with mitigation***.

Response d): Sensitive receptors are those parts of the population that can be severely impacted by air pollution. Sensitive receptors include children, the elderly, and the infirm. The residents located to the east and west of the project site are considered sensitive receptors. However, as described below, the construction and operation of the proposed project would not contribute substantial concentrations of pollutants to sensitive receptors. Additionally, the proposed project would not contribute to any CO hotspots.

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

Construction-Related Impacts on Sensitive Receptors: The construction phase of the project would be temporary and short-term, and compliance with SCAQMD Rule 403 would greatly reduce pollution concentrations generated during construction activities. Operation of the proposed project would result in emissions primarily from vehicle trips, area sources, and energy sources. As described under Response a) – c) above, the proposed project would not generate significant concentrations of air emissions. Impacts to sensitive receptors during construction would be negligible and this is a ***less than significant*** impact.

Toxic Air Contaminant Impacts on Sensitive Receptors: The California Air Resources Board (CARB) published the *Air Quality and Land Use Handbook: A Community Health Perspective* (2007) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses. Table 5 provides the CARB minimum separation recommendations on siting sensitive land uses.

Table 5: CARB Minimum Separation Recommendations on Siting Sensitive Land Uses

Source Category	*Advisory Recommendations*
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	• Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

SOURCE: AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE" (CARB 2005).

The proposed project does not include any source categories. As noted in Section XVI, Transportation and Traffic, the proposed project would generate approximately 382 AM peak hour trips and 344 PM peak hour trips, which would be significantly less than the volumes cited in the table above (Kunzman & Associates, Inc., 2018). Additionally, the proposed high-cube industrial warehouse is not a sensitive land use.

However, the proposed project has the potential to impact nearby sensitive receptors during the proposed project's operational phase, due to the project's generation of heavy-duty diesel trucks, which are an emitter of diesel particulate matter (DPM). In particular, DPM is emitted from on-site truck vehicle circulation, on-site idling, on-site truck refrigeration units (TRUs) and off-site mobile travel. Combined, these sources of DPM have the potential to generate substantial TACs on nearby sensitive receptors, including those located nearest to the project site. SCAQMD has established maximum thresholds of significance for TACs, which would be significant if they exceed the following values:

- Incremental cancer risk of equal to or greater than 10 in one million; and
- Chronic and Acute Hazard Index of equal to or greater than 1.0 (project increment).

De Novo conducted air dispersion modeling using AERMOD (v.18081) and HARP-2 risk modeling software to determine cancer and non-cancer TAC risks on the nearest residential and workplace receptors. Maximum incremental residential cancer risk was evaluated over a 70-year period;

maximum incremental workplace cancer risk was evaluated over a 25-year period. Chronic and acute cancer risks on the nearest sensitive receptors were also modeled.

Table 6 displays the residential and workplace cancer risk, and acute and chronic incidence rate results at nearest receptors. The health risk assessment developed based on this analysis is provided in Appendix B of this IS/MND. The parameters, assumptions, and output selections provided within the modeling is described in detail within the health risk assessment provided in Appendix B.

Table 6: Summary of Maximum Health Risks

Risk Metric	*Maximum Risk (per million persons)*	*Significance Threshold*	*Is Threshold Exceeded?*
Residential Cancer Risk (70-year exposure)[1]	5.19	10 per million	No
Workplace Cancer Risk (25-year exposure)[2]	0.41	10 per million	No
Chronic (non-cancer)	0.0012	Hazard Index ≥1.0	No
Acute (non-cancer)[3]	0.00	Hazard Index ≥1.0	No

NOTES: [1]THE MAXIMUM RESIDENTIAL CANCER RISK WOULD BE FOR A RESIDENCE LOCATED APPROXIMATELY 75 FEET TO THE EAST OF THE PROJECT SITE. THE INCREMENTAL RESIDENTIAL CANCER RISK (70-YEAR EXPOSURE) AT THIS LOCATION IS APPROXIMATELY 5.19 PER MILLION PERSONS, AS PROVIDED WITHIN THIS TABLE.[2]THE VALUE PROVIDED FOR MAXIMUM WORKPLACE CANCER RISK IS THE MAXIMUM VALUE PROVIDED AT THE NEAREST WORKPLACE LOCATION, LOCATED APPROXIMATELY 5 FEET TO THE NORTH OF THE PROJECT SITE. [3]ACUTE (NON-CANCER) RISKS WERE NOT ESTIMATED, SINCE SPM DOES NOT HAVE SHORT-TERM TOXICITY VALUES.
SOURCES: AERMOD V.18081(LAKES ENVIRONMENTAL SOFTWARE, 2018); AND HARP-2 AIR DISPERSION AND RISK TOOL

As shown, the proposed project would not exceed the maximum risk values established by the SCAQMD for TACs. All receptor types would be below the applicable SCAQMD significance thresholds. Impacts to sensitive receptors from TACs would be a ***less than significant*** impact.

CO Hotspots: Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

The SoCAB has been designated in attainment under both the national and California AAQS for CO. Under existing and future vehicle emissions rates, a 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 (i.e., bridges and tunnels)—in order to generate a substantial CO impact. As described in Section XVI, the proposed project would generate approximately 382 AM peak hour trips and 344 PM peak hour trips, which would be significantly less than the volumes cited above (Kunzman & Associates, Inc., 2018). Furthermore, SoCAB has since been designated attainment under both the national and California AAQS for CO. Thus, the proposed project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the project site, and impacts would be ***less than significant***.

Conclusion
The construction phase of the project would be temporary and short-term, and compliance with SCAQMD Rule 403 would greatly reduce pollution concentrations generated during construction activities. The proposed project would not generate significant concentrations of air emissions during construction.

Maximum incremental residential cancer risk was evaluated over a 70-year period; maximum incremental workplace cancer risk was evaluated over a 25-year period. Chronic and acute cancer risks on the nearest sensitive receptors were also modeled. The modeling showed that the proposed project would not exceed the maximum risk values established by the SCAQMD for TACs. All receptor types would be below the applicable SCAQMD significance thresholds.

Under existing and future vehicle emissions rates, a 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 (i.e., bridges and tunnels)—in order to generate a substantial CO impact. The proposed project would generate approximately 382 AM peak hour trips and 344 PM peak hour trips, which would be significantly lower then the thresholds for causing a significant CO impact.

Implementation of the proposed project would not result in a significant increased exposure of sensitive receptors to localized concentrations of TACs, or create a CO hotspot. This project would have a ***less than significant*** impact relative to this topic.

Response e): The proposed project would not generate objectionable odors. People in the immediate vicinity of construction activities may be subject to temporary odors typically associated with construction activities (diesel exhaust, hot asphalt, etc.). However, any odors generated by construction activities would be minor and would be short and temporary in duration.

Examples of facilities that are known producers of operational odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant. If a project would locate receptors and known odor sources in proximity to each other further analysis may be warranted; however, if a project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted. The project does not propose sensitive receptors that could be exposed to odors in the vicinity. Should any of the future tenants of the high-cube warehouse generate odors during construction, the odors would be contained within the building envelope and proper ventilation would be provided. These types of uses may also be subject to a Conditional Use Permit. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

IV. BIOLOGICAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Responses to Checklist Questions

Response a):

Special Status Plants

A records search reveals that there are 36 special status plant species (federal/state listed, and/or CNPS List 1B or 2) documented within the nine-quadrangle region search of the project site. The nine-quadrangle region includes the following U.S. Geological Survey (USGS) quadrangles: Mt. Wilson, Azusa, Glendora, El Monte, Baldwin Park, San Dimas, Whittier, La Habra, and Yorba Linda. The records search was generated from the CNDDB, USFWS IPAC report, and CNPS inventory (2018).

The project site has been highly disturbed over the last approximately 90 years. The project site is the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project, which proposed reclamation of the historic mining pit. Mining of the Manning Pit began in the 1930s and was completed in the 1970s. After acquisition of the pit by the City of Irwindale in the late 1980s, the City began backfilling the site with a variety of construction debris. At the end of 2017,

approximately 4.45 million cubic yards of material has been imported to fill both the site and construct the southern boundary slope. Approximately 590,000 cubic yards of material is needed to complete both the grading operations and the construction of the southern boundary slope. The backfilling project is anticipated to be completed in the summer or fall of 2018.

The project site is devoid of sensitive habitat and does not contain any special status plants that are documented in the region. Therefore, the proposed project would have a ***less than significant*** impacts on special-status plants.

Special Status Animals

A records search reveals that there are 44 special status animal species (federal/state listed) within the nine-quadrangle region search of the project site. Of the 44 species, 19 are bird species, 12 are amphibian or reptile species, 10 are mammal species, and three are fish species. The records search came from the CNDDB, and USFWS IPAC report (2018).

The highly disturbed project site does not contain suitable habitat for the majority of the special status animal species. For example, because the site does not contain aquatic habitat, the species which require streams, wetlands, vernal pools, or similar water features would not be found on the project site. Additionally, because the project site does not contain grassland habitat, foraging habitat for special status bird species is not anticipated.

Due to the past use of the site, the majority of the project site does not contain any trees. However, some landscape trees are located along the perimeter of the project site. While none of the special-status bird species have been documented on the project site, each nesting cycle (year) brings new potential for nesting. Any delay in construction into a future year would present a new potential for impacts to nesting birds. Implementation of the following mitigation measure would ensure that the project site is evaluated prior to the commencement of construction if it were to occur during the nesting season. Additionally, the following mitigation measure provides certain protections for nesting birds if they were found during the preconstruction survey. Given the absence of observations of, or appropriate habitat for, special status animals, impacts on special-status animals as a result of the proposed project would be ***less than significant with mitigation***.

> ***Mitigation Measure Bio-1:*** *Prior to any permit issuance for grubbing, grading, tree trimming/removal or prior to engaging in such activities that would occur between the breeding season for native birds (February 15 through July 31), the project applicant shall retain the services of a qualified ornithologist to conduct an ornithological survey of the construction zone. The City will require the developer to submit a copy of the executed contract for such services prior to the issuance of any grading permits. The ornithological survey shall occur not more than seven days prior to the initiation of those grading/construction activities. If the ornithologist detects any occupied nests of native birds within the construction zone or in close proximity to, they shall be mapped on construction plans and the project applicant will fence off the area(s) supporting bird nests with temporary construction fencing, providing a minimum buffer of 200 feet between the nest and limits of construction. (This buffer zone shall be at least 500 feet for raptors until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project.) The construction crew will be instructed to avoid any activities in the zone until the bird nest(s) is/are no longer occupied, per a subsequent survey by the qualified ornithologist. Alternatively, the project applicant will consult as appropriate with the USFWS to discuss the potential loss of nests of native birds covered by the MBTA to obtain the appropriate permit from the USFWS.*

Indirect Effects on Special Status Species

Construction activities have a potential to result in indirect effects either to habitat or species occupying areas outside the project site. Indirect effects involve the potentially harmful effects associated with noise generated by construction equipment and dust created by the grading and site alteration activities.

Given the distance from the project site to the nearest habitat area, noise and dust generated by construction activities would not result in any significant indirect effects on special status species located in the revegetation area. Construction activities would be subject to measures that are intended to minimize noise and dust impacts (i.e. construction equipment fitted with mufflers, dust control measures such as regular watering during grading). As a result, no significant indirect impacts to special status species will occur. A SWPPP will be implemented during construction to ensure that there are no indirect impacts to water bodies from storm water runoff. This would, in effect, minimize any potential indirect effect on aquatic special status species located off-site. Therefore, the proposed project would have a ***less than significant*** indirect impact on special-status species.

Responses b-c): Riparian habitat is found in the interface between land and a river or stream. This habitat is significant in ecology, environmental management, and civil engineering because of their role in soil conservation, their habitat biodiversity, and the influence they have on fauna and aquatic ecosystems, including grassland, woodland, wetland or even non-vegetative.

Sensitive natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection (i.e., §404 and 401 of the Clean Water Act, the CDFG §1600 et seq. of the California Fish and Game Code, and/or the Porter-Cologne Act). In addition, the California Natural Diversity Data Base (CNDDB) has designated a number of communities as rare; these communities are given the highest inventory priority (Holland 1986, CDFG 2003e). There were nine communities documented within the CNDDB nine quadrangle search. These included: California Walnut Woodland. Canyon Live Oak Ravine Forest. Open Engelmann Oak Woodland. Riversidian Alluvial Fan Sage Scrub. Southern California Arroyo Chub/Santa Ana Sucker Stream. Southern Coast Live Oak Riparian Forest. Southern Sycamore Alder Riparian Woodland. Southern Willow Scrub. Walnut Forest. None of these habitat types are located within the project site.

The project site does not support any riparian habitat or sensitive natural communities. Sensitive natural communities are not located on the project site. Therefore, implementation of the proposed project would have a ***no impact*** relative to this issue.

Response d): The project site is currently undeveloped and does not serve as a wildlife corridor, or nursery site. Movement of wildlife through the project site is currently limited by existing development and roadways. For example, an existing mining pit is located to the south of the site, and residential and industrial uses are located to the north, east, and west of the project site. The proposed project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Implementation of the proposed project would result in a ***less than significant*** impact relative to this topic.

Response e): The project would not conflict with any local policies or ordinances protecting biological resources. The City's General Plan includes several resources management element policies, the majority of which do not apply to the project due to the existing and past site conditions of the site. The project would be potentially inconsistent with the mining and

reclamation issue area policies as they relate to biological resources based on impacts identified in Mitigation Measure Bio-1.

With implementation of Mitigation Measure Bio-1, any potential conflict to resource preservation issue area policies and the mining and reclamation issue area polices would be fully mitigated. Therefore, implementation of the proposed project would have ***no impact*** relative to this issue.

Response f): The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, implementation of the proposed project would have ***no impact*** relative to this issue.

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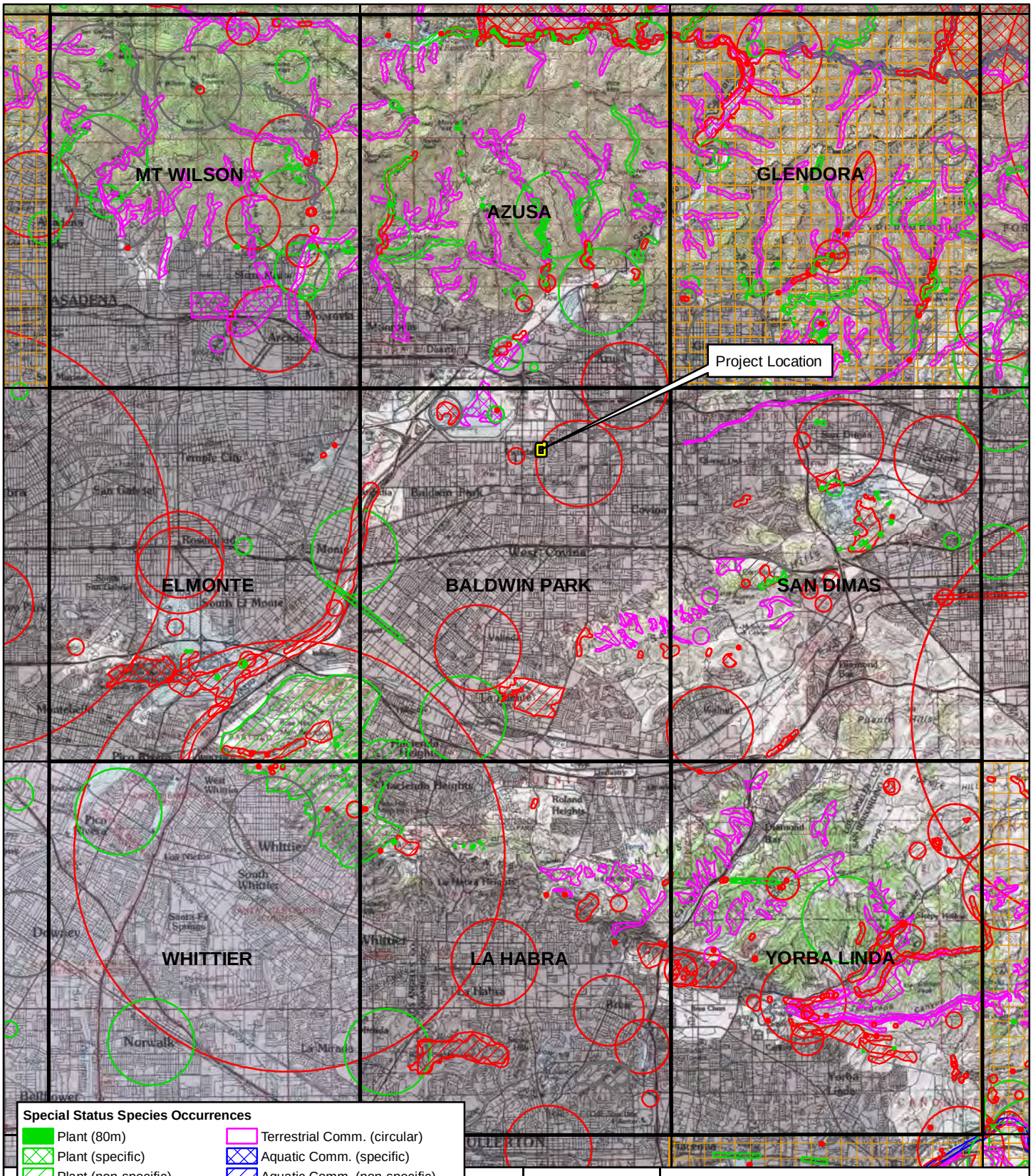

CNDDB version 05/2018. Please Note: the occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area. Basemap: ArcGIS Online Topographic Map Service. Map date: May 8, 2018. Revised 5/15/18.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 8.
California Natural Diversity Database

9-Quad Search

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V. CULTURAL RESOURCES

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X

Responses to Checklist Questions

Response a-d): The City of Irwindale General Plan and subsequent EIR does not identify the site as having prehistoric period cultural resources. Additionally, there are no known unique cultural, historical, paleontological or archeological resources known to occur on, or within the immediate vicinity of the project site. Furthermore, the site is not designated as a historical resource as defined by Public Resources Code § 21084.1, or listed in, or eligible for listing in the California Register of Historical Resources.

The site has previously been used for mining uses and, as such, has been subject to substantial soil disturbance. No instances of cultural resources or human remains have been unearthed on the project site. The site has been filled with engineered materials which are known to not contain archaeological, historic, or paleontological resources, or human remains. Because the fill material has been placed on the site recently and the material is well documented, there is effectively zero chance of finding a cultural resource on the site. Implementation of the proposed project would have ***no impact*** relative to this topic.

VI. GEOLOGY AND SOILS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation*	*Less Than Significant Impact*	*No Impact*
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
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?		X		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?		X		
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?				X

Responses to Checklist Questions

Responses a.i), a.ii), aiii): The project site is within the City of Irwindale, Los Angeles County. As shown in Figure 9, the Alquist-Priolo Earthquake Fault Zone is located approximately 6.3 miles northwest of the project site. Additionally, mapped earthquake faults exist within the City and region, although none cross the project site. The nearest mapped fault, the Duarte fault, is located approximately 1.8 miles north of the site.

All of Southern California, including the project site, is considered to be a seismically active region. Seismic hazards that may affect the site include ground shaking, liquefaction, and dynamic settlement. Due to lack of faults in the immediate vicinity of the project site, other hazards such as ground rupture along a pre-existing known fault are considered unlikely.

Liquefaction normally occurs when sites underlain by saturated, loose to medium dense, granular soils are subjected to relatively high ground shaking. During an earthquake, ground shaking may cause certain types of soil deposits to lose shear strength, resulting in ground settlement,

oscillation, loss of bearing capacity, landsliding, and the buoyant rise of buried structures. The majority of liquefaction hazards are associated with sandy soils, silty soils of low plasticity, and some gravelly soils. Cohesive soils are generally not considered to be susceptible to liquefaction. In general, liquefaction hazards are most severe within the upper 50 feet of the surface, except where slope faces or deep foundations are present. The on-site soils are engineered fill and import fill. As a result of the extensive remediation and engineering efforts, geologic site reviews, and site grading and compaction efforts, the potential for liquefaction of the site is considered low.

In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City of Irwindale, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Design in accordance with these standards and policies would reduce any potential impact to the extent feasible. Absent any known faults, and because development of the proposed project must be designed in conformance with state and local standards and policies that minimize risk from seismic shaking to the extent practicable, any potential impact would be ***less than significant***.

Response a.iv): There are several categories of landslides including: rockfalls, deep slope failure, and shallow slope failure. Factors such as drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). Because the project site contains fill material and would be essentially flat once the grading activities are complete, the project site has low landslide susceptibility. This is a ***less than significant*** impact and no mitigation is required.

Response b): Construction activities including grading could temporarily increase soil erosion during and shortly after project construction if not properly managed. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters.

The RWQCB requires a project specific Storm Water Pollution Prevention Plan (SWPPP) to be prepared for each project that disturbs an area one acre or larger. The SWPPP includes project specific best management measures that are designed to control drainage and erosion. The proposed project includes detailed project specific drainage plan that control storm water runoff and erosion, both during and after construction. This plan is subject to the review and approval of the City through the improvement plan process.

A Hydrology/Best Management Practices (BMPs)/LID Exhibit was prepared for the project. The Exhibit provides the hydrologic and hydraulic basis of design for the proposed stormwater control features. The SWPPP, project-specific Hydrology/BMPs/LID Exhibit, and associated improvements will manage storm water and reduce the potential for erosion. Mitigation Measure Geo-1 requires submittal of a SWPPP. Impacts associated with soil erosions as a result of the proposed project would be ***less than significant with mitigation***.

Mitigation Measure Geo-1: *The project applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB and City.*

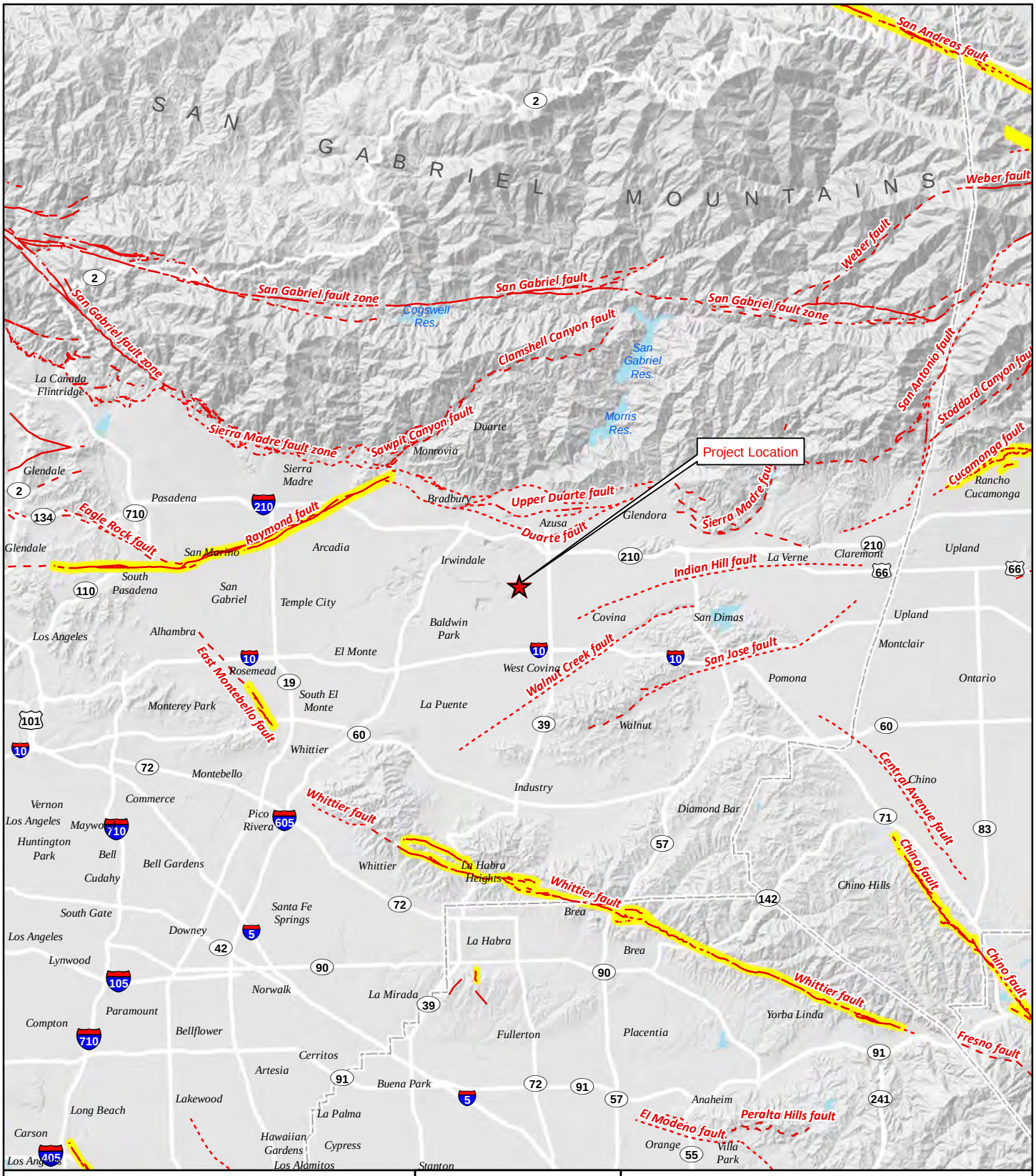
Responses c), d): Expansive soils are those that undergo volume changes as moisture content fluctuates, swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

Soil expansion is dependent on many factors. The more clayey, critically expansive surface soil and fill materials will be subjected to volume changes during seasonal fluctuations in moisture content. Figure 10 shows the soils within the project site. The soils encountered at the site consist of Pits and Quarries (24.51 acres) Urban land-Soboba complex, zero to five percent slopes (0.67 acres), and Urban land, commercial-Soboba complex, zero to five percent slopes (0.87 acres). Because the majority of the on-site soils are Pits and Quarries (including engineered fill materials), the expansion potential of the near-surface soils on the project site have a very low to low expansion potential. Additionally, the potential for liquefaction of the site is considered low, as described in the previous response.

As required by the following mitigation measure, the proposed project would require proper geotechnical design requirements to be incorporated into the building and improvement plans, and additional soil testing during the design and engineering phase of the project to further define the geotechnical engineering requirements for the individual structures. Impacts associated with unstable and expansive soils would be ***less than significant with mitigation***.

Mitigation Measure Geo-2*: Prior to earthmoving activities for the project, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*

Response e): The proposed project would not require the use of septic tanks or alternative waste water disposal systems for the disposal of waste water. Implementation of the proposed project would result in ***no impact*** relative to this topic.



Legend

Quaternary Faults

- Well-constrained
- Moderately-constrained
- Inferred

Alquist-Priolo Fault Zones

Data sources: US Geologic Survey; CalAtlas; Open Streets. Map date: May 9, 2018.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 9. Earthquake Fault Map

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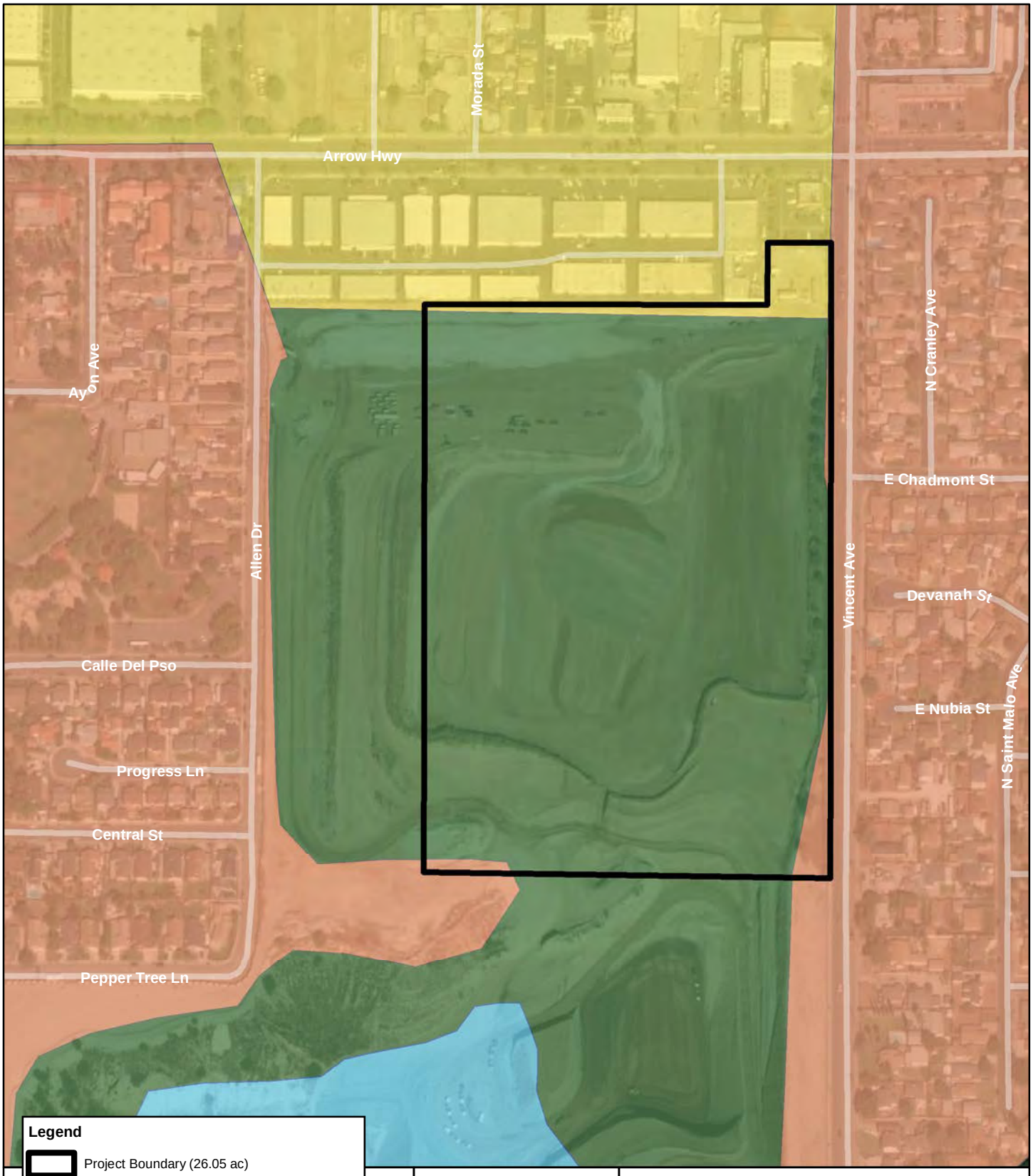

Source: U.S. Department of Agriculture, Natural Resource Conservation Servie, 20170912. Soil Survey Geographic (SSURGO) database for Los Angeles County, Southeastern Part. Los Angeles County; ArcGIS Online World Imagery Map Service. Map date: May 8, 2018. Revised May 15, 2018.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 10. Project Site Soils

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XII. GREENHOUSE GAS EMISSIONS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?			X	

EXISTING SETTING

Background

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring greenhouse gases include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also greenhouse gases, but they are, for the most part, solely a product of industrial activities. Although the direct greenhouse gases CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three greenhouse gases have increased globally by 40, 150, and 20 percent, respectively (Intergovernmental Panel on Climate Change [IPCC], 2013).

Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

The emissions from a single project will not cause global climate change, however, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. Therefore, the analysis of GHGs and climate change presented in this section is presented in terms of the proposed project's contribution to cumulative impacts and potential to result in cumulatively considerable impacts related to GHGs and climate change.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. In determining the significance of a proposed project's contribution to anticipated adverse future conditions, a lead agency should generally undertake a two-step analysis. The first question is whether the *combined* effects from *both* the proposed project *and* other projects would be cumulatively significant. If the agency answers this inquiry in the affirmative, the second question is whether "the proposed project's *incremental* effects are cumulatively considerable" and thus significant in and of themselves. The cumulative project list for this issue (climate change) comprises anthropogenic (i.e., human-made) GHG emissions sources across the globe and no project alone

would reasonably be expected to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders on the subject of climate change in California have established a statewide context and process for developing an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and, therefore, significant.

Significance Thresholds

In December 2008, the SCAQMD adopted a threshold of 10,000 metric tons of CO_2 equivalent units of measure (i.e., MT CO_2e) per year for stationary source projects where SCAQMD is the lead agency. This approach is also widely used by various cities in the SoCAB where the SCAQMD is the lead agency. Therefore, this threshold is utilized herein to determine if emissions of GHGs from the proposed project will be significant. The SCAQMD significance thresholds also evaluate construction emissions by amortizing them over an expected project life of 30 years.

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b): The proposed project's short-term construction-related and long-term operational GHG emissions for buildout of the proposed project were estimated using CalEEMod (v.2016.3.2). The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in MT CO_2e, based on the global warming potential of the individual pollutants.

Short-Term Construction GHG Emissions

Estimated increases in GHG emissions associated with construction of the proposed project are summarized in Table 7.

Table 7: Construction GHG Emissions (Unmitigated)

Year	*MT CO_2e*
2019	952.12
2020	358.36
Overall Total	**1,310.48**
30-Year Annual Amortized Rate	**43.68**

SOURCE: CALEEMOD (V.2016.3.2).

As presented in the table, construction activities are anticipated to generate approximately a total of 1,310.48 MT CO_2e, which is equivalent to approximately 43.68 MT CO_2e per year over a 30-year amortization period. Construction GHG emissions would cease upon completion of the construction phase of the project and would be a small fraction of total project-related emissions when considering the longevity of operation emissions associated with the project.

These construction GHG emissions are a one-time release and are comparatively much lower than overall emissions associated with operational phases of a project. Construction GHG emissions from the proposed project do not impede local GHG reduction efforts, or violate GHG reduction goals set by AB 32, SB 32, or any other California climate change legislation, as required by the Public Resources Code, Section 21082.2.

Long-Term Operational GHG Emissions

The long-term operational GHG emissions estimate for buildout of the proposed project incorporates the potential area source and vehicle emissions, and emissions associated with energy, utility and water usage, and wastewater and solid waste generation. GHG emissions from project-related operational activities are included in Table 8.

For the operational phase, the proposed project's GHG emissions are separated into emission sources for the applicable GHG emissions sectors established by CARB. Mobile sector emissions are emissions produced from vehicular travel to and from the project site. Energy sector emissions include indirect sources of energy (electricity and natural gas). Area emissions include emissions from landscaping activities. Solid waste emissions are generated by the decomposition over time of trash sent to landfill. Water sector emissions are produced from the transport of water to and from the project site. Mobile sector emissions make up the largest proportion of emissions associated with the proposed project. The second largest source of emissions is from the energy sector.

Table 8: Operational GHG Emissions (Unmitigated)

Emissions Category	***MT CO_2e / Year***
Area	0.02
Energy	708.12
Mobile	4,022.82
Waste	255.48
Water	690.48
Total Operational GHG Emissions	**5,676.93**

SOURCE: CALEEMOD (V.2016.3.2).

Overall GHG Emissions

As shown in Table 8, proposed project operations would generate approximately 5,676.93 MT CO_2e per year. In addition, as shown in Table 7, construction emissions (amortized over 30 years) would generate approximately 43.68 MT CO_2e per year. Combined, this results in a total of approximately 5,720.61 MT CO_2e per year. The 10,000 MT CO_2e per year threshold established by the SCAQMD would not be exceeded in the unmitigated scenarios and thus no mitigation is required.

Conclusion

As described above, the proposed project would not generate an amount of greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment. In addition, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses. Therefore, there is a ***less than significant*** impact relative to this topic.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			X	

Responses to Checklist Questions

Responses a), b):

Construction Phase

On-site reconnaissance, historical records, and the past uses of the site indicate that there are no known underground storage tanks or pipelines located on the project site that contain hazardous materials. Therefore, the disturbance of such items during construction activities is unlikely. Construction equipment and materials would likely require the use of petroleum based products (oil, gasoline, diesel fuel), and a variety of common chemicals including paints, cleaners, and solvents. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and

regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials.

Operational Phase
The operational phase would occur after construction is completed and business operators and their employees and customers move in to occupy the structure on a day-to-day basis. There were no Recognized Environmental Conditions (RECs) identified for the project site. Due to the past use of the site and the recent remediation efforts completed by the City, the potential for soil contamination or unknown underground facilities (i.e., underground wells, septic systems, etc.) to be located on-site is extremely low.

The proposed high-cube industrial warehouse and existing land use and zoning designations would conditionally permit a number of industrial and commercial uses that may store, use, and possibly generate a variety of hazardous materials (e.g., manufacturers, vehicle and equipment repair, dry cleaners). These types of uses are subject to a Conditional Use Permit issued by the City of Irwindale. There is a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices. There is a wide variety of hazardous materials that could be used within industrial and commercial facilities/business within the proposed warehouse building. Each business that uses a hazardous material would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The Los Angeles County Fire Department Health Hazardous Materials Division is the Certified Unified Program Agency (CUPA) for Los Angeles County and is responsible for the implementation of statewide programs within the City including Hazardous Materials Business Plan (HMBP) requirements, among numerous other programs. Implementation of this program involves permitting, inspecting, providing education/guidance, investigations, and enforcement. Consistency with local, state, and federal regulations related to the transport, storage, use, and disposal of hazardous materials ensures that the potential risk of upset and accident conditions from a release is minimized to the extent practical.

Conclusion
Implementation of the following mitigation measure will ensure that business operators consult with the Los Angeles County Fire Department Health Hazardous Materials Division for education/guidance related to specific requirements that their businesses must implement in the day-to-day operations. This includes the establishment of management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. It also includes consultation related to specific permits that a business may require in order to operate (i.e. permits of underground storage tanks if they are part of the business). Impacts associated with the creation of hazards or hazardous conditions as a result of the proposed project would be ***less than significant with mitigation***.

> ***Mitigation Measure Haz-1****: Subject to an approved Conditional Use Permit, and prior to the commencement of a business operation that involves the transport, storage, use, or disposal of a significant quantity hazardous material within the project site, the business owner shall submit a Hazardous Materials Business Plan (HMBP) for review and approval by the Los Angeles County Fire Department Health Hazardous Materials Division. The HMBP shall establish management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. The HMBP shall also identify the appropriate area for mixing/loading pesticides and fertilizers and for fuel dispensing, which shall be separated to ensure safety. The areas shall be designed with spillage catchments such that any accidental spillage is prevented*

from entering waterways. The business owner shall also consult with the Los Angeles County Fire Department Health Hazardous Materials Division to ensure that the particular business operations are compliant with all local, state, and federal regulations relative to their operations (i.e. proper permits for the installation and use of an underground storage of hazardous substances (USTs)). The approved HMBP and any other permit deemed to be required in order to commence the specific business operations shall be maintained onsite and all personnel shall acknowledge that they have reviewed and understand the HMBP and any other permit requirements.

Response c): The project site is not located within ¼-mile of an existing school. The closest school is Merwin Elementary School, located approximately 0.45 miles to the south of the project site. Therefore, operation of the proposed warehouse would not emit hazardous emissions or result in the storage or handling of hazardous or acutely hazardous materials, substances or waste within ¼-mile of an existing school. Implementation of the proposed project would result in a ***less than significant*** impact relative to this topic.

Response d): According the California Department of Toxic Substances Control (DTSC), there are no Federal Superfund Sites, State Response Sites, or Voluntary Cleanup Sites on, or in the vicinity of the project site. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5. As such, implementation of the proposed project would result in a ***less than significant*** impact relative to this environmental topic.

Responses e), f): The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safely based on such items as the type of aircraft using the airport. The project site is not located within the vicinity of a private airstrip. The closest airport is the El Monte Airport approximately six miles southwest of the project site.

The project site is not located within one mile of the airport, nor along the extended runway centerline. The proposed project consists of one warehouse industrial building structure, and does not propose any structures of substantial height that would protrude into active airspace. Building height would be consistent with surrounding uses. Therefore, the project would have ***no*** impact related to airport safety hazards.

Response g): While the proposed project will minimally impact traffic flow during the temporary construction period, it will not conflict with or interfere with emergency evacuation of the project area. Further, the project would add a negligible number of additional trips to Arrow Highway, Vincent Avenue, and the surrounding roadways. As such, these roadways would continue to function as emergency access routes if necessary. No revisions to an adopted emergency plan would be required as a result of the proposed project. The proposed project does not include any actions that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. Implementation of the proposed project would result in ***no impact*** on this environmental topic.

Response h): The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents), and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

The California Department of Forestry has designated the northern edge of the City as a Local Responsibility Area (LRA), which is within the very high fire hazard severity zone; however, this

rating does not extend to the project site. The project will require fire hydrants consistent with the standards of the City, and such fire hydrants will assist with fire suppression efforts if a fire was to occur. Because the project site is not located within a designated wildfire hazard area and is located in a developed, urbanized area, this is a ***less than significant*** impact and no mitigation is required.

IX. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			X	
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			X	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

Responses to Checklist Questions

Response a): Implementation of the proposed project would not violate any water quality or waste discharge requirements. Construction activities including grading could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of soil and could adversely affect water quality in nearby surface waters. The RWQCB requires a project specific SWPPP to be prepared for each project that disturbs an area one acre or larger. The SWPPP is required to include project specific best

management measures that are designed to control drainage and erosion. The SWPPP would be implemented throughout the construction phase. The SWPPP would be designed to reduce the potential for the proposed project to violate water quality standards during construction. The RWQCB requires regular monitoring and reporting to ensure that the SWPPP is effectively controlling stormwater pollution. This is a regulatory requirement that is required of all projects and would mitigate the potential for an impact to occur. Implementation of the proposed project would result in a ***less than significant*** impact relative to this topic.

Response b): As noted previously, the project site is the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project, which proposed reclamation of the historic mining pit. Mining of the Manning Pit began in the 1930s and was completed in the 1970s. The City of Irwindale acquired the northern portion of the pit (approximately 37 acres) in the late 1980s from the County of Los Angeles, and the County retained the remainder (approximately 45 acres) which is currently used as a supplemental water recharge basin in conjunction with the Irwindale Recharge Basin, located just to the west. The recharge basin will remain intact. The project site is nearing completion of the reclamation efforts that have filled the site for the past decade and does not function as a recharge basin. Implementation of the proposed project would result in a ***less than significant*** impact relative to this topic.

Responses c-e): When land is in a natural or undeveloped condition, precipitation will infiltrate/percolate the soils. Much of the rainwater that falls on natural or undeveloped land slowly infiltrates the soil and is stored either temporarily or permanently in underground layers of soil. When the soil becomes completely soaked or saturated with water or the rate of rainfall exceeds the infiltration capacity of the soil, the rainwater begins to flow on the surface of land to low lying areas, ditches, channels, streams, and rivers. Rainwater that flows off of a site is defined as storm water runoff. When a site is in a natural condition or is undeveloped, a larger percentage of rainwater infiltrates into the soil and a smaller percentage flows off the site as storm water runoff.

The infiltration and runoff processes are altered when a site is developed with urban uses. Houses, buildings, roads, and parking lots introduce asphalt, concrete, and roofing materials to the landscape. These materials are relatively impervious, which means that they absorb less rainwater. As impervious surfaces are added to the ground conditions, the natural infiltration process is reduced. As a result, the volume and rate of storm water runoff increases. The increased volumes and rates of storm water runoff can result in flooding in some areas if adequate storm drainage facilities are not provided.

A Hydrology/BMPs/LID Exhibit was prepared for the project. The project site consists of two drainage sub-areas, 1A (12.83 acres) and 2A (12.62 acres), which roughly bisect the site. In order to meet the City of Irwindale and County of Los Angeles storm water quality requirements, a combination of a rain garden and/or underground infiltration/detention system will be utilized as LID treatment devices to treat the low-flow. The underground infiltration/detention system will be located within an area (50-feet wide, eight-feet high, and 653-feet long) on the west side of the property. The rain garden areas will be located throughout the site, mainly around the perimeter. Within subarea 2A, the low flow will discharge into the LID treatment device rain garden via curb openings and then directed into the underground infiltration/detention system via infiltration. Subarea 1A will be directed to and treated by the proposed underground infiltration/detention system via underground storm drain pipe. The system is sized for infiltration and detention purposes which is much larger than the required storm water treatment volume.

The owner of the property will privately maintain the on-site drainage system, which would consist of catch basin, curb drains, and infiltration/detention system. The proposed storm drain and infiltration/detention system has been designed to convey the required flow rates and will comply with the flood protection and storm water quality requirements of the City of Irwindale and County of Los Angeles.

The proposed project would increase impervious surfaces throughout the project site and would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the project site. The storm drainage system was designed and engineered to ensure proper construction of storm drainage infrastructure to control runoff and prevent flooding, erosion, and sedimentation. The construction of the storm drainage facilities would not substantially alter the existing drainage pattern of the area or alter the course of a stream or river causing adverse environmental impacts. Therefore, the project would have a ***less than significant*** impact relative to this environmental topic.

Response f): Construction activities including grading could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of soil and could adversely affect water quality in nearby surface waters. The RWQCB requires a project specific SWPPP to be prepared for each project that disturbs an area one acre or larger. The SWPPP is required to include project specific best management measures that are designed to control drainage and erosion. The SWPPP would be implemented throughout the construction phase. The SWPPP would be designed to reduce the potential for the proposed project to violate water quality standards during construction. The SWPPP and the Hydrology/LID Report would reduce the potential for polluted runoff and/or degradation of water quality. Implementation of the proposed project would result in a ***less than significant*** impact relative to this topic.

Responses g-h): As shown in Figure 11, the project site is located within Flood Zone X, which is not within the 100-year flood zone as shown on the Flood Insurance Rate Map (FIRM). Development of the proposed Project would not place housing or structures in a 100-year or 200-year flood hazard area. As a result, the proposed Project would have a ***less than significant*** impact relative to this topic.

Response i): The project site is not located within an area with a control levee or dam. As shown in Figure 12, the project site is located within a dam inundation area for the San Gabriel No. 1 Dam. Due to the size of this dam, it is regulated by California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring the dam in perpetuity. The proposed project would not result in actions that could result in a higher likelihood of dam failure at the San Gabriel No. 1 Dam. There will always be a remote chance of dam failure that results in flooding of the City of Irwindale, including the project site. However, given the regulations provided in the California Dam Safety Act, and the ongoing monitoring performed by the DSD, the risk of loss, injury, or death to people or structures from dam failure at the proposed project site would be negligible, and ***no impact*** would result.

Response j): The project site is not anticipated to be inundated by a tsunami because it is located at an elevation of approximately 460 feet above MSL and is approximately 33 miles away from the Pacific Ocean which is the closest ocean waterbody. Implementation of the proposed project would have ***no impact*** relative to this environmental topic.

The project site is not anticipated to be inundated by a seiche because it is not located in close proximity to a water body capable of creating a seiche. Implementation of the proposed project would have ***no impact*** relative to this environmental topic.

A mudflow is a category of landslide that is associated with heavy saturation of soils and sometimes is associated with seismicity. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for mudflow. The City's General Plan EIR does not identify mudslides as a topic of concern. Additionally, the project site would be graded to be essentially flat as part of the project. No steep areas that would have the potential to generate mudflows during operations would be created. Therefore, implementation of the proposed project would have ***no impact*** relative to this environmental topic.

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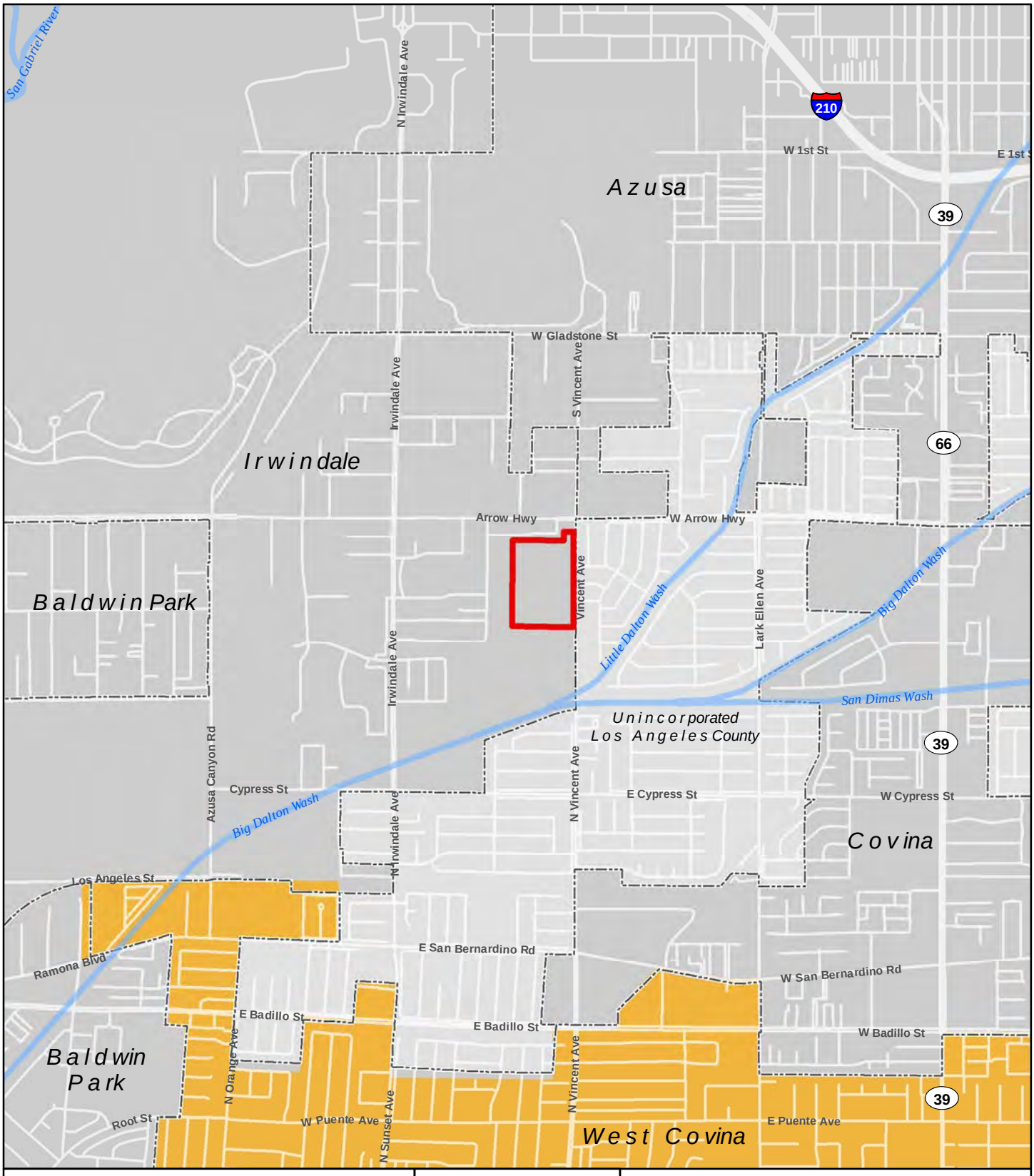

Legend

Project Boundary

City Area

FEMA Flood Zone Designation

2% Annual Chance Flood Hazard
(500-Year Flood Plain)

0 600 1,200
Feet

Source: Los Angeles County EGIS. FEMA NFHL_06037C, effective date 4/4/18Map date: May 8, 2018. Revised 5/15/18.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 11. FEMA Flood Insurance Rate Map

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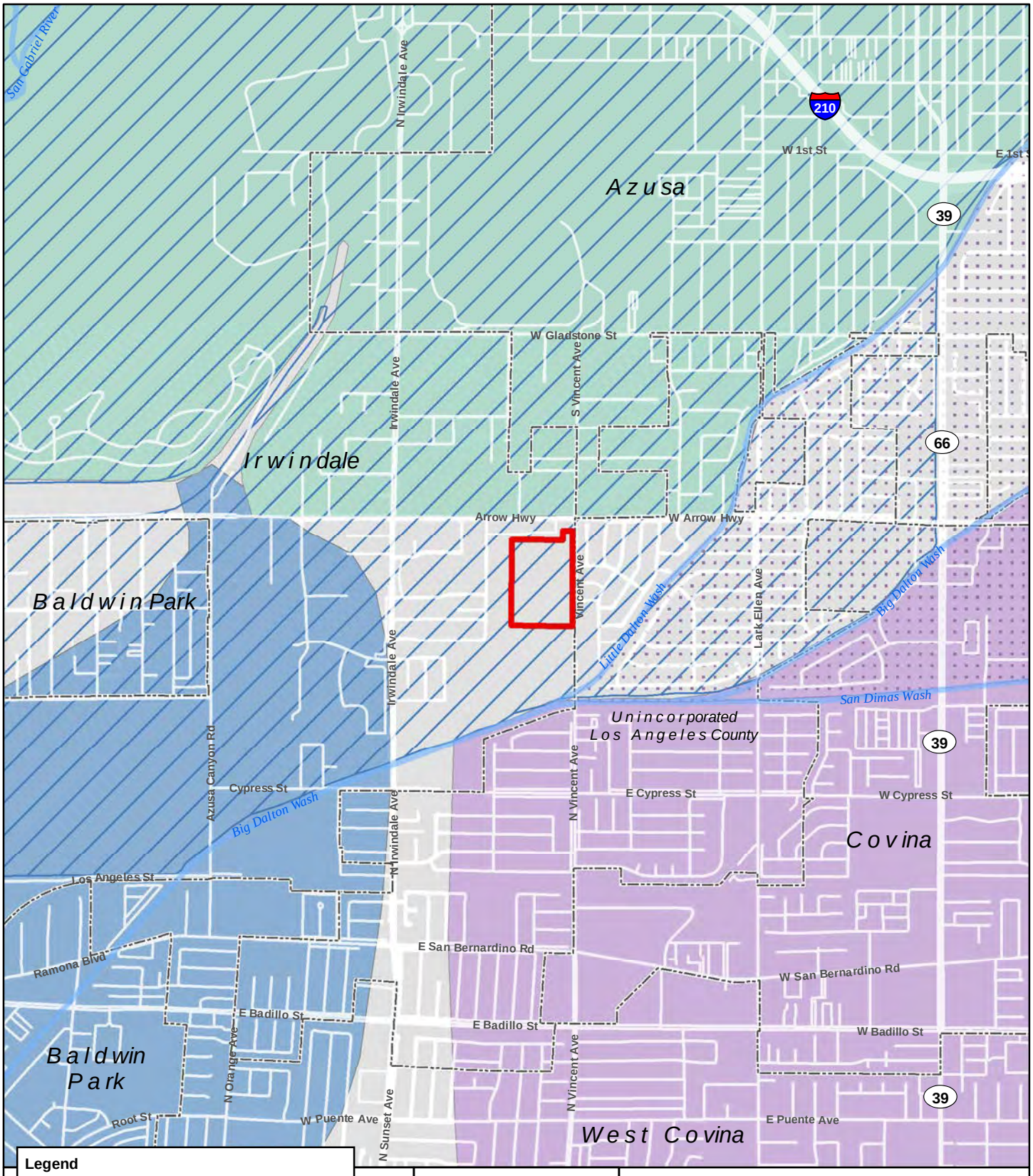

Source: Governor's Office of Emergency Services Statewide Dam Inundation Map Service, accessed 5/8/2018.; Los Angeles County EGIS. Map date: May 8, 2018. Revised 5/15/2018.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 12. Dam Inundation Map

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X. LAND USE AND PLANNING

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?			X	
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Responses to Checklist Questions

Response a): The proposed project includes development of a high-cube industrial warehouse on an undeveloped, disturbed site that is surrounded by residential and industrial uses. The proposed warehouse would be consistent with the existing industrial land uses to the north of the project site and would not physically divide an established community. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Response b): The key planning documents that are directly related to, or that establish a framework within which the proposed project must be consistent, include:

- City of Irwindale Commercial and Industrial Design Guidelines;
- City of Irwindale General Plan; and
- City of Irwindale Zoning Ordinance.

The project site is designated as "Industrial/Business Park" and "Residential" by the City's General Plan Land Use Map and is zoned as M-2 “Heavy Manufacturing”. As shown in Figure 6, the project applicant is requesting a General Plan Amendment to change the current designation from "Residential" to "Industrial/Business Park" for a portion of APN 8417-034-016. The Industrial/Business Park designation allows light industry, heavy industry, distribution, or commercial uses. The proposed high-cube industrial warehouse is consistent with the Industrial/Business Park designation. The maximum floor-area-ratio (FAR) for this category is 1.0 to 1.0. The proposed warehouse would be below the maximum FAR.

The Site Plan and Design Review process would address the site configuration, design, location, and impact of the proposed use, and the compliance of the project with the established Zoning Code standard and the "City of Irwindale Commercial and Industrial Design Guidelines". Therefore, impacts to land use compatibility would be ***less than significant***.

Response c): As noted previously, the project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, implementation of the proposed project would have a ***no impact*** relative to this issue.

XI. MINERAL RESOURCES

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Responses to Checklist Questions

Response a): The City's General Plan EIR determined that impacts related to mineral resources as a result of General Plan buildout would not be significant. No existing mineral extraction operations exist at the property. Additionally, there are no oil and gas extraction wells within or near the property.

The project site is the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project, which proposed reclamation of the historic mining pit. Mining of the Manning Pit began in the 1930s and was completed in the 1970s. Known mineral resources that would be of value to the region no longer exist within the project site. Implementation of the proposed project would have ***no impact*** relative to this issue.

Response b): The project site does not contain a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. As noted above, known mineral resources that would be of value to the region no longer exist within the project site. The proposed project would not result in loss of a mineral resource. Implementation of the proposed project would have ***no impact*** relative to this issue.

XII. NOISE

Would the project result in:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound

levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60-dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is like L_{dn}, but includes a +5-dB penalty for evening noise. Table 9 lists several examples of the noise levels associated with common situations.

Table 9: Typical Noise Levels

Common Outdoor Activities	*Noise Level (dBA)*	*Common Indoor Activities*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. The following relationships occur regarding increases in A-weighted noise level:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

Ambient Noise

The sources of noise in Irwindale fall into five basic categories. These include freeways, both the Foothill Freeway and the San Gabriel River Freeway; aircraft over flights; major and minor arterial roadways; railroad lines; and stationary sources. Each of these sources and their impacts on the noise environment of Irwindale are summarized in the following paragraphs.

- Freeways. The San Gabriel River Freeway (I-605) traverses the westerly boundary of the city in a north/south direction. This freeway is generally below grade with respect to the adjacent areas. Most of the development along the freeway is commercial, along with quarry operations. The Foothill Freeway (I-210) is elevated at least twenty feet above the adjacent areas and no walls exist at the present time.
- Traffic Noise. Traffic noise on surface streets is a significant source of noise within the community. Noise levels along roadways are affected by a number of factors. Most important is the average daily traffic (ADT). Roadways in Irwindale have a very high percentage of truck traffic resulting from the mining operations and industrial development in the City.

- Airports and Heliports. There are no airports located in Irwindale, nor are there any specific flight corridors that overfly the City. The nearest general aviation airport is located in El Monte. During field surveys conducted in the City, helicopter operations were observed in the vicinity of the Santa Fe Dam.
- Railroads. The City of Irwindale has a number of main railroad and spur lines. Major lines located in the city include the BN&SF Railroad, the Los Angeles Junction Railroad Company, Southern Pacific Railroad Company and the Union Pacific Railroad Company. The majority of the railroad traffic consists of freight trains performing switcher operations. A Metrolink commuter line is located in the southern portion of the City.
- Stationary Sources. The City of Irwindale contains a large number of stationary noise sources. Commercial areas located near residential areas from adjacent cities result in occasional noise impacts. The primary noises associated with industrial and commercial operations include truck traffic, air compressors, generators, outdoor loudspeakers and gas venting.

Noise Element of the General Plan

The applicable noise standards governing the project site are the criteria in the City of Irwindale 2020 General Plan Noise Element and Municipal Code (Noise Ordinance, see Chapter 9.28). The General Plan noise policies cite to applicable State standards including the California Administrative Code, Section 1092 of Title 25, Chapter 1, Subchapter 1, Article 4 and Section 5014 of Title 21, Subchapter 6, Article 2. The City's General Plan Noise Element has not adopted any specific noise policies that can be used in the CEQA review process. The General Plan does, however, provide the following regarding acceptable, conditionally acceptable, and unacceptable noise levels for various uses.

- *Noise and Land Use Compatibility:* The State Office of Noise Control has prepared Guidelines for the Preparation and Content of Noise Elements of General Plans. This provides a guide for compatibility of noise-sensitive land uses in areas subject to noise levels of 55 to 80 dB CNEL or Ldn. Residential uses are normally unacceptable in areas exceeding 70 dB CNEL; and conditionally acceptable between 55-70 dB CNEL for low-density single-family dwelling units, duplexes, and mobile homes, and between 60-70 dB CNEL for multiple-family units. Schools, libraries, hospitals, and nursing homes are treated as noise-sensitive land uses, requiring acoustical studies within areas exceeding 60 dB CNEL. Commercial/professional office buildings and industrial land uses are normally unacceptable in areas exceeding 75 dB CNEL, and are conditionally acceptable within 67 to 78 dB CNEL (for commercial and professional offices only).

Municipal Code

The City of Irwindale Municipal Code (Chapter 9.28 - Noise Regulation) has defined "Ambient base noise level" and "Ambient noise level" relative to the City's standards. Ambient base noise level means reasonable and representative ambient noise levels in various land use categories in the city and at various times as established by the planning commission. The City's established Ambient base noise levels are as follows:

Table 10: Ambient Base Noise Levels

Zone	*Ambient Base Noise Level (dB)*	
	10 p.m. to 7 a.m.	*7 a.m. to 10 p.m.*
Residential	45	50
Commercial	50	55
Industrial	60	70

SOURCE: IRWINDALE MUNICIPAL CODE CHAPTER 9.28.

"Ambient noise level" means the all-encompassing noise associated with a given environment, usually being a composite of sounds with many sources excluding the alleged offensive noise at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

The Municipal Code establishes that "where the ambient noise level is less than designated, the ambient base noise level in the Municipal Code shall govern." Any noise at a level that exceeds the ambient or the ambient base level as set forth above, whichever is greater, by more than 10 dB when measured at any boundary line of the property from which the noise emanates shall constitute sufficient proof of a violation.

The Municipal Code Section 9.28.230 includes exclusions that apply to this chapter of the code. One exclusion is "*Sound produced by motor vehicles as regulated by sound limitation provisions of the California Vehicle Code when such vehicle is located or operated on any public street, right-of-way or highway*." As such, the Ambient Base Noise Level presented in Table 10 do not apply to traffic generated noise, instead, it is applicable to noise generated from operational uses.

Construction authorized by the Municipal Code Chapter 9.28 shall be limited to 7 a.m. to 7 p.m. from Monday through Saturday. No construction shall be allowed during any hours on Sunday without a permit by the City.

Traffic Noise Standards

The State Office of Noise Control provides a guide for compatibility of noise-sensitive land uses in areas subject to noise levels of 55 to 80 dB CNEL or Ldn. Residential uses are normally unacceptable in areas exceeding 70 dB CNEL; and conditionally acceptable between 55-70 dB CNEL for low-density single-family dwelling units, duplexes, and mobile homes, and between 60-70 dB CNEL for multiple-family units. Schools, libraries, hospitals, and nursing homes are treated as noise-sensitive land uses, requiring acoustical studies within areas exceeding 60 dB CNEL. Commercial/professional office buildings and industrial land uses are normally unacceptable in areas exceeding 75 dB CNEL, and are conditionally acceptable within 67 to 78 dB CNEL (for commercial and professional offices only).

A noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness. Based on this information, the following generally acceptable standards would apply to the proposed project:

- Less than 3 dBA difference in noise levels would not be discernable; therefore, the difference would not be significant.
- Between 3 dBA and 5 dBA would be noticeable, but not significant, if noise levels were to remain below the noise level standards recommended by the State Model Community Noise Ordinance.

- A noise level difference of 5 dBA or greater would be readily noticeable and therefore considered significant.

In addition to the 3.0 dBA definition of a potentially significant change in noise levels, the applicable noise standards governing the project site have to be considered.

Responses to Checklist Questions
Responses a) and c):

Operational Noise
Industrial land use activities can produce noise levels which affect adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components which may be annoying to individuals who live in the vicinity. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day, and existing ambient noise levels. The primary noise sources generally include truck deliveries, trash pickup, parking lot use, and heating, ventilation, and air conditioning (HVAC) equipment operation. These sources may result in a permanent increase in ambient noise levels in the project vicinity.

HVAC equipment can be a primary noise source associated with industrial uses. These types of equipment are often mounted on roof tops, located on the ground, or located within mechanical rooms. The noise sources can take the form of fans, pumps, air compressors, chillers, or cooling towers. Noise levels from these types of equipment can vary significantly. Noise levels from these types of sources generally range between 45 dB to 70 dB at 50 feet.

Noise exposure may be reduced by increasing the distance between the noise source and the noise-receiving use. Setbacks can take the form of frontage roads, landscaping, parking area, etc. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally 3 to 6 dB per doubling of distance from the source. The rule-of-thumb is that most traffic noise levels will decrease or increase by approximately 4.5 dB per doubling, or halving of distance, respectively. Noise from point sources, such as HVAC equipment, will generally attenuate at 6 dB per doubling of distance.

Noise reduction can be accomplished by placing walls, berms or other structures, such as buildings, between the noise source and the receiver. The effectiveness of a barrier depends upon blocking line-of-sight between the source and receiver, and is improved with increases in distance the sound must travel to pass over the barrier as compared to a straight line from source to receiver. The difference between the distance over a barrier and a straight line between source and receiver is called the "path length difference," and is the basis for calculating barrier noise reduction.

In general, barriers are most effective when placed close to either the receiver or the source. An intermediate barrier location yields a smaller path length difference for a given increase in barrier height than does a location closer to either source or receiver.

The proposed project will include noise generating equipment, including HVAC systems, generators, cooling systems, etc., all of which have the potential to cause noise impacts if not designed and sited correctly. Additionally, the truck loading/docking areas will include activities that have the potential to cause noise impacts if not appropriately attenuated (i.e. design calls for

a 8' tall concrete sound wall along the eastern boundary). Implementation of the following mitigation measure would ensure that the noise generating systems installed on the building, as well as the truck loading/docking activities, are designed and managed in a way that attenuates the noise to acceptable levels. As such, operational noise impacts associated with implementation of the proposed project would be ***less than significant with mitigation***.

Mitigation Measure Noise 1: *The following measures shall be included in the project design prior to the approval of building plans:*

- *All HVAC equipment shall be located within mechanical rooms where possible or shielded from view with solid or grated barriers;*
- *Emergency generators shall comply with the City's noise criteria at the nearest noise-sensitive receivers;*
- *The delivery/loading activities along the eastern site of the site shall be shielded by installing an 8' sound wall.*

Traffic Noise

To describe future noise levels due to traffic, FHWA Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Direct inputs to the model included traffic volumes provided by Kunzman Associates. Table 11 shows the predicted traffic noise levels associated with Arrow Highway (West of Vincent) and Vincent (South of Arrow). These roadways are the most proximate to the project site.

Table 11: Noise Calculations for Surrounding Roadway Segments

Roadway	Segment	ADT	Contours (ft)			Level, dBA	Change
			60 dBA	65dBA	70dBA		
Existing							
Arrow Highway	W. of Vincent	19,000	1112	352	111	73.5	--
Vincent	S. of Arrow	10,680	625	198	63	71	--
Existing Plus Project							
Arrow Highway	W. of Vincent	20,610	1206	381	121	73.8	0.3
Vincent	S. of Arrow	12,830	751	237	75	71.8	0.8
Future Baseline							
Arrow Highway	W. of Vincent	19,210	1124	356	112	73.5	-0.3
Vincent	S. of Arrow	10,780	631	200	63	71	-0.8
Future Baseline Plus Project							
Arrow Highway	W. of Vincent	20,160	1180	373	118	73.7	0.2
Vincent	S. of Arrow	12,880	754	238	75	71.8	0.8
Baseline plus Cumulative							
Arrow Highway	W. of Vincent	21,740	1272	402	127	74.1	0.4
Vincent	S. of Arrow	11,470	671	212	67	71.3	-0.5
Baseline plus Cumulative Plus Project							
Arrow Highway	W. of Vincent	23,350	1367	432	137	74.4	0.3
Vincent	S. of Arrow	13,620	797	252	80	72	0.7

SOURCES: FHWA-RD-77-108, AND SAXELBY ASSOCIATES, 2018.

The existing and future noise levels along the affected roadway segments are presented in Table 11 for existing, existing plus project, future baseline, future baseline plus project, baseline plus cumulative, and baseline plus cumulative plus project scenarios. The data in the table shows that the existing conditions, future baseline, and future baseline plus cumulative would result in a decibel level of approximately 70 dBA at the nearest residential receptors along Vincent. These scenarios do not include the proposed project, and it falls under the conditionally acceptable standard established by the State (conditionally acceptable is between 55-70 dB CNEL for low-density single-family dwelling units). This level is also within the conditionally acceptable standard for industrial uses (67 to 78 dB).

The data in the table shows that project-related traffic noise level increases under the plus project scenarios would be a maximum of 0.3 dBA along Arrow Highway and a 0.8 dBA increase along Vincent. This traffic noise increase is very small and not discernible to the human ear. These increases are well below the 3 dBA standard, making it an insignificant increase. It is also noted that the Existing plus project, and Future Baseline plus project would result in a decibel level of approximately 70 dBA at the nearest residential receptors along Vincent. These scenarios fall under the conditionally acceptable standard established by the State (conditionally acceptable is between 55-70 dB CNEL for low-density single-family dwelling units). This level is also within the conditionally acceptable standard for industrial uses (67 to 78 dB).

As shown, the traffic noise will not expose people to, or generate noise levels in excess of applicable standards, and it will not result in a substantial permanent increase in ambient noise levels above levels existing without the project. Implementation of the proposed project would have a **less then significant** impact relative to this topic.

Response b): Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by several factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 12 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). One-half this minimum threshold or 0.1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could occur is noted as 0.1 in/sec p.p.v.

Table 12: Effects of Vibration on People and Buildings

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/sec.	in./sec.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

The vibration-generating activities typically happen during construction when activities such as grading, utilities placement, and road construction occur. Sensitive receptors which could be impacted by construction-related vibrations, especially vibratory compactors/rollers, are located approximately 100 feet or further from the activity. At this distance, construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural. Table 13 shows the typical vibration levels produced by construction equipment.

Table 13: Vibration Levels for Varying Construction Equipment

Type of Equipment	Peak Particle Velocity @ 25 feet (inches/second)	Peak Particle Velocity @ 100 feet (inches/second)
Large Bulldozer	0.089	0.011
Loaded Trucks	0.076	0.010
Small Bulldozer	0.003	0.000
Auger/drill Rigs	0.089	0.011
Jackhammer	0.035	0.004
Vibratory Hammer	0.070	0.009
Vibratory Compactor/roller	0.210	0.026

SOURCE: FEDERAL TRANSIT ADMINISTRATION, TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES, MAY 2006

Table 13 data indicate that construction vibration levels anticipated for the proposed project are less than the 0.1 in/sec criteria at distances of 50 feet. Therefore, construction vibrations are not predicted to cause damage to existing buildings or cause annoyance to sensitive receptors. Implementation of the proposed project would have a ***less than significant*** impact relative to this environmental topic.

Response d): Construction activities have the potential to create temporary, or periodic increases in ambient noise levels in the project vicinity above levels existing without the project. During the construction of the project, including roads, water, and sewer lines, and related infrastructure, noise from construction activities would add to the noise environment in the project vicinity. Existing sensitive receptors are located in the nearby residences, some of which are as close as 75 feet from the proposed construction activities. As indicated in Table 14, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at 50 feet. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours which are the least sensitive hours. Additionally, the majority of construction activities would occur at distances of 300 to 500 feet from the nearest residences. At these further distances, the maximum noise levels due to construction at the interior of the site would range from 60 to 70 dBA.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration and would likely occur primarily during daytime hours.

Table 14: Construction Equipment Noise

Type of Equipment	*Maximum Level, dB at 50 feet*
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

Construction activities would be temporary in nature and are exempt from noise regulation during the hours of 7:00 a.m. to 7:00 p.m., as outlined in the City's Municipal Code Section 9.28.110. Additionally, the project site was assumed for urban development as part of the City's General Plan and General Plan EIR. Build-out of the City's General Plan land use map, including the proposed project site, will inherently result in construction and construction-related noise levels. Adherence to City Municipal Code (Section 9.28.110) would minimize any impacts from noise during construction to the extent practicable. Implementation of these requirements would ensure that the proposed project would have a ***less than significant*** relative to construction noise.

Responses e-f): The project site is not located within the vicinity of 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. The closest airport is the El Monte Airport approximately six miles southwest of the project site. The proposed project would, therefore, not expose people residing or working in the project area to excessive noise levels associated with such airport facilities. The project site is not located within the vicinity of a private airstrip. The proposed project would, therefore, not expose people

residing or working in the project area to excessive noise levels associated with such private airport facilities. Implementation of the proposed project would have ***no impact*** relative to this topic.

XIII. POPULATION AND HOUSING

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Responses to Checklist Questions

Response a): According to the 2016 US Census population estimates, the population in Irwindale is 1,422 people. The proposed project would result in the construction of a high-cube industrial warehouse that would generate additional employment opportunities. The additional employees may come from Irwindale or surrounding communities. The project would not directly introduce new residents to the City.

The proposed project would not include upsizing of offsite infrastructure or roadways. The installation and sizing of new infrastructure would be limited to the needs of the proposed uses. The proposed project would not induce substantial population growth in an area, either directly or indirectly. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Responses b), c): The project site is currently undeveloped and does not contain housing. The proposed project would not displace housing or people. Implementation of the proposed project would have ***no impact*** relative to this topic.

XIV. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			X	
Police protection?			X	
Schools?			X	
Parks?			X	
Other public facilities?			X	

Responses to Checklist Questions

Response a):

Fire Protection

Fire protection service would be provided by the LACoFD. The City of Irwindale is served by two fire stations: Irwindale Station 48 (located at 15546 Arrow Highway in Irwindale) and Baldwin Park Station 29 (located at 14334 Los Angeles Street in Baldwin Park). Both of these stations are maintained by the LACoFD. The Irwindale Station is located 0.65 miles west of the project site.

According to the City of Irwindale General Plan EIR, Station 48 has a staff consisting of 16 full-time fire fighters. The station's equipment resources include one pumper, one reserve truck, and a paramedic unit. The average response time throughout the City is six minutes. Additional emergency resources are available from other California Division of Forestry (CDF) stations, the nearest being in Baldwin Park. The CDF equipment includes a snorkel truck and a triple pump. The City has an overall fire insurance rating 3 with the availability of alarm systems.

The City and County expand fire protection services as growth and development occurs to meet the adopted fire response time as a general guideline. As noted in the City of Irwindale General Plan, the City shall regularly review the adequacy of law enforcement services and fire protection and emergency services in the City. This review effort shall be a component of the annual budget review of the contract with the Fire Department, and the City shall work with the Fire Department to correct any identified deficiencies. Local law enforcement officials and Fire Department representatives shall also continue their review of any proposed development plans. Annual reports concerning each Department will be submitted to the City Council for consideration.

Funding for fire operations and services is derived from a combination of development impact fees and the City's budget. Additionally, the project applicant would be required to pay development impact fees related to fire protection to enable the expansion of fire protection facilities, addition of fire protection personnel, and the acquisition of additional fire equipment, as needed and determined annually by the City County to maintain their performance standards.

Compliance with City goals, policies, and performance standards would ensure that the proposed building would include adequate fire detection and suppression systems to allow for fires to be

quickly contained and would ensure that the fire department maintains an adequately sized staff and equipment in order to meet any additional demands generated by the project. Compliance with such regulations would reduce the burden on existing fire stations serving the project area, and would ensure that the LACoFD has adequate equipment, staff, and station space to provide fire protection and emergency services to the project area and the City.

The proposed project would not result in a need to construct a new fire station or physically alter an existing fire station. The LACoFD would receive development impact fees from the project for capital improvements and infrastructure costs even though a new facility would not be created. The fair share funds are intended to pay for project financial impacts on fire protection service. The proposed project's environmental impact to fire service is considered ***less than significant***.

Police Protection

Police protection service would be provided by the Irwindale Police Department. According to the City of Irwindale General Plan EIR, the Irwindale Police Department consists of 28 full-time police officers, three reserve officers, and 12 civilian employees. The department's enforcement tools include a, stolen vehicle tracking devices, and one motor unit. Response times in most areas of the City are five minutes or less. The Department is responsible for staffing various activities aside from regular patrol duties that encompass calls for service from the business and residential community. These activities include stock car and drag racing at the Irwindale Speedway, City Park events, and various task force opportunities that combat illegal street racing, seat belt usage, and DUI violations.

The Department has jurisdiction over the City's 9.5 square miles of land that bike paths along the riverbed. A mutual aid contract with the Los Angeles County Sheriff's Department provides for special weapons teams when required, and other specialized equipment or services including Homicide investigations. Air Support services are provided through a contract with the Pasadena Police Department. Jail bookings are accomplished through a contract for services with the Glendora Police Department Jail Facility.

The City expands police protection service consistent with community needs and provides an adequate level of service based on demand. The proposed project would be required to pay development impact fees which would allow the police department to add additional staff to provide services to accommodate this growth. These fees are used to fund the direct impact on increased demand for police facilities and equipment.

The proposed project would not result in a need to construct a new police station or physically alter an existing police station. As previously stated, the development impact fees for capital improvements and infrastructure costs would be collected. The fair share funds are intended to pay for project financial impacts on police protection service. The proposed project's environmental impact to police service is considered ***less than significant***.

Schools

The proposed project would result in the construction of a high-cube industrial warehouse that would generate additional employment opportunities. The additional employees may come from Irwindale or surrounding communities. The project would not directly introduce new residents to the City.

Funding for new school construction is provided through State and local revenue sources. Local school districts levy school fees on new development in accordance with SB 50. The project would be subject to these developer school fees.

The proposed project would not result in a need to construct a new school or physically alter an existing school. The proposed project would be subject to SB 50 impact fees, which would mitigate the financial impacts of the proposed project on school facilities. The proposed project's environmental impact to schools is considered ***less than significant***.

Parks

City parks and recreation facilities are provided by the City of Irwindale and operated and maintained by the Recreation Department. The City's parks system consists of existing parks and other facilities, such as the Irwindale Park, Dan Diaz Recreation Center, Irwindale Swimming Pool, etc.

The project would result in the construction of a high-cube industrial warehouse. The project would not directly introduce new residents to the City, and therefore would not substantially increase demand for public park facilities to the extent that modification of existing facilities or construction of new park facilities would be necessary. As such, the proposed project would have a ***less than significant*** impact relative to this topic.

Other Public Facilities

The proposed project would not result in a need for other public facilities that are not addressed above. Implementation of the proposed project would have a ***less than significant*** impact relative to this issue.

XV. RECREATION

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Responses to Checklist Questions

Responses a): The project would result in the construction of a high-cube industrial warehouse building. An open space area would be provided at the northeastern corner of the project site, adjacent to Vincent Avenue. This open space area would include picnic tables and benches and would not be available to the general public.

The proposed project would not increase the use of existing parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

Responses b): The proposed project includes the construction of a small employee lounge area in the northeastern corner of the site. Development of the project would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

XVI. TRANSPORTATION AND TRAFFIC

Would the project:	***Potentially Significant Impact***	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?		X		
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?		X		
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
e) Result in inadequate emergency access?		X		
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?			X	

Responses to Checklist Questions

Response a), b): In order to determine potential impacts related to traffic generated by the proposed project, a Traffic Impact Analysis (TIA) was prepared by Kunzman Associates, Inc. in August 2018 (see Appendix C).

This TIA presents an analysis of AM and PM peak hour traffic operations under the following scenarios:

- Existing Conditions;
- Existing Plus Project Conditions[1];
- Future Baseline Without Project Conditions;
- Future Baseline Plus Project;
- Future Baseline Plus Cumulative Projects Without Project Conditions; and
- Future Baseline Plus Cumulative Projects With Project.

[1] The Existing Plus Project Condition has been analyzed to comply with the Sunnyvale West Neighborhood Association v. City of Sunnyvale CEQA court case. This scenario assumes the full development of the proposed project and full absorption of the proposed project trips on the circulation system at the present time.

Study Area

Based on scoping discussions with City of Irwindale staff, the study area consists of the following 32 study intersections (including jurisdictions):

- #1: Interstate (I)-605 Freeway Southbound (SB) On-Ramp (NS) at Live Oak Avenue (east-west [EW]) (California Department of Transportation [Caltrans]);
- #2: I-605 Freeway Northbound (NB) Ramps (NS) at Live Oak Avenue (EW) (Caltrans);
- #3: Graham Road (north-south [NS]) at Live Oak Avenue (EW) (City of Irwindale);
- #4: Rivergrade Road (NS) at Live Oak Avenue (EW) (City of Irwindale/Baldwin Park);
- #5: Stewart Avenue (NS) at Live Oak Avenue (EW) (Cities of Irwindale/Baldwin Park);
- #6: Baldwin Park Boulevard (NS) at Live Oak Avenue (EW) (Cities of Irwindale/Baldwin Park);
- #7: Arrow Highway (NS) at Live Oak Avenue (EW) (City of Irwindale);
- #8: Maine Avenue (NS) at Arrow Highway (EW) (Cities of Irwindale/Baldwin Park);
- #9: Azusa Canyon Road (NS) at Arrow Highway (EW) (City of Irwindale);
- #10: 4th Street (NS) at Arrow Highway (EW) (City of Irwindale);
- Irwindale Avenue (NS) at:
    - #11: I-210 Freeway Westbound (WB) Ramps (EW) (Caltrans);
    - #12: I-210 Freeway Eastbound (EB) Ramps (EW) (Caltrans);
    - #13: Jardin De Roca/Irwindale Road (EW) (City of Irwindale);
    - #14: 1st Street (EW) (Cities of Irwindale/Azusa);
    - #15: Gladstone Street (EW) (Cities of Irwindale/Azusa);
    - #16: Arrow Highway (EW) (City of Irwindale);
- Vincent Avenue (NS) at:
    - #17: Gladstone Street (EW) (City of Azusa);
    - #18: Arrow Highway (EW) (City of Irwindale/County of LA/City of Azusa);
    - #19: Project North Driveway (EW) (City of Irwindale);
    - #20: Project South Driveway (EW) (City of Irwindale);
    - #21: Cypress Street (EW) (County of LA);
    - #22: San Bernardino Road (EW) (City of Covina/County of LA);
    - #23: Badillo Street (EW) (Cities of Covina/West Covina);
    - #24: Puente Avenue (EW) (City of West Covina);
    - #25: Rowland Avenue (EW) (City of West Covina);
    - #26: Workman Avenue (EW) (City of West Covina);
    - #27: I-10 Freeway WB Ramps (EW) (Caltrans);
    - #28 I-10 Freeway EB Ramps (EW) (Caltrans);
- #29: Vernon Avenue/Lake Ellen Avenue (NS) at Gladstone Street (EW) (City of Azusa/County of LA);
- Azusa Avenue (NS) at:
    - #30: I-210 Freeway EB Ramps (EW) (Caltrans);
    - #31: Paramount Street (EW) (City of Azusa);
    - #32: Gladstone Street (EW) (City of Azusa/County of LA).

The study intersections are analyzed in accordance with the methodologies and significance criteria required by the respective jurisdictions. Figure 13 shows the locations of the study area intersections and roadways.

Evaluation Methodology
This section discusses the methodologies used to assess intersection performance as adopted by the respective jurisdictional agencies.

Intersection Capacity Utilization Methodology
Analysis of signalized intersections within the City of Irwindale is based on the Intersection Capacity Utilization (ICU) methodology in accordance with guidance contained in the City of Irwindale Policy Guidelines for Traffic Impact Reports (December 30, 2014). The ICU methodology compares the traffic volumes using the intersection to the capacity of the intersection. The resulting ICU value represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic volumes if all approaches operate at capacity. Level of Service (LOS) is used to qualitatively describe the performance of a roadway facility, ranging from LOS A (free-flow conditions) to LOS F (extreme congestion and system failure).

In accordance with the City of Irwindale, the ICU analysis uses the following parameters: 1,600 vehicles per hour per lane for through and turn lanes, 2,880 vehicles per hour for dual left-turn lanes, and a total yellow clearance time of 10 percent.

Intersection Delay Methodology
The technique used to assess the performance of unsignalized intersections and intersections within the City of Irwindale is known as the intersection delay methodology, which is based on the procedures contained in the Highway Capacity Manual. The methodology compares the traffic volumes using the intersection to the capacity of the intersection to calculate the delay associated with the traffic control at the intersection.

In accordance with the City of Irwindale, the intersection analysis uses the following parameters: optimized signal timing, two second lost time per phase, and 1,900 vehicles per hour of green per lane. State highway intersections are analyzed based on measured existing peak hour factors, coordinated signal timing between freeway ramp intersections, and default saturation flow rates.

Performance Standards
City of Irwindale. The City of Irwindale General Plan has established LOS D as the minimum acceptable peak hour intersection LOS for intersections in the City of Irwindale. The acceptable LOS at State highway facilities is LOS E in accordance with County of Los Angeles Congestion Management Plan.

City of Azusa. The City of Azusa General Plan has established LOS D as the minimum acceptable peak hour intersection LOS for intersections in the City of Azusa.

City of Covina. The City of Covina General Plan has established LOS D as the minimum acceptable peak hour intersection LOS for intersections in the City of Covina.

City of West Covina. The City of West Covina General Plan has established LOS D as the minimum acceptable peak hour intersection LOS for intersections in the City of West Covina.

County of Los Angeles. The County of Los Angeles General Plan states that the acceptable LOS is determined on a case-by-case basis, but LOS D is generally the desired minimum acceptable LOS.

Caltrans. As stated in the Guide for the Preparation of Traffic Impact Studies (State of California, 2002), "Caltrans endeavors to maintain a target LOS [Level of Service] at the transition between LOS 'C' and LOS 'D' on State highway facilities". Caltrans acknowledges this may not always be

feasible and recommends consultation with Caltrans to determine the appropriate target LOS. For consistency with the County of Los Angeles Congestion Management Plan criteria used for freeway mainline sections and freeway ramps local requirements, this analysis defines LOS E as the minimum acceptable LOS for State highway facilities.

Level of Service Analysis Procedures

LOS analysis provides a basis for describing existing traffic conditions and for evaluating the significance of project-related traffic impacts. LOS measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best conditions, and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in Table 15 and further discussed below.

Table 15: Intersection LOS Criteria

LOS	Description	Average Control Delay Per Vehicle (Seconds)	
		Signalized Intersections	Unsignalized Intersections
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream.	≤ 10.0	≤ 10.0
B	Stable traffic. Traffic flows smoothly with few delays.	> 10.0 to 20.0	> 10.0 to 15.0
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	> 20.0 to 35.0	> 15.0 to 25.0
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	> 35.0 to 55.0	> 25.0 to 35.0
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	> 55.0 to 80.0	> 35.0 to 50.0
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80.0	> 50.0

SOURCE: HIGHWAY CAPACITY MANUAL, TRANSPORTATION RESEARCH BOARD, 2010.

Thresholds of Significance

City of Irwindale. The City of Irwindale General Plan identifies the following criteria:

- When a signalized intersection operates at LOS D or better under existing or future baseline conditions and the addition of the project trips degrades the intersection operations to LOS E or F, the project mitigation should bring the facility to operate at LOS D at minimum.
- When a signalized intersection operates at LOS E or better under existing or future baseline conditions and the addition of project trips degrades the intersection operations to LOS F or increases the volume-to-capacity (V/C) ratio by 0.02 or greater, the project mitigation should bring the facility to operate at LOS E at minimum.
- 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 contributes to the continuing operational failure at the intersection or increases the V/C by 0.02 or greater, the project mitigation should bring the facility to pre-project conditions, which typically are defined as existing conditions.
- At an unsignalized intersection, when the minor stop-controlled approach operates at LOS F and does not have acceptable operation in terms of total control delay, and the

addition of project trips increases the total control delay to more than 4.0 vehicle hours for a single lane approach or 5.0 vehicle hours for a multilane approach, the project mitigation should: bring the facility to operate at LOS E minimum, or bring the total control delay to less than 4.0 vehicle hours for a single lane approach, or 5.0 vehicle hours for a multilane approach at a minimum.

- At an unsignalized intersection, when the minor stop-controlled approach operates at LOS F and does not have an acceptable operation in terms of total control delay, and the addition of more than 50 peak hour project trips contributes to the continuing operational failure at the minor approach, the project mitigation should bring the facility to pre-project or existing conditions.

County of Los Angeles. For intersections located outside the City of Irwindale, the criteria from the Los Angeles County Traffic Impact Analysis Report Guidelines (Public Works Department, January 1997) were used. According to these criteria, a project traffic impact is considered significant if the project related increase in the volume to capacity ratio equals or exceeds the thresholds shown below:

Table 16: County of Los Angeles Significance Thresholds

LOS	*V/C*	*Project-Related V/C Increase*
C	0.71 - 0.80	0.04 or more
D	0.81 - 0.90	0.02 or more
E/F	0.91 - more	0.01 or more

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

If a project is forecast to cause a significant impact, feasible mitigation measures that will reduce the impact to a less than significant level will be identified. Mitigation measures can be in many forms, including the addition of lanes, traffic control modification, or demand management measures.

Existing Conditions

Regional access to the project area is provided by the I-605 Freeway to the west, I-10 Freeway to the south, and the I-210 Freeway to the north. Key north-south roadways providing local access include Irwindale Avenue, Vincent Avenue, and Lark Ellen Avenue. Key east-west roadways providing local access include Gladstone Street, Arrow Highway, and Cypress Street.

The existing through travel lanes and intersection controls and turning movement volumes in the study area are shown in the figures in Appendix C.

Existing Traffic Volumes

Existing peak hour intersection turning movement volumes are based upon AM peak period and PM peak period intersection turning movement counts obtained in May 2017, November 2017, May 2018, and June 2018 during typical weekday conditions. The AM peak period was counted between 7:00 AM and 9:00 AM and the PM peak period was counted between 4:00 PM and 6:00 PM. The actual peak hour within the peak period is the four consecutive 15-minute periods with the highest total volume when all movements are added together. Thus, the weekday PM peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15-minute periods have the highest combined volume. Intersection turning movement count worksheets are provided in Appendix B of Appendix C.

Existing Intersection Capacity Utilization, Delay, and LOS

The study intersection LOS for existing traffic conditions have been calculated and are shown in Table 17. Existing LOS worksheets are provided in Appendix C of Appendix C.

As shown in Table 17, the study intersections currently operate within acceptable LOS during the peak hours for existing traffic conditions, except for the following study intersections that currently operate at unacceptable LOS (E or F) during the peak hours:

- #2: I-605 Freeway NB Ramps (NS) Live Oak Avenue (EW) (both peak hours);
- #9: Azusa Canyon Road (NS) at Arrow Highway (EW) (both peak hours).

Existing Traffic Signal Warrant Analysis

A traffic signal appears to currently be warranted at the following study intersection for Existing traffic conditions (see Appendix E of Appendix C):

- #2: I-605 Freeway NB Ramps (NS) at Live Oak Avenue (EW)

The unsignalized intersections have been evaluated for a traffic signal using the Caltrans Warrant 3 Peak Hour traffic signal warrant analysis, as specified in the California Manual of Uniform Traffic Control Devices (2014).

Proposed Project Trip Generation

The trips generated by the project are determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates are predicated on the assumption that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and life styles remain similar to what are known today. A major change in these variables may affect trip generation rates.

Trip generation rates were determined for daily trips, AM peak hour inbound and outbound trips, and PM peak hour inbound and outbound trips for the land use identified for analysis. By multiplying the trip generation rates by the land use quantity, the traffic volumes are determined. Table 18 shows the project trip generation based upon rates obtained from the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition, 2017, as well as the City of Fontana, Truck Trip Generation Study, August 2003. In addition, the project trips generated were converted into passenger car equivalents.

As shown in Table 18, the proposed project is forecast to generate approximately 3,437 daily trips in passenger car equivalents, 485 passenger car equivalent trips of which will occur during the AM peak hour, and 436 passenger car equivalent trips of which will occur during the PM peak hour. It is noted that the TIA analyzes a "worst-case" traffic scenario for the project. Although a high-cube warehouse land use is proposed, the TIA analyzes the potential effects of development of the project using the "Light Industrial" land use trip generation rates. The "High-Cube Cube Warehouse/Distribution Center" land use trip generation rates are significantly lower than those used for the proposed project.

Table 17: Existing Condition Intersection LOS

Intersection	*Control (1)*	*Intersection Approach Lanes(2)*												*Peak Hour ICU/ Delay-LOS(3)*	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
# 1: I-605 SB On-Ramp at Live Oak Ave.	TS	0	0	0	0	0	0	0	2	>>1	1	2	0	0.513-A	0.776-C
# 2: I-605 NB Ramps at Live Oak Ave.	CSS	0	0	1	0	0	1	0	2	0	0	2	0	67.9-F	138.6-F
# 3: Graham Road at Live Oak Ave.	TS	1	0	1	0	0	0	0	2	d	1	2	0	0.565-A	0.565-A
# 4: Rivergrade Rd. at Live Oak Ave.	TS	1	1	1	1	2	1	1	2	1>>	1	2	1	0.581-A	0.877-D
# 5: Stewart Ave. at Live Oak Ave.	TS	0	<1>	0	1	1	1	1	2	1	1	2	d	0.804-D	0.758-C
# 6: Baldwin Park Blvd. at Live Oak Ave.	TS	2	0	1	0	0	0	0	2	d	1	2	0	0.595-A	0.734-C
# 7: Arrow Hwy. at Live Oak Ave.	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	0.622-B	0.888-D
# 8: Maine Ave. at Arrow Hwy.	TS	2	0	1	0	0	0	0	2	d	1	3	0	0.787-C	0.807-D
# 9: Azusa Canyon Rd. at Arrow Hwy.	TS	1.5	0.5	1	1	0.5	0.5	1	2	d	1	2	d	0.921-E	0.897-D
# 10: 4th St. at Arrow Hwy.	TS	1.5	0.5	1	0	<1>	0	1	3	1	1	2	d	0.343-A	0.551-A
Irwindale Ave. at:															
# 11: I-210 WB Ramps	TS	0	3	1>>	0	3	0	0	0	0	1.5	0	0.5	0.459-A	0.536-A
# 12: I-210 EB Ramps	TS	0	2	1	2	2	0	1.5	0	1.5	0	0	0	0.665-B	0.741-C
# 13: Jardin De Roca / Irwindale Rd.	TS	1	2	1	1	2	1	0.5	0	0.5	0.5	0	0.5	0.565-A	0.692-B
# 14: 1st St.	TS	1	1.5	0.5	1	3	1	1.5	0.5	1	1	1	1	0.503-A	0.444-A
# 15: Gladstone St.	TS	1	2	1	2	1.5	0.5	1	1	Dd	1	1	2>	0.644-B	0.646-B
# 16: Arrow Hwy.	TS	1	1.5	0.5	1	2	1	2	2.5	0.5	1	1.5	0.5	0.840-D	0.754-C
Vincent Ave. at:															
# 17: Gladstone St.	TS	1.5	0.5	1	0	<1>	1	1.5	0.5	2	1	1.5	0.5	0.521-A	0.836-D
# 18: Arrow Hwy.	TS	1	1.5	0.5	1	1.5	0.5	1	2	1	1	2	d	0.676-B	0.776-C
# 21: Cypress St.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.641-B	0.720-C
# 22: San Bernardino Rd.	TS	1	1.5	d	1	1.5	d	1	1.5	0.5	1	1.5	0.5	0.650-B	0.652-B
# 23: Badillo St.	TS	1	2	0.5	1	2	d	1	2	d	1	2	d	0.607-B	0.757-C
# 24: Puente Ave.	TS	1	1.5	d	1	2	d	0.5	1	0.5	0.5	1	0.5	0.576-A	0.628-B
# 25: Rowland Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.535-A	0.604-B
# 26: Workman Ave.	TS	1	2	0	1	2	0	0.5	0.5	d	0.5	0.5	d	0.609-B	0.685-B
# 27: I-10 WB Ramps	TS	0	3	1.5>	0	3	1.5>	0	0	1	2	0	1	0.433-A	0.447-A
#28 I-10 EB Ramps	TS	0	1.5	>	0	2.5	>	1	0	0	0	0	0	0.482-A	0.536-A
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	TS	1	1	1	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.681-B	0.726-C

Intersection	*Control* (1)	*Intersection Approach Lanes*(2)												*Peak Hour ICU/ Delay-LOS*(3)	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
Azusa Ave. at:															
#30: I-210 EB Ramps	TS	0	2	0	0	2	1>>	2	0	1	0	0	0	0.659-B	0.654-B
#31: Paramount St.	TS	1	2	d	1	2	d	0.5	0.5	d	0	<1>	0	0.587-A	0.631-B
#32: Gladstone Str.	TS	1	2	1	2	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.726-C	0.730-C

NOTES:

(1) TS – TRAFFIC SIGNAL; CSS = CROSS STREET STOP.

(2) L = LEFT; T = THROUGH; R = RIGHT; >> = FREE RIGHT TURN; > = RIGHT TURN OVERLAP; <1> = SHARED LEFT/THROUGH/RIGHT TURN LANE; 0.5 = SHARED LANE WITH 2 TURNING MOVEMENTS; D = DE FACTO RIGHT TURN LANE; ***BOLD*** *= IMPROVEMENT.*

(3) ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; ICU/DELAY AND LEVEL OF SERVICE HAVE BEEN CALCULATED USING THE FOLLOWING ANALYSIS SOFTWARE: TRAFFIX (VERSION 7.9) AND VISTRO (VERSION 4.00-00). PER THE HIGHWAY CAPACITY MANUAL, LEVEL OF SERVICE IS BASED ON THE AVERAGE CONTROL DELAY OF THE OVERALL INTERSECTION FOR INTERSECTIONS WITH TRAFFIC SIGNAL. FOR INTERSECTIONS WITH CROSS STREET STOP CONTROL, LEVEL OF SERVICE IS BASED ON THE AVERAGE DELAY OF THE WORST INDIVIDUAL LANE.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

Table 18: Project Trip Generation

Descriptor + Quantity (1)	*Passenger Car*	*2 Axle Truck*	*3 Axle Truck*	*4 Axel Truck*	*Total Trucks*	*Grand Total*
Land Use: Light Industrial (547.735 TSF)	78.6%	8.0%	3.9%	9.5%	21.4%	100%
Trip Generation Rates						
Daily	3.899	0.397	0.193	0.471	1.061	4.96
AM Peak	0.550	0.056	0.027	0.067	0.150	0.70
PM Peak	0.495	0.050	0.025	0.060	0.135	0.63
Trip Generation						
Daily	2,128	217	106	257	580	2,708
AM Peak						
In	264	27	13	32	72	336
Out	36	4	2	4	10	46
Total	*300*	*31*	*15*	*36*	*82*	*382*
PM Peak						
In	35	4	2	4	10	45
Out	235	24	12	28	64	299
Total	*270*	*28*	*14*	*34*	*74*	*344*
Passenger Car Equivalent's (PCE's) Factor						
PCE's Factor(2)	1.00	1.50	2.00	3.00		
Trip Generation in PCE's						
Daily	*2,128*	*326*	*212*	*771*	*1,309*	*3,437*
AM Peak						
In	264	41	26	96	163	427
Out	36	6	4	12	22	58
Total	*300*	*47*	*30*	*108*	*185*	*485*
PM Peak						
In	35	6	4	12	22	57
Out	235	36	24	84	144	379
Total	*270*	*42*	*28*	*96*	*166*	*436*

NOTES:

(1) TSF = THOUSAND SQUARE FEET.

(2) PASSENGER CAR EQUIVALENT FACTORS ARE RECOMMENDED BY SAN BERNARDINO ASSOCIATED GOVERNMENTS.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018; INSTITUTE OF TRANSPORTATION ENGINEERS, TRIP GENERATION MANUAL, 10TH EDITION, 2017, LAND USE CODE 150 AND CITY OF FONTANA, TRUCK TRIP GENERATION STUDY, AUGUST 2003.

Proposed Project Trip Distribution and Assignment

The forecast project trip distributions were determined in consultation with City staff based on review of existing traffic volume data, surrounding land uses, and the local and regional roadway facilities in the project vicinity.

The project intersection turning movements and volumes for all six traffic conditions are shown in the figures in Appendix C.

Future Traffic Volumes

This section describes how traffic volumes for each future analysis scenario were derived.

Method of Preparation

To assess future traffic conditions, existing traffic volumes are combined with project trips, regional ambient growth, and trips generated by other developments. To account for ambient traffic growth, existing traffic volumes were increased by two percent per year over a two-year period based on traffic growth factors contained in the Los Angeles County 2010 Congestion Management Program (Exhibit D-1, RSA 26). Other cumulative projects (see Appendix D of Appendix C) with the potential to add trips to the study area were identified. The other cumulative projects location map is shown on Figure 15 of Appendix C. Trips associated with other cumulative projects in the study area were assigned to the study intersections as appropriate.

Future Traffic Volumes

The traffic volumes for Existing Plus Project conditions were derived by adding project generated trips to existing traffic volumes.

To assess Future Baseline Without Project traffic conditions, existing traffic volumes were combined with ambient growth. To assess Future Baseline With Project traffic conditions, project generated trips were added to Future Baseline Without Project traffic volumes.

To assess Future Baseline Plus Cumulative Projects Without Project traffic conditions, existing traffic volumes were combined with ambient growth and cumulative projects.

To assess Future Baseline Plus Cumulative Projects With Project traffic conditions, project generated trips were added to Future Baseline Plus Cumulative Projects Without Project traffic volumes.

Future LOS

The following discussion summarizes the conditions and impact evaluation for the Existing Plus Project condition, the Future Baseline Without Project condition, the Future Baseline With Project condition, the Future Baseline Plus Cumulative Projects Without Project condition, and the Future Baseline Plus Cumulative Projects With Project condition.

Existing Plus Project

The ICU/delay and LOS for Existing Plus Project traffic conditions, without and with improvements, are shown in Table 19. As shown in Table 19, the study intersections are projected to operate within acceptable LOS during the peak hours for Existing Plus Project traffic conditions, except for the following study intersections that are projected to operate at unacceptable LOS (E or F) during the peak hours:

- I-605 Freeway NB Ramps (NS) at Live Oak Avenue (EW) - #2 (both peak hours);
- Azusa Canyon Road (NS) at Arrow Highway (EW) - #9 (both peak hours);
- Vincent Avenue (NS) at Gladstone Street (EW) - #17 (PM peak hour only).

Table 20 evaluates the change in performance between Existing and Existing Plus Project traffic conditions at the study intersections.

Table 19: Existing Plus Project Condition Intersection LOS

Intersection	*Control (1)*	*Intersection Approach Lanes(2)*												*Peak Hour ICU/ Delay-LOS(3)*	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
# 1: I-605 SB On-Ramp at Live Oak Ave.	TS	0	0	0	0	0	0	0	2	>>1	1	2	0	0.522-A	0.834-D
(With Improvements)	TS	0	0	0	0	0	0	0	2	>>1	**2**	2	0	0.442-A	0.631-B
# 2: I-605 NB Ramps at Live Oak Ave.	CSS	0	0	1	0	0	1	0	2	0	0	2	0	70.8-F	149.2-F
(With Improvements)	TS	0	0	1	0	0	1	0	2	0	0	2	0	0.660-B	0.751-C
# 3: Graham Road at Live Oak Ave.	TS	1	0	1	0	0	0	0	2	d	1	2	0	0.569-A	0.594-A
# 4: Rivergrade Rd. at Live Oak Ave.	TS	1	1	1	1	2	1	1	2	1>>	1	2	1	0.613-B	0.882-D
# 5: Stewart Ave. at Live Oak Ave.	TS	0	<1>	0	1	1	1	1	2	1	1	2	d	0.808-D	0.763-C
# 6: Baldwin Park Blvd. at Live Oak Ave.	TS	2	0	1	0	0	0	0	2	d	1	2	0	0.605-B	0.743-C
# 7: Arrow Hwy. at Live Oak Ave.	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	0.632-B	0.894-D
# 8: Maine Ave. at Arrow Hwy.	TS	2	0	1	0	0	0	0	2	d	1	3	0	0.791-C	0.813-D
# 9: Azusa Canyon Rd. at Arrow Hwy.	TS	1.5	0.5	1	1	0.5	0.5	1	2	d	1	2	d	0.926-E	0.907-E
(With Improvements)	TS	1.5	0.5	1	1	0.5	0.5	1	**2.5**	**0.5**	1	2	d	0.926-E	0.786-C
# 10: 4th St. at Arrow Hwy.	TS	1.5	0.5	1	0	<1>	0	1	3	1	1	2	d	0.371-A	0.555-A
Irwindale Ave. at:															
# 11: I-210 WB Ramps	TS	0	3	1>>	0	3	0	0	0	0	1.5	0	0.5	0.459-A	0.536-A
# 12: I-210 EB Ramps	TS	0	2	1	2	2	0	1.5	0	1.5	0	0	0	0.681-B	0.760-C
# 13: Jardin De Roca / Irwindale Rd.	TS	1	2	1	1	2	1	0.5	0	0.5	0.5	0	0.5	0.568-A	0.700-B
# 14: 1st St.	TS	1	1.5	0.5	1	3	1	1.5	0.5	1	1	1	1	0.505-A	0.457-A
# 15: Gladstone St.	TS	1	2	1	2	1.5	0.5	1	1	Dd	1	1	2>	0.666-B	0.648-B
# 16: Arrow Hwy.	TS	1	1.5	0.5	1	2	1	2	2.5	0.5	1	1.5	0.5	0.846-D	0.763-C
Vincent Ave. at:															
# 17: Gladstone St.	TS	1.5	0.5	1	0	<1>	1	2	1.5	0.5	1	1.5	0.5	0.530-A	0.903-E
(With Improvements)	TS	**1**	**<1>**	1	0	<1>	1	2	1.5	0.5	1	1.5	0.5	0.526-A	0.734-C
# 18: Arrow Hwy.	TS	1	1.5	0.5	1	1.5	0.5	1	2	1	1	2	d	0.739-C	0.858-D
(With Improvements)	TS	1	1.5	0.5	1	1.5	0.5	1	**2.5**	**0.5**	1	2	d	0.739-C	0.750-C
# 19: Project North Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	14.6-B	17.2-C
# 20: Project South Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	12.7-B	16.1-C
# 21: Cypress St.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.652-B	0.728-C
# 22: San Bernardino Rd.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.653-B	0.674-B
# 23: Badillo St.	TS	1	2	d	1	2	d	1	2	d	1	2	d	0.615-B	0.774-C
# 24: Puente Ave.	TS	1	1.5	0.5	1	2	d	0.5	1	0.5	0.5	1	0.5	0.594-A	0.645-B
# 25: Rowland Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.542-A	0.610-B
# 26: Workman Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.612-B	0.688-B
# 27: I-10 WB Ramps	TS	0	3	0	0	3	0	0	0	0	2	0	1	0.455-A	0.458-A

Intersection	*Control* (1)	*Intersection Approach Lanes*(2)												*Peak Hour ICU/ Delay-LOS*(3)	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
#28 I-10 EB Ramps	TS	0	1.5	1.5>>	0	2.5	1.5>>	1	0	2	0	0	0	0.492-A	0.538-A
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	TS	1	1	1	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.706-C	0.746-C
Azusa Ave. at:															
#30: I-210 EB Ramps	TS	0	2	0	0	2	1>>	2	0	1	0	0	0	0.662-B	0.670-B
#31: Paramount St.	TS	1	2	d	1	2	d	0.5	0.5	d	0	<1>	0	0.606-B	0.633-B
#32: Gladstone Str.	TS	1	2	1	2	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.754-C	0.736-C

NOTES:

(1) TS – TRAFFIC SIGNAL; CSS = CROSS STREET STOP.

*(2) L = LEFT; T = THROUGH; R = RIGHT; >> = FREE RIGHT TURN; > = RIGHT TURN OVERLAP; <1> = SHARED LEFT/THROUGH/RIGHT TURN LANE; 0.5 = SHARED LANE WITH 2 TURNING MOVEMENTS; D = DE FACTO RIGHT TURN LANE; **BOLD** = IMPROVEMENT.*

(3) ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; ICU/DELAY AND LEVEL OF SERVICE HAVE BEEN CALCULATED USING THE FOLLOWING ANALYSIS SOFTWARE: TRAFFIX (VERSION 7.9) AND VISTRO (VERSION 4.00-00). PER THE HIGHWAY CAPACITY MANUAL, LEVEL OF SERVICE IS BASED ON THE AVERAGE CONTROL DELAY OF THE OVERALL INTERSECTION FOR INTERSECTIONS WITH TRAFFIC SIGNAL. FOR INTERSECTIONS WITH CROSS STREET STOP CONTROL, LEVEL OF SERVICE IS BASED ON THE AVERAGE DELAY OF THE WORST INDIVIDUAL LANE.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

Table 20: Existing Plus Project Significant Impact Evaluation

Intersection	Peak Hour ICU / Delay – LOS[1]				Change in ICU / Delay		Impact ?[2]
	Existing		Existing + Project				
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	
# 1: I-605 SB On-Ramp at Live Oak Ave.	0.513-A	0.776-C	0.522-A	0.834-D	+0.009	+0.058	Yes
(With Improvements)	--	--	0.442-A	0.631-B	-0.071	-0.145	No
# 2: I-605 NB Ramps at Live Oak Ave.	72.6-F	147.0-F-	75.7-F	157.8-F	+3.1	+10.8	Yes
(With Improvements)	--	--	0.847-D	0.828-C	--	--	No
# 3: Graham Road at Live Oak Ave.	0.569-A	0.569-A	0.573-A	0.598-A	+0.004	+0.029	No
# 4: Rivergrade Rd. at Live Oak Ave.	0.587-A	0.885-D	0.619-B	0.889-D	+0.032	+0.004	No
# 5: Stewart Ave. at Live Oak Ave.	0.810-D	0.765-C	0.815-D	0.769-C	+0.005	+0.004	No
# 6: Baldwin Park Blvd. at Live Oak Ave.	0.542-A	0.701-C	0.547-A	0.710-C	+0.005	+0.009	No
# 7: Arrow Hwy. at Live Oak Ave.	0.628-B	0.896-D	0.637-B	0.902-E	+0.009	+0.006	No
# 8: Maine Ave. at Arrow Hwy.	0.794-C	0.814-D	0.798-C	0.820-D	+0.004	+0.006	No
# 9: Azusa Canyon Rd. at Arrow Hwy.	0.929-E	0.904-E	0.934-E	0.915-E	+0.005	+0.011	Yes
(With Improvements)	--	--	0.934-R	0.792-C	+0.005	-0.112	No
# 10: 4th St. at Arrow Hwy.	0.346-A	0.555-A	0.374-A	0.559-A	+0.028	+0.028	No
Irwindale Ave. at:							
# 11: I-210 WB Ramps	0.463-A	0.540-A	0.463-A	0.540-A	0.000	0.000	No
# 12: I-210 EB Ramps	0.671-B	0.747-C	0.687-B	0.766-C	+0.016	+0.019	No
# 13: Jardin De Roca / Irwindale Rd.	0.570-A	0.697-B	0.572-A	0.706-C	+0.002	+0.009	No
# 14: 1st St.	0.507-A	0.447-A	0.509-A	0.461-A	+0.002	+0.014	No
# 15: Gladstone St.	0.649-B	0.651-B	0.671-B	0.654-B	+0.022	+0.003	No
# 16: Arrow Hwy.	0.848-D	0.761-C	0.853-D	0.769-C	+0.005	+0.008	No
Vincent Ave. at:							
# 17: Gladstone St.	0.525-A	0.843-D	0.533-A	0.91-E	+0.008	+0.068	Yes
(With Improvements)	--	--	0.529-A	0.740-C	+0.004	-0.103	No
# 18: Arrow Hwy.	0.682-B	0.782-C	0.746-C	0.865-D	+0.064	+0.083	Yes
(With Improvements)	--	--	0.746-C	0.756-C	+0.064	-0.026	No
# 21: Cypress St.	0.647-B	0.726-C	0.658-B	0.734-C	+0.011	+0.008	No
# 22: San Bernardino Rd.	0.655-B	0.658-B	0.659-B	0.679-B	+0.004	+0.021	No
# 23: Badillo St.	0.612-B	0.763-C	0.620-B	0.780-C	+0.008	+0.017	No
# 24: Puente Ave.	0.581-A	0.633-B	0.599-A	0.650-B	+0.018	+0.017	No
# 25: Rowland Ave.	0.539-A	0.609-B	0.545-A	0.615-B	+0.006	+0.006	No
# 26: Workman Ave.	0.614-B	0.691-B	0.617-B	0.693-B	+0.003	+0.002	No
# 27: I-10 WB Ramps	0.437-A	0.450-A	0.458-A	0.461-A	+0.021	+0.011	No
#28 I-10 EB Ramps	0.486-A	0.541-A	0.496-A	0.542-A	+0.010	+0.001	No
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	0.686-B	0.732-C	0.711-C	0.752-C	+0.025	+0.020	No
Azusa Ave. at:							
#30: I-210 EB Ramps	0.665-B	0.659-B	0.667-B	0.667-B	+0.003	+0.016	No
#31: Paramount St.	0.592-A	0.636-B	0.611-B	0.639-B	+0.019	+0.002	No
#32: Gladstone Str.	0.732-C	0.737-C	0.760-C	0.743-C	+0.028	+0.006	No

NOTES: [1] ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; SEE TABLES 18 AND 20.

[2] THIS COLUMN INDICATES WHETHER OR NOT EACH INTERSECTION WOULD EXPERIENCE UNACCEPTABLE INCREASES IN V/C AND/OR DELAY DURING EITHER OR BOTH PEAK HOUR PERIODS. THE THRESHOLDS OF SIGNIFICANCE FOR INTERSECTIONS WITHIN THE CITY OF IRWINDALE VARY DEPENDING ON THE EXISTING CONDITIONS OPERATIONS, THE FUTURE BASELINE CONDITIONS OPERATIONS, AND WHETHER THE INTERSECTION IS SIGNALIZED OR UNSIGNALIZED. THE THRESHOLDS OF SIGNIFICANCE FOR INTERSECTIONS WITHIN THE COUNTY OF LOS ANGELES ARE SUMMARIZED IN TABLE 16. SEE THE PREVIOUS "THRESHOLDS OF SIGNIFICANCE" SECTION FOR A FULL EXPLANATION OF THE THRESHOLDS FOR BOTH IRWINDALE AND THE COUNTY OF LOS ANGELES.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

The proposed project is forecast to result in less than significant traffic impacts with the following study intersection improvements for Existing Plus Project traffic conditions:

- I-605 Freeway SB On-Ramp/Live Oak Avenue (#1):
  - Construct an additional left-turn lane at the westbound approach. Construct a receiving lane on the southern leg
- I-605 Freeway NB Ramps/Live Oak Avenue (#2):
  - Install a traffic signal.
- Azusa Canyon Road/Arrow Highway (#9):
  - Re-stripe to create a shared through/right-turn lane at the eastbound approach.
- Vincent Avenue/Gladstone Street (#17):
  - Re-stripe to create a shared left-turn/through/right turn lane at the northbound approach.
- Vincent Avenue/Arrow Highway (#18):
  - Re-stripe to create a shared through/right turn lane at the eastbound approach.

Future Baseline Without Project

The ICU/delay and LOS for Future Baseline Without Project traffic conditions are shown in Table 21. As shown in Table 21, the study intersections are projected to operate within acceptable LOS during the peak hours for Future Baseline Without Project traffic conditions, except for the following study intersections that are projected to operate at unacceptable LOS (E or F) during the peak hours:

- I-605 Freeway NB Ramps (NS) at Live Oak Avenue (EW) - #2 (both peak hours);
- Azusa Canyon Road (NS) at Arrow Highway (EW) - #9 (both peak hours).

Future Baseline With Project Traffic Conditions

The ICU/delay and LOS for Future Baseline With Project traffic conditions, without and with improvements, are shown in Table 22. As shown in Table 22, the study intersections are projected to operate within acceptable LOS during the peak hours for Future Baseline With Project traffic conditions, except for the following study intersections that are projected to operate at generally unacceptable LOS (E or F) during the peak hours:

- I-605 Freeway NB Ramps (NS) at Live Oak Avenue (EW) - #2 (both peak hours);
- Azusa Canyon Road (NS) at Arrow Highway (EW) - #9 (both peak hours);
- Vincent Avenue (NS) at Gladstone Street (EW) - #17 (PM peak hour only).

Table 21: Future Baseline Without Project Condition Intersection LOS

Intersection	Control (1)	Intersection Approach Lanes(2)												Peak Hour ICU/ Delay-LOS(3)	
		NB			SB			EB			WB			AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R		
# 1: I-605 SB On-Ramp at Live Oak Ave.	TS	0	0	0	0	0	0	0	2	>>1	1	2	0	0.517-A	0.783-D
# 2: I-605 NB Ramps at Live Oak Ave.	CSS	0	0	1	0	0	1	0	2	0	0	2	0	72.6-F	147.0-F
# 3: Graham Road at Live Oak Ave.	TS	1	0	1	0	0	0	0	2	d	1	2	0	0.569-A	0.569-A
# 4: Rivergrade Rd. at Live Oak Ave.	TS	1	1	1	1	2	1	1	2	1>>	1	2	1	0.587-A	0.885-D
# 5: Stewart Ave. at Live Oak Ave.	TS	0	<1>	0	1	1	1	1	2	1	1	2	d	0.810-D	0.765-C
# 6: Baldwin Park Blvd. at Live Oak Ave.	TS	2	0	1	0	0	0	0	2	d	1	2	0	0.542-A	0.701-C
# 7: Arrow Hwy. at Live Oak Ave.	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	0.628-B	0.896-D
# 8: Maine Ave. at Arrow Hwy.	TS	2	0	1	0	0	0	0	2	d	1	3	0	0.794-C	0.814-D
# 9: Azusa Canyon Rd. at Arrow Hwy.	TS	1.5	0.5	1	1	0.5	0.5	1	2	D	1	2	D	0.929-E	0.904-E
# 10: 4th St. at Arrow Hwy.	TS	1.5	0.5	1	0	<1>	0	1	3	1	1	2	d	0.346-A	0.555-A
Irwindale Ave. at:															
# 11: I-210 WB Ramps	TS	0	3	1>>	0	3	0	0	0	0	1.5	0	0.5	0.463-A	0.540-A
# 12: I-210 EB Ramps	TS	0	2	1	2	2	0	1.5	0	1.5	0	0	0	0.671-B	0.747-C
# 13: Jardin De Roca / Irwindale Rd.	TS	1	2	1	1	2	1	0.5	0	0.5	0.5	0	0.5	0.570-A	0.697-B
# 14: 1st St.	TS	1	1.5	0.5	1	3	1	1.5	0.5	1	1	1	1	0.509-A	0.447-A
# 15: Gladstone St.	TS	1	2	1	2	1.5	0.5	1	1	Dd	1	1	2>	0.649-B	0.651-B
# 16: Arrow Hwy.	TS	1	1.5	0.5	1	2	1	2	2.5	0.5	1	1.5	0.5	0.848-D	0.761-C
Vincent Ave. at:															
# 17: Gladstone St.	TS	1.5	0.5	1	0	<1>	1	1.5	0.5	2	1	1.5	0.5	0.525-A	0.843-D
# 18: Arrow Hwy.	TS	1	1.5	0.5	1	1.5	0.5	1	2	1	1	2	D	0.682-B	0.782-C
# 19: Project North Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	0.000-A	0.000-A
# 20: Project South Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	0.000-A	0.000-A
# 21: Cypress St.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.647-B	0.726-C
# 22: San Bernardino Rd.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.655-B	0.658-B
# 23: Badillo St.	TS	1	2	d	1	2	d	1	2	d	1	2	d	0.612-B	0.763-C
# 24: Puente Ave.	TS	1	1.5	d	1	2	0.5	0.5	1	0.5	0.5	1	0.5	0.581-A	0.633-B
# 25: Rowland Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.539-A	0.609-B
# 26: Workman Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.614-B	0.691-B
# 27: I-10 WB Ramps	TS	0	3	0	0	3	0	0	0	1	2	0	1	0.437-A	0.450-A
#28 I-10 EB Ramps	TS	0	1.5	1.5> >	0	2.5	1.5>>	1	0	0	0	0	0	0.486-A	0.541-A

Intersection	Control (1)	Intersection Approach Lanes(2)												Peak Hour ICU/ Delay-LOS(3)	
		NB			SB			EB			WB			AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R		
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	TS	1	1	1	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.686-B	0.732-C
Azusa Ave. at:															
#30: I-210 EB Ramps	TS	0	2	0	0	2	1>>	2	0	1	0	0	0	0.665-B	0.659-B
#31: Paramount St.	TS	1	2	d	1	2	d	0.5	0.5	d	0	<1>	0	0.592-A	0.636-B
#32: Gladstone Str.	TS	1	2	1	2	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.732-C	0.737-C

NOTES:

(1) TS – TRAFFIC SIGNAL; CSS = CROSS STREET STOP.

(2) L = LEFT; T = THROUGH; R = RIGHT; >> = FREE RIGHT TURN; > = RIGHT TURN OVERLAP; <1> = SHARED LEFT/THROUGH/RIGHT TURN LANE; 0.5 = SHARED LANE WITH 2 TURNING MOVEMENTS; D = DE FACTO RIGHT TURN LANE; ***BOLD*** *= IMPROVEMENT.*

(3) ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; ICU/DELAY AND LEVEL OF SERVICE HAVE BEEN CALCULATED USING THE FOLLOWING ANALYSIS SOFTWARE: TRAFFIX (VERSION 7.9) AND VISTRO (VERSION 4.00-00). PER THE HIGHWAY CAPACITY MANUAL, LEVEL OF SERVICE IS BASED ON THE AVERAGE CONTROL DELAY OF THE OVERALL INTERSECTION FOR INTERSECTIONS WITH TRAFFIC SIGNAL. FOR INTERSECTIONS WITH CROSS STREET STOP CONTROL, LEVEL OF SERVICE IS BASED ON THE AVERAGE DELAY OF THE WORST INDIVIDUAL LANE.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

Table 22: Future Baseline With Project Condition Intersection LOS

Intersection	Control (1)	Intersection Approach Lanes(2)												Peak Hour ICU/ Delay-LOS(3)	
		NB			SB			EB			WB			AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R		
# 1: I-605 SB On-Ramp at Live Oak Ave.	TS	0	0	0	0	0	0	0	2	>>1	1	2	0	0.526-A	0.841-D
(With Improvements)	TS	0	0	0	0	0	0	0	2	>>1	1	2	0	0.445-A	0.636-B
# 2: I-605 NB Ramps at Live Oak Ave.	CSS	0	0	1	0	0	1	0	2	0	0	2	0	75.7-F	157.8-F
(With Improvements)	**TS**	0	0	1	0	0	1	0	2	0	0	2	0	0.847-D	0.828-C
# 3: Graham Road at Live Oak Ave.	TS	1	0	1	0	0	0	0	2	d	1	2	0	0.573-A	0.598-A
# 4: Rivergrade Rd. at Live Oak Ave.	TS	1	1	1	1	2	1	1	2	1>>	1	2	1	0.619-A	0.889-D
# 5: Stewart Ave. at Live Oak Ave.	TS	0	<1>	0	1	1	1	1	2	1	1	2	d	0.815-D	0.769-C
# 6: Baldwin Park Blvd. at Live Oak Ave.	TS	2	0	1	0	0	0	0	2	d	1	2	0	0.547-A	0.710-C
# 7: Arrow Hwy. at Live Oak Ave.	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	0.637-B	0.902-E
# 8: Maine Ave. at Arrow Hwy.	TS	2	0	1	0	0	0	0	2	d	1	3	0	0.798-C	0.820-D
# 9: Azusa Canyon Rd. at Arrow Hwy.	TS	1.5	0.5	1	1	0.5	0.5	1	2	d	1	2	d	0.934-E	0.915-E
(With Improvements)	TS	1.5	0.5	1	1	0.5	0.5	1	**2.5**	**0.5**	1	2	d	0.934-E	0.792-C
# 10: 4th St. at Arrow Hwy.	TS	1.5	0.5	1	0	<1>	0	1	3	1	1	2	d	0.374-A	0.559-A
Irwindale Ave. at:															
# 11: I-210 WB Ramps	TS	0	3	1>>	0	3	0	0	0	0	1.5	0	0.5	0.463-A	0.540-A
# 12: I-210 EB Ramps	TS	0	2	1	2	2	0	1.5	0	1.5	0	0	0	0.687-B	0.766-C
# 13: Jardin De Roca / Irwindale Rd.	TS	1	2	1	1	2	1	0.5	0	0.5	0.5	0	0.5	0.572-A	0.706-C
# 14: 1st St.	TS	1	1.5	0.5	1	3	1	1.5	0.5	1	1	1	1	0.509-A	0.461-A
# 15: Gladstone St.	TS	1	2	1	2	1.5	0.5	1	1	Dd	1	1	2>	0.671-B	0.654-B
# 16: Arrow Hwy.	TS	1	1.5	0.5	1	2	1	2	2.5	0.5	1	1.5	0.5	0.853-D	0.769-C
Vincent Ave. at:															
# 17: Gladstone St.	TS	1.5	0.5	1	0	<1>	1	2	1.5	0.5	1	1.5	0.5	0.533-A	0.911-E
(With Improvements)	TS	**1**	**<1>**	1	0	<1>	1	2	1.5	0.5	1	1.5	0.5	0.529-A	0.740-C
# 18: Arrow Hwy.	TS	1	1.5	0.5	1	1.5	0.5	1	2	1	1	2	d	0.746-C	0.865-D
(With Improvements)	TS	1	1.5	0.5	1	1.5	0.5	1	**2.5**	**0.5**	1	2	d	0.746-C	0.756-C
# 19: Project North Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	14.7-C	17.3-C
# 20: Project South Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	B12.8-B	16.2-C
# 21: Cypress St.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.658-B	0.734-C
# 22: San Bernardino Rd.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.659-B	0.679-B
# 23: Badillo St.	TS	1	2	d	1	2	d	1	2	d	1	2	d	0.620-B	0.780-C
# 24: Puente Ave.	TS	1	1.5	0.5	1	2	d	0.5	1	0.5	0.5	1	0.5	0.599-A	0.650-B
# 25: Rowland Ave.	TS	1	1/5	0.5	1	1.5	0.5	1	2	1	1	2	d	0.545-A	0.615-B
# 26: Workman Ave.	TS	1	1.5	0.5	1	1.5	0.5	1	2	1	1	2	d	0.617-B	0.693-B
# 27: I-10 WB Ramps	TS	0	3	0	0	3	0	0	0	0	2	0	1	0.458-A	0.461-A

Intersection	*Control* (1)	*Intersection Approach Lanes*(2)												*Peak Hour ICU/ Delay-LOS*(3)	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
#28 I-10 EB Ramps	TS	0	1.5	1.5>>	0	2.5	1.5>>	1	0	2	0	0	0	0.496-A	0.542-A
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	TS	1	1	1	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.711-C	0.752-C
Azusa Ave. at:															
#30: I-210 EB Ramps	TS	0	2	0	0	2	1>>	2	0	1	0	0	0	0.667-B	0.676-B
#31: Paramount St.	TS	1	2	d	1	2	d	0.5	0.5	d	0	<1>	0	0.611-B	0.639-B
#32: Gladstone Str.	TS	1	2	1	2	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.760-C	0.743-C

NOTES:

(1) TS – TRAFFIC SIGNAL; CSS = CROSS STREET STOP.

*(2) L = LEFT; T = THROUGH; R = RIGHT; >> = FREE RIGHT TURN; > = RIGHT TURN OVERLAP; <1> = SHARED LEFT/THROUGH/RIGHT TURN LANE; 0.5 = SHARED LANE WITH 2 TURNING MOVEMENTS; D = DE FACTO RIGHT TURN LAN; **BOLD** = IMPROVEMENT.*

(3) ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; ICU/DELAY AND LEVEL OF SERVICE HAVE BEEN CALCULATED USING THE FOLLOWING ANALYSIS SOFTWARE: TRAFFIX (VERSION 7.9) AND VISTRO (VERSION 4.00-00). PER THE HIGHWAY CAPACITY MANUAL, LEVEL OF SERVICE IS BASED ON THE AVERAGE CONTROL DELAY OF THE OVERALL INTERSECTION FOR INTERSECTIONS WITH TRAFFIC SIGNAL. FOR INTERSECTIONS WITH CROSS STREET STOP CONTROL, LEVEL OF SERVICE IS BASED ON THE AVERAGE DELAY OF THE WORST INDIVIDUAL LANE.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

Table 23 evaluates the change in performance between Future Baseline Without Project and Future Baseline With Project traffic conditions at the study intersections.

Table 23: Future Baseline With Project Significant Impact Evaluation

Intersection	Peak Hour ICU / Delay – LOS[1]				Change in ICU / Delay		Impact ?[2]
	Without Project		With Project				
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	
# 1: I-605 SB On-Ramp at Live Oak Ave.	0.517-A	0.783-C	0.526-A	0.841-D	+0.009	+0.058	Yes
(With Improvements)	--	--	0.445-A	0.636-B	-0.072	-0.147	No
# 2: I-605 NB Ramps at Live Oak Ave.	72.6-F	147.0-F	75.7-F	157.8-F	+3.1	+10.8	Yes
(With Improvements)	--	--	0.847-D	0.828-C	--	--	No
# 3: Graham Road at Live Oak Ave.	0.569-A	0.569-A	0.573-A	0.598-A	+0.004	+0.029	No
# 4: Rivergrade Rd. at Live Oak Ave.	0.587-A	0.885-D	0.619-B	0.889-D	+0.032	+0.004	No
# 5: Stewart Ave. at Live Oak Ave.	0.810-D	0.765-C	0.815-D	0.769-C	+0.005	+0.004	No
# 6: Baldwin Park Blvd. at Live Oak Ave.	0.542-A	0.701-C	0.547-A	0.710-C	+0.005	+0.009	No
# 7: Arrow Hwy. at Live Oak Ave.	0.628-B	0.896-D	0.637-B	0.902-E	+0.009	+0.006	No
# 8: Maine Ave. at Arrow Hwy.	0.794-C	0.814-D	0.798-C	0.820-D	+0.004	+0.006	No
# 9: Azusa Canyon Rd. at Arrow Hwy.	0.929-E	0.904-E	0.934-E	0.915-E	+0.005	+0.011	No
(With Improvements)	--	--	0.934-E	0.792-C	-0.172	-0.112	No
# 10: 4th St. at Arrow Hwy.	0.346-A	0.555-A	0.374-A	0.559-A	+0.028	+0.004	No
Irwindale Ave. at:							
# 11: I-210 WB Ramps	0.463-A	0.540-A	0.463-A	0.540-A	0.000	0.000	No
# 12: I-210 EB Ramps	0.671-B	0.747-C	0.687-B	0.766-C	+0.016	+0.019	No
# 13: Jardin De Roca / Irwindale Rd.	0.570-A	0.697-B	0.572-A	0.706-C	+0.002	+0.009	No
# 14: 1st St.	0.507-A	0.447-A	0.509-A	0.461-A	+0.002	+0.014	No
# 15: Gladstone St.	0.649-B	0.651-B	0.671-B	0.654-B	+0.022	+0.003	No
# 16: Arrow Hwy.	0.848-D	0.761-C	0.853-D	0.769-C	+0.005	+0.008	No
Vincent Ave. at:							
# 17: Gladstone St.	0.525-A	0.843-D	0.533-A	0.911-E	+0.008	+0.068	Yes
(With Improvements)	--	--	0.529-A	0.740-C	+0.004	-0.103	No
# 18: Arrow Hwy.	0.682-B	0.782-C	0.746-C	0.865-D	+0.064	+0.083	Yes
(With Improvements)	--	--	0.746-C	0.756-C			No
# 21: Cypress St.	0.647-B	0.726-C	0.658-B	0.734-C	+0.011	+0.008	No
# 22: San Bernardino Rd.	0.655-B	0.658-B	0.659-B	0.679-B	+0.004	+0.021	No
# 23: Badillo St.	0.612-B	0.763-C	0.620-B	0.780-C	+0.008	+0.017	No
# 24: Puente Ave.	0.581-A	0.633-B	0.599-A	0.650-B	+0.018	+0.017	No
# 25: Rowland Ave.	0.539-A	0.609-B	0.545-A	0.615-B	+0.006	+0.006	No
# 26: Workman Ave.	0.614-B	0.691-B	0.617-B	0.693-B	+0.003	+0.002	No
# 27: I-10 WB Ramps	0.437-A	0.450-A	0.458-A	0.461-A	+0.021	+0.011	No
#28 I-10 EB Ramps	0.486-A	0.541-A	0.496-A	0.542-A	+0.010	+0.001	No
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	0.686-B	0.732-C	0.711-C	0.752-C	+0.025	+0.020	No
Azusa Ave. at:							
#30: I-210 EB Ramps	0.665-B	0.659-B	0.667-B	0.676-B	+0.002	+0.017	No
#31: Paramount St.	0.592-A	0.636-B	0.611-B	0.639-B	+0.019	+0.003	No
#32: Gladstone Str.	0.732-C	0.737-C	0.760-C	0.743-C	+0.028	+0.006	No

NOTES:

[1] ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; SEE TABLES 18 AND 20.

[2] THIS COLUMN INDICATES WHETHER OR NOT EACH INTERSECTION WOULD EXPERIENCE UNACCEPTABLE INCREASES IN V/C AND/OR DELAY DURING EITHER OR BOTH PEAK HOUR PERIODS. THE THRESHOLDS OF SIGNIFICANCE FOR INTERSECTIONS WITHIN THE CITY OF IRWINDALE VARY DEPENDING ON THE EXISTING CONDITIONS OPERATIONS, THE FUTURE BASELINE CONDITIONS OPERATIONS, AND WHETHER THE INTERSECTION IS SIGNALIZED OR UNSIGNALIZED. THE THRESHOLDS OF SIGNIFICANCE FOR INTERSECTIONS WITHIN THE COUNTY OF LOS ANGELES ARE SUMMARIZED IN TABLE 16. SEE THE PREVIOUS "THRESHOLDS OF SIGNIFICANCE" SECTION FOR A FULL EXPLANATION OF THE THRESHOLDS FOR BOTH IRWINDALE AND THE COUNTY OF LOS ANGELES.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

The proposed project is forecast to result in less than significant traffic impacts with the following study intersection improvements for Future Baseline With Project traffic conditions:

- I-605 Freeway SB On-Ramp/Live Oak Avenue (#1):
  - Construct an additional left-turn lane at the westbound approach. Construct a receiving lane on the southern leg
- I-605 Freeway NB Ramps/Live Oak Avenue (#2):
  - Install a traffic signal;
  - Construct an additional right-turn lane at the northbound approach;
  - Construct an additional right-turn lane at the southbound approach.
- Azusa Canyon Road/Arrow Highway (#9):
  - Re-stripe to create a shared through/right-turn lane at the eastbound approach.
- Vincent Avenue/Gladstone Street (#17):
  - Re-stripe to create a shared left-turn/through/right turn lane at the northbound approach.
- Vincent Avenue/Arrow Highway (#18):
  - Re-stripe to create a shared through/right turn lane at the eastbound approach.

Future Baseline Plus Cumulative Projects Without Project

The ICU/delay and LOS for Future Baseline Plus Cumulative Projects Without Project traffic conditions are shown in Table 24. The study intersections are projected to operate within acceptable LOS during the peak hours for Future Baseline Plus Cumulative Projects Without Project traffic conditions, except for the following study intersections that are projected to operate at unacceptable LOS (E or F) during the peak hours:

- I-605 Freeway SB On-Ramp (NS) at Live Oak Avenue (EW) - #1 (PM peak hour only);
- I-605 Freeway NB Ramps (NS) at: Live Oak Avenue (EW) - #2 (both peak hours);
- Rivergrade Road (NS) at: Live Oak Avenue (EW) -#4 (PM peak hour only);
- Arrow Highway (NS) at Live Oak Avenue (EW) - #7 (PM peak hour only);
- Azusa Canyon Road (NS) at Arrow Highway (EW) - #9 (both peak hours).

Future Baseline Plus Cumulative Projects With Project Traffic Conditions

The ICU/delay and LOS for Future Baseline Plus Cumulative Projects With Project traffic conditions, without and with improvements, are shown in Table 25. The study intersections are projected to operate within acceptable LOS during the peak hours for Future Baseline Plus Cumulative Projects With Project, except for the following study intersections that are projected to operate at unacceptable LOS (E or F) during the peak hours:

- I-605 Freeway SB On-Ramp (NS) at Live Oak Avenue (EW) - #1 (PM peak hour only)
- I-605 Freeway NB Ramps (NS) at Live Oak Avenue (EW) - #2 (both peak hours)
- Rivergrade Road (NS) at Live Oak Avenue (EW) -#4 (PM peak hour only)
- Arrow Highway (NS) at Live Oak Avenue (EW) - #7 (PM peak hour only)
- Azusa Canyon Road (NS) at Arrow Highway (EW) - #9 (both peak hours)
- Vincent Avenue (NS) at:
  - Gladstone Street (EW) - #17 (PM peak hour only)
  - Arrow Highway (EW) - #18 (PM peak hour only)

Table 26 evaluates the change in performance between Future Baseline Plus Cumulative Projects Without Project and Future Baseline Plus Cumulative Projects With Project traffic conditions at the study intersections.

Table 24: Future Baseline Plus Cumulative Projects Without Project Condition Intersection LOS

Intersection	*Control (1)*	*Intersection Approach Lanes(2)*												*Peak Hour ICU/ Delay-LOS(3)*	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
# 1: I-605 SB On-Ramp at Live Oak Ave.	TS	0	0	0	0	0	0	0	2	>>1	1	2	0	0.660-B	0.980-E
# 2: I-605 NB Ramps at Live Oak Ave.	CSS	0	0	1	0	0	1	0	2	0	0	2	0	772.3-F	397.4-F
# 3: Graham Road at Live Oak Ave.	TS	1	0	1	0	0	0	0	2	d	1	2	0	0.665-B	0.682-B
# 4: Rivergrade Rd. at Live Oak Ave.	TS	1	1	1	1	2	1	1	2	1>>	1	2	1	0.679-B	0.925-E
# 5: Stewart Ave. at Live Oak Ave.	TS	0	<1>	0	1	1	1	1	2	1	1	2	d	0.844-D	0.806-D
# 6: Baldwin Park Blvd. at Live Oak Ave.	TS	2	0	1	0	0	0	0	2	d	1	2	0	0.596-A	0.743-C
# 7: Arrow Hwy. at Live Oak Ave.	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	0.675-B	0.940-E
# 8: Maine Ave. at Arrow Hwy.	TS	2	0	1	0	0	0	0	2	d	1	3	0	0.821-D	0.857-D
# 9: Azusa Canyon Rd. at Arrow Hwy.	TS	1.5	0.5	1	1	0.5	0.5	1	2	d	1	2	d	0.963-E	0.943-E
# 10: 4th St. at Arrow Hwy.	TS	1.5	0.5	1	0	<1>	0	1	3	1	1	2	d	0.371-A	0.578-A
Irwindale Ave. at:															
# 11: I-210 WB Ramps	TS	0	3	1>>	0	3	0	0	0	0	1.5	0	0.5	0.595-A	0.699-B
# 12: I-210 EB Ramps	TS	0	2	1	2	2	0	1.5	0	1.5	0	0	0	0.798-C	0.889-D
# 13: Jardin De Roca / Irwindale Rd.	TS	1	2	1	1	2	1	0.5	0	0.5	0.5	0	0.5	0.663-B	0.881-D
# 14: 1st St.	TS	1	1.5	0.5	1	3	1	1.5	0.5	1	1	1	1	0.528-A	0.485-A
# 15: Gladstone St.	TS	1	2	1	2	1.5	0.5	1	1	d	1	1	2>	0.686-B	0.678-B
# 16: Arrow Hwy.	TS	1	1.5	0.5	1	2	1	2	2.5	0.5	1	1.5	0.5	0.885-D	0.792-C
Vincent Ave. at:															
# 17: Gladstone St.	TS	1.5	0.5	1	0	<1>	1	1.5	0.5	2	1	1.5	0.5	0.531-A	0.869-D
# 18: Arrow Hwy.	TS	1	1.5	0.5	1	1.5	0.5	1	2	1	1	2	d	0.774-C	0.825-D
# 19: Project North Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	0.000-A	0.000-A
# 20: Project South Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	0.000-A	0.000-A
# 21: Cypress St.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.653-B	0.734-C
# 22: San Bernardino Rd.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.660-B	0.674-B
# 23: Badillo St.	TS	1	2	d	1	2	d	1	2	d	1	2	d	0.616-B	0.773-C
# 24: Puente Ave.	TS	1	1.5	d	1	2	0.5	0.5	1	0.5	0.5	1	0.5	0.591-A	0.643-B
# 25: Rowland Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.543-A	0.618-B
# 26: Workman Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.616-B	0.693-B
# 27: I-10 WB Ramps	TS	0	3	0	0	3	0	0	0	1	2	0	1	0.446-A	0.457-A
#28 I-10 EB Ramps	TS	0	1.5	1.5>>	0	2.5	1.5>>	1	0	0	0	0	0	0.493-A	0.545-A
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	TS	1	1	1	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.698-B	0.742-C

Intersection	*Control* [1]	*Intersection Approach Lanes*[2]												*Peak Hour ICU/ Delay-LOS*[3]	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
Azusa Ave. at:															
#30: I-210 EB Ramps	TS	0	2	0	0	2	1>>	2	0	1	0	0	0	0.686-B	0.688-B
#31: Paramount St.	TS	1	2	d	1	2	d	0.5	0.5	d	0	<1>	0	0.629-B	0.668-B
#32: Gladstone Str.	TS	1	2	1	2	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.758-C	0.749-C

NOTES:

[1] TS – TRAFFIC SIGNAL; CSS = CROSS STREET STOP.

*[2] L = LEFT; T = THROUGH; R = RIGHT; >> = FREE RIGHT TURN; > = RIGHT TURN OVERLAP; <1> = SHARED LEFT/THROUGH/RIGHT TURN LANE; 0.5 = SHARED LANE WITH 2 TURNING MOVEMENTS; D = DE FACTO RIGHT TURN LANE; **BOLD** = IMPROVEMENT.*

[3] ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; ICU/DELAY AND LEVEL OF SERVICE HAVE BEEN CALCULATED USING THE FOLLOWING ANALYSIS SOFTWARE: TRAFFIX (VERSION 7.9) AND VISTRO (VERSION 4.00-00). PER THE HIGHWAY CAPACITY MANUAL, LEVEL OF SERVICE IS BASED ON THE AVERAGE CONTROL DELAY OF THE OVERALL INTERSECTION FOR INTERSECTIONS WITH TRAFFIC SIGNAL. FOR INTERSECTIONS WITH CROSS STREET STOP CONTROL, LEVEL OF SERVICE IS BASED ON THE AVERAGE DELAY OF THE WORST INDIVIDUAL LANE.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

Table 25: Future Baseline Plus Cumulative Projects With Project Condition Intersection LOS

Intersection	*Control (1)*	*Intersection Approach Lanes(2)*												*Peak Hour ICU/ Delay-LOS(3)*	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
# 1: I-605 SB On-Ramp at Live Oak Ave.	TS	0	0	0	0	0	0	0	2	>>1	1	2	0	0.668-B	1.038-F
(With Improvements)	TS	0	0	0	0	0	0	0	2	>>1	**2**	2	0	0.635-B	0.755-C
# 2: I-605 NB Ramps at Live Oak Ave.	CSS	0	0	1	0	0	1	0	2	0	0	2	0	785.2-F	411.4-F
(With Improvements)	**TS**	0	0	**2**	0	0	**2**	0	2	0	0	2	0	0.868-D	0.726-C
# 3: Graham Road at Live Oak Ave.	TS	1	0	1	0	0	0	0	2	d	1	2	0	0.669-B	0.711-C
# 4: Rivergrade Rd. at Live Oak Ave.	TS	1	1	1	1	2	1	1	2	1>>	1	2	1	0.683-B	0.928-E
# 5: Stewart Ave. at Live Oak Ave.	TS	0	<1>	0	1	1	1	1	2	1	1	2	d	0.849-D	0.810-D
# 6: Baldwin Park Blvd. at Live Oak Ave.	TS	2	0	1	0	0	0	0	2	d	1	2	0	0.600-A	0.751-C
# 7: Arrow Hwy. at Live Oak Ave.	TS	0	0	0	2	0	1	1	2	0	0	2	1>>	0.684-B	0.951-E
# 8: Maine Ave. at Arrow Hwy.	TS	2	0	1	0	0	0	0	2	d	1	3	0	0.824-D	0.862-D
# 9: Azusa Canyon Rd. at Arrow Hwy.	TS	1.5	0.5	1	1	0.5	0.5	1	2	d	1	2	d	0.968-E	0.953-E
(With Improvements)	TS	1.5	0.5	1	1	0.5	0.5	1	**2.5**	**0.5**	1	2	d	0.968-E	0.828-D
# 10: 4th St. at Arrow Hwy.	TS	1.5	0.5	1	0	<1>	0	1	3	1	1	2	d	0.399-A	0.579-A
Irwindale Ave. at:															
# 11: I-210 WB Ramps	TS	0	3	1>>	0	3	0	0	0	0	1.5	0	0.5	0.595-A	0.699-B
# 12: I-210 EB Ramps	TS	0	2	1	2	2	0	1.5	0	1.5	0	0	0	0.814-D	0.908-E
# 13: Jardin De Roca / Irwindale Rd.	TS	1	2	1	1	2	1	0.5	0	0.5	0.5	0	0.5	0.666-B	0.828-D
# 14: 1st St.	TS	1	1.5	0.5	1	3	1	1.5	0.5	1	1	1	1	0.530-A	0.502-A
# 15: Gladstone St.	TS	1	2	1	2	1.5	0.5	1	1	d	1	1	2>	0.708-C	0.681-B
# 16: Arrow Hwy.	TS	1	1.5	0.5	1	2	1	2	2.5	0.5	1	1.5	0.5	0.891-D	0.800-C
Vincent Ave. at:															
# 17: Gladstone St.	TS	1.5	0.5	1	0	<1>	1	1.5	0.5	2	1	1.5	0.5	0.539-A	0.937-E
(With Improvements)	TS	**1**	**<1>**	1	0	<1>	1	1.5	0.5	2	1	1.5	0.5	0.535-A	0.761-C
# 18: Arrow Hwy.	TS	1	1.5	0.5	1	1.5	0.5	1	2	1	1	2	d	0.838-D	0.913-E
(With Improvements)	TS	1	1.5	0.5	1	1.5	0.5	1	2.5	0.5	1	2	d	0.838-D	0.805-D
# 19: Project North Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	15.0-B	18.4-C
# 20: Project South Driveway	CSS	0	2	0	0	2	0	0	0	0	0	0	0	13.1-B	17.2-C
# 21: Cypress St.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.673-B	0.742-C
# 22: San Bernardino Rd.	TS	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.663-B	0.695-B
# 23: Badillo St.	TS	1	2	d	1	2	d	1	2	d	1	2	d	0.626-B	0.791-C
# 24: Puente Ave.	TS	1	1.5	0.5	1	2	0.5	0.5	1	0.5	0.5	1	0.5	0.610-B	0.660-B
# 25: Rowland Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.556-A	0.624-B
# 26: Workman Ave.	TS	1	2	d	1	2	d	0.5	0.5	d	0.5	0.5	d	0.618-B	0.696-B
# 27: I-10 WB Ramps	TS	0	3	0	0	3	0	0	0	1	2	0	1	0.469-A	0.470-A

Intersection	*Control (1)*	*Intersection Approach Lanes(2)*												*Peak Hour ICU/ Delay-LOS(3)*	
		NB			*SB*			*EB*			*WB*			*AM*	*PM*
		L	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*	*L*	*T*	*R*		
#28 I-10 EB Ramps	TS	0	1.5	1.5>>	0	2.5	1.5>>	1	0	0	0	0	0	0.503-A	0.546-A
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	TS	1	1	1	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.723-C	0.762-C
Azusa Ave. at:															
#30: I-210 EB Ramps	TS	0	2	0	0	2	1>>	2	0	1	0	0	0	0.688-B	0.704-C
#31: Paramount St.	TS	1	2	d	1	2	d	0.5	0.5	d	0	<1>	0	0.648-B	0.670-B
#32: Gladstone St.	TS	1	2	1	2	1.5	0.5	1	1.5	0.5	1	1.5	0.5	0.785-C	0.755-C

NOTES:

(1) TS – TRAFFIC SIGNAL; CSS = CROSS STREET STOP.

*(2) L = LEFT; T = THROUGH; R = RIGHT; >> = FREE RIGHT TURN; > = RIGHT TURN OVERLAP; <1> = SHARED LEFT/THROUGH/RIGHT TURN LANE; 0.5 = SHARED LANE WITH 2 TURNING MOVEMENTS; D = DE FACTO RIGHT TURN LANE; **BOLD** = IMPROVEMENT.*

(3) ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; ICU/DELAY AND LEVEL OF SERVICE HAVE BEEN CALCULATED USING THE FOLLOWING ANALYSIS SOFTWARE: TRAFFIX (VERSION 7.9) AND VISTRO (VERSION 4.00-00). PER THE HIGHWAY CAPACITY MANUAL, LEVEL OF SERVICE IS BASED ON THE AVERAGE CONTROL DELAY OF THE OVERALL INTERSECTION FOR INTERSECTIONS WITH TRAFFIC SIGNAL. FOR INTERSECTIONS WITH CROSS STREET STOP CONTROL, LEVEL OF SERVICE IS BASED ON THE AVERAGE DELAY OF THE WORST INDIVIDUAL LANE.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

Table 26: Future Baseline Plus Cumulative Projects With Project Significant Impact Evaluation

Intersection	Peak Hour ICU / Delay – LOS[1]				Change in ICU / Delay		Impact ?[2]
	Without Project		With Project				
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	
# 1: I-605 SB On-Ramp at Live Oak Ave.	0.660-A	0.980-E	0.668-B	1.038-F	+0.008	+0.058	Yes
(With Improvements)	--	--	0.635-B	0.755-C	-0.025	-0.225	No
# 2: I-605 NB Ramps at Live Oak Ave.	772.3-F	397.4-F	785.2-F	411.4-F	+12.9	+14.0	Yes
(With Improvements)	--	--	0.868-D	0.726-C	--	--	No
# 3: Graham Road at Live Oak Ave.	0.665-B	0.682-B	0.669-B	0.711-C	+0.004	+0.029	No
# 4: Rivergrade Rd. at Live Oak Ave.	0.679-A	0.925-E	0.683-B	0.928-E	+0.004	+0.003	No
# 5: Stewart Ave. at Live Oak Ave.	0.844-D	0.806-D	0.849-D	0.810-D	+0.005	+0.004	No
# 6: Baldwin Park Blvd. at Live Oak Ave.	0.596-A	0.743-C	0.600-A	0.751-C	+0.004	+0.008	No
# 7: Arrow Hwy. at Live Oak Ave.	0.675-B	0.940-E	0.684-B	0.951-E	+0.009	+0.011	Yes No
# 8: Maine Ave. at Arrow Hwy.	0.821-C	0.857-D	0.824-D	0.862-D	+0.003	+0.005	No
# 9: Azusa Canyon Rd. at Arrow Hwy.	0.963-E	0.943-E	0.968-E	0.953-E	+0.005	+0.010	No
(With Improvements)	--	--	0.783-C	0.828-D	-0.180	-0.115	No
# 10: 4th St. at Arrow Hwy.	0.371-A	0.576-A	0.399-A	0.579-A	+0.028	+0.003	No
Irwindale Ave. at:							
# 11: I-210 WB Ramps	0.595-A	0699-B	0.595-A	0.699-B	0.000	0.000	No
# 12: I-210 EB Ramps	0.798-C	0.889-D	0.814-D	0.908-E	+0.016	+0.019	No
# 13: Jardin De Roca / Irwindale Rd.	0.663-B	0.811-D	0.666-B	0.828-D	+0.003	+0.017	No
# 14: 1st St.	0.528-A	0.485-A	0.530-A	0.502-A	+0.002	+0.017	No
# 15: Gladstone St.	0.686-B	0.678-B	0.708-C	0.681-B	+0.022	+0.003	No
# 16: Arrow Hwy.	0.885-D	0.792-C	0.891-D	0.800-C	+0.006	+0.008	No
Vincent Ave. at:							
# 17: Gladstone St.	0.531-A	0.869-D	0.539-A	0.937-E	+0.008	+0.068	Yes
(With Improvements)	--	--	0.535-A	0.761-C	+0.004	-0.108	No
# 18: Arrow Hwy.	0.774-C	0.825-D	0.838-D	0.913-E	+0.064	+0.088	Yes
(With Improvements)	--	--	0.838-D	0.805-D	+0.064	-0.020	No
# 21: Cypress St.	0.653-B	0.734-C	0.673-B	0.742-C	+0.020	+0.008	No
# 22: San Bernardino Rd.	0.660-B	0.674-B	0.663-B	0.695-B	+0.003	+0.021	No
# 23: Badillo St.	0.616-B	0.773-C	0.626-B	0.791-C	+0.010	+0.018	No
# 24: Puente Ave.	0.591-A	0.643-B	0.610-B	0.660-B	+0.019	+0.017	No
# 25: Rowland Ave.	0.543-A	0.618-B	0.556-A	0.624-B	+0.013	+0.006	No
# 26: Workman Ave.	0.616-B	0.693-B	0.618-B	0.696-B	+0.002	+0.003	No
# 27: I-10 WB Ramps	0.446-A	0.457-A	0.469-A	0.470-A	+0.023	+0.013	No
#28 I-10 EB Ramps	0.493-A	0.545-A	0.503-A	0.546-A	+0.010	+0.001	No
#29: Vernon Ave./Lake Ellen Ave. at Gladstone St.	0.698-B	0.742-C	0.723-C	0.762-C	+0.025	+0.020	No
Azusa Ave. at:							
#30: I-210 EB Ramps	0.686-B	0.688-B	0.688-B	0.704-C	+0.002	+0.016	No
#31: Paramount St.	0.629-B	0.668-B	0.648-B	0.670-B	+0.019	+0.002	No
#32: Gladstone Str.	0.758-C	0.749-C	0.785-C	0.755-C	+0.027	+0.006	No

NOTES: [1] ICU = INTERSECTION CAPACITY UTILIZATION; LOS = LEVEL OF SERVICE; SEE TABLES 18 AND 20.

[2] THIS COLUMN INDICATES WHETHER OR NOT EACH INTERSECTION WOULD EXPERIENCE UNACCEPTABLE INCREASES IN V/C AND/OR DELAY DURING EITHER OR BOTH PEAK HOUR PERIODS. THE THRESHOLDS OF SIGNIFICANCE FOR INTERSECTIONS WITHIN THE CITY OF IRWINDALE VARY DEPENDING ON THE EXISTING CONDITIONS OPERATIONS, THE FUTURE BASELINE CONDITIONS OPERATIONS, AND WHETHER THE INTERSECTION IS SIGNALIZED OR UNSIGNALIZED. THE THRESHOLDS OF SIGNIFICANCE FOR INTERSECTIONS WITHIN THE COUNTY OF LOS ANGELES ARE SUMMARIZED IN TABLE 16. SEE THE PREVIOUS "THRESHOLDS OF SIGNIFICANCE" SECTION FOR A FULL EXPLANATION OF THE THRESHOLDS FOR BOTH IRWINDALE AND THE COUNTY OF LOS ANGELES.

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

The proposed project is forecast to result in less than significant traffic impacts with the following study intersection improvements for Future Baseline Plus Cumulative Projects With Project traffic conditions:

- I-605 Freeway SB On-Ramp/ Live Oak Avenue (#1)
  - Construct an additional left-turn lane at the westbound approach. Construct a receiving lane on the southern leg.
- I-605 Freeway NB Ramps/Live Oak Avenue (#2)
  - Install a traffic signal;
  - Construct an additional right-turn lane at the northbound approach;
  - Construct an additional right-turn lane at the southbound approach;
- Azusa Canyon Road/Arrow Highway (#9)
  - Re-stripe to create a shared through/right-turn lane at the eastbound approach.
- Vincent Avenue/Gladstone Street (#17)
  - Re-stripe to create a shared left-turn/through/right-turn lane at the northbound approach.
- Vincent Avenue/Arrow Highway (#18)
  - Re-stripe to create a shared through/right-turn lane at the eastbound approach.

Freeway Analysis

This section presents an analysis of potential effects of the proposed project on Caltrans facilities. This section discusses the prescribed methodology to assess whether freeway mainline or ramp analysis is required, and the definition of deficiency and significant traffic impacts are discussed.

Definition of Deficiency and Significant Impact

The Caltrans Guide for the Preparation of Traffic Impact Studies states that an endeavor is made to maintain a target LOS of between "D" or better on State highway facilities; however, Caltrans acknowledges that this may not always be feasible. If an existing State highway facility is operating at less than the appropriate LOS, the existing measures of effectiveness for LOS should be maintained.

Project Threshold Evaluation

The freeway which will experience the most project generated trips is the I-605 freeway which is four lanes in each direction and is located approximately 3.3 miles west of the project site.

The Los Angeles County Congestion Management Program (2010) was reviewed for the definition of feasible LOS for the TIA. The Congestion Management Program definition of deficiency is based on maintaining a LOS standard of LOS E or better, except where an existing LOS F condition is identified in the Congestion Management Program document.

Based on the mainline average daily traffic volume (167,000 vehicles per day) and the capacity of an eight lane State highway as specified in the Congestion Management Program, the I-605 freeway mainline currently operates at LOS B to C during the AM and PM peak hours. The proposed project is forecast to contribute between 107 to 119 two-way trips to the study area freeway mainline or ramps during the peak hours.

Caltrans Percent of Capacity Threshold

The traffic impact analysis must include all freeway mainline segments and ramp terminals for which the project contributes above a certain minimum amount. Pursuant to the freeway

agreement (executed in October 2013 and updated December 2015 between the Los Angeles Department of Transportation and Caltrans - District 7), traffic studies may be required to conduct a focused freeway impact analysis if the proposed project meets any of the following criteria:

- The project's peak hour trips would result in a 1% or more increase to the freeway mainline capacity of a freeway segment operating at LOS E or F; or
- The project's peak hour trips would result in a 2% or more increase to the freeway mainline capacity of a freeway segment operating at LOS D; or
- The project's peak hour trips would result in a 1% or more increase to the capacity of a freeway off-ramp operating at LOS E or F; or
- The project's peak hour trips would result in a 2% or more increase to the capacity of a freeway off-ramp operating at LOS D.

This information is summarized in the table below:

Table 27: Caltrans Project Trip Threshold for Freeway Analysis

LOS	*Volume Increase*	*Mainline Lane Capacity*	*Ramp Lane Capacity*	*Mainline Lanes*					*Ramp Lanes*	
				6	*5*	*4*	*3*	*2*	*2*	*1*
D	2%	1,500	850	240	160	120	90	60	34	17
E/F	1%	1,500	850	120	90	60	45	30	17	9

SOURCE: TRAFFIC STUDY POLICIES & PROCEDURES, CITY OF LOS ANGELES DEPARTMENT OF TRANSPORTATION, DECEMBER 2016.

Caltrans Freeway Review

The project trip contribution to the freeway system is below the threshold for further analysis. The project does not contribute trips greater than 1 percent of freeway capacity for mainline segments or ramps with LOS E or F or 2 percent freeway capacity volume for mainline segments or ramps with LOS D.

Congestion Management Program

The Congestion Management Program uses the following criteria to determine if a proposed development requires analysis of Congestion Management Program monitored facilities:

- All Congestion Management Program arterial monitoring intersections, including monitored freeway on- or offramp intersections, where the proposed project will add 50 or more trips during either the AM or PM weekday peak hours;
- Mainline freeway monitoring locations where the project will 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

Significant Traffic Impact Criteria

The Congestion Management Program traffic impact analysis guidelines establish that a significant project impact occurs when the following threshold is exceeded:

- The proposed project increases traffic demand on a Congestion Management Program facility by 2% of capacity ($V/C \geq 0.02$), causing LOS F ($V/C > 1.00$)

If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a Congestion Management Program facility by 2% of capacity ($V/C \geq 0.02$).

The TIA has evaluated key intersections to which the proposed project is forecast to contribute 50 or more peak hour trips, none of which are Congestion Management Program monitored intersections.

Conclusion

In conclusion, the majority of the study intersections are projected to operate within acceptable LOS during the peak hours for Existing Plus Project traffic conditions, except for the following study intersections that are projected to operate at unacceptable LOS:

- I-605 Freeway NB Ramps (NS) at Live Oak Avenue (EW) - #2 (both peak hours);
- Azusa Canyon Road (NS) at Arrow Highway (EW) - #9 (both peak hours);
- Vincent Avenue (NS) at Gladstone Street (EW) - #17 (PM peak hour only).

Additionally, the majority of the study intersections are projected to operate within acceptable LOS during the peak hours for Future Baseline With Project traffic conditions, except for the following study intersections that are projected to operate at unacceptable LOS:

- I-605 Freeway NB Ramps (NS) at Live Oak Avenue (EW) - #2 (both peak hours);
- Azusa Canyon Road (NS) at Arrow Highway (EW) - #9 (both peak hours);
- Vincent Avenue (NS) at Gladstone Street (EW) - #17 (PM peak hour only).

Further, the majority of the study intersections are projected to operate within acceptable LOS during the peak hours for Future Baseline Plus Cumulative Projects With Project traffic conditions, except for the following study intersections that are projected to operate at unacceptable LOS:

- I-605 Freeway SB On-Ramp (NS) at Live Oak Avenue (EW) - #1 (PM peak hour only)
- I-605 Freeway NB Ramps (NS) at Live Oak Avenue (EW) - #2 (both peak hours)
- Rivergrade Road (NS) at Live Oak Avenue (EW) -#4 (PM peak hour only)
- Azusa Canyon Road (NS) at Arrow Highway (EW) - #9 (both peak hours)
- Vincent Avenue (NS) at:
    - Gladstone Street (EW) - #17 (PM peak hour only)
    - Arrow Highway (EW) - #18 (PM peak hour only)

Table 28: Project Fair Share Contribution

Intersection (and Jurisdiction)	*Peak Hour*	*Existing Traffic Volume*	*Project Trips*	*Existing + Project Traffic Volume*	*Project Fair Share %*
# 1: I-605 SB On-Ramp at Live Oak Ave. (Caltrans)	AM	2,242	14	2,256	0.6
	PM	3,604	923	3,697	2.5
# 2: I-605 NB Ramps at Live Oak Ave. (Caltrans)	AM	2,368	119	2,487	4.8
	PM	3,100	107	3,207	3.3
# 9: Azusa Canyon Rd. at Arrow Hwy. (City of Irwindale)	AM	3,585	152	3,737	4.1
	PM	3,103	137	3,240	4.2
#17 Vincent Ave. at Gladstone St. (City of Azusa)	AM	1,829	188	2,017	9.3
	PM	2,063	168	2,231	7.5
#18 Vincent Ave. at Arrow Hwy. (City of Irwindale/County of LA/City of Azusa)	AM	2,711	379	3,090	12.3
	PM	3,380	341	3,721	9.2

SOURCE: KUNZMAN ASSOCIATES, INC., 2018.

Overall, impacts to the existing traffic load and capacity of the study area street system as a result of the project would be ***less than significant with mitigation***.

> ***Mitigation Measure Trans-1****: Prior to issuance of building permits, project applicant shall pay the applicable fair share fee to Caltrans, the City of Irwindale, the City of Azusa, or the County of Los Angeles towards the following improvements in order to satisfy the fair share obligation:*
>
> *I-605 Freeway SB On-Ramp/ Live Oak Avenue (#1)*
> - *Construct an additional left-turn lane at the westbound approach. Construct a receiving lane on the southern leg. Modify the existing traffic signal to accommodate the new lane configuration.*
>
> *I-605 Freeway NB Ramps/Live Oak Avenue (#2)*
> - *Install a traffic signal.*
> - *Construct an additional right-turn lane at the northbound approach.*
> - *Construct an additional right-turn lane at the southbound approach.*
>
> *Azusa Canyon Road/Arrow Highway (#9)*
> - *Re-stripe to create a shared through/right-turn lane at the eastbound approach. Modify the existing traffic signal to accommodate the new lane configuration.*
>
> *Vincent Avenue/Gladstone Street (#17)*
> - *Re-stripe to create a shared left-turn/through/right-turn lane at the northbound approach. Modify the existing traffic signal to accommodate the new lane configuration.*
>
> *Vincent Avenue/Arrow Highway (#18)*
> - *Re-stripe to create a shared through/right-turn lane at the eastbound approach. Modify the existing traffic signal to accommodate the new lane configuration.*
>
> *Fair share payments for each improvement shall be submitted to the lead agency which will construct the improvement(s). Proof of payment of the applicable fair share fees shall be submitted to the City of Irwindale.*

Response c): The project site is not within an airport land use plan or within two miles of an airport. The closest airport is the El Monte Airport approximately six miles southwest of the project site.

The proposed project would not require any changes to existing regional air traffic activity and the nearest airport, El Monte Airport, is a private airfield. Therefore, the project would have ***no impact*****,** and no mitigation is required.

Responses d) and e): Access to the project site would be provided at two locations: one entrance off Vincent Avenue in the southeastern corner of the site, and another entrance off Vincent Avenue in the northeastern corner of the site. The parking stalls would be provided along the perimeter of the site. As part of the project's TIA, on-site circulation was evaluated.

Site-specific circulation and access recommendations are depicted on Figure 26 of the TIA (shown in Appendix C of this document). The following site access and circulation recommendations are depicted:

- Vincent Avenue along the project site frontage should be constructed at its ultimate half-section width, including landscaping and parkway improvements, in conjunction with development or as required by the City of Irwindale.
- Sufficient parking spaces should be provided to meet City of Irwindale parking code requirements in order to service on-site parking demand.
- Sight distance at project access driveways should comply with applicable City of Irwindale/Caltrans sight distance standards. The final grading, landscaping, and street improvement plans should demonstrate that sight distance standards are met. Such plans

must be reviewed by the City and approved as consistent with this measure prior to issue of grading permits.
- On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project. On-site traffic control plans should comply with the California Manual of Uniform Traffic Control Devices (2014).
- As is the case for any roadway design, the City of Irwindale should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

The proposed site plan provides adequate access to the project site, which would adequately accommodate emergency vehicles. Implementation of the proposed project would have a less than significant impact related to emergency access, and would not interfere with an emergency evacuation plan. However, a mitigation measure would be required in order to ensure that site access and sight distance at the project access driveways is adequate. Impacts associated with emergency access and site design would be ***less than significant with mitigation***.

> ***Mitigation Measure Trans-2****: Prior to issuance of the certificate of occupancy, the project applicant shall construct the following site and roadway improvements:*
>
> - *Vincent Avenue along the project site frontage shall be constructed at its ultimate half-section width, including landscaping and parkway improvements, in conjunction with development or as required by the City of Irwindale.*
> - *Sufficient parking spaces shall be provided to meet City of Irwindale parking code requirements in order to service on-site parking demand.*
> - *Sight distance at project access driveways shall comply with applicable City of Irwindale/Caltrans sight distance standards. The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met. Such plans must be reviewed by the City and approved as consistent with this measure prior to issue of grading permits.*
> - *On-site traffic signing and striping shall be implemented in conjunction with detailed construction plans for the project. On-site traffic control plans shall comply with the California Manual of Uniform Traffic Control Devices (2014).*
> - *As is the case for any roadway design, the City of Irwindale shall periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.*
>
> *The improvement plan shall be submitted to the City of Irwindale for review and approval.*

Response f): The guests and employees of the proposed project will have the option of driving, taking transit, walking or bicycling to and from the proposed project. As part of the project's traffic analysis, the proposed project was evaluated to determine if it would likely conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by existing transit, bicycle, or pedestrian facilities and plans.

Transit

The study area is served by the Foothill Transit and Baldwin Park Transit. Foothill Transit Routes 185/272/492 and the Baldwin Park Teal Line provide transit service along parts of Live Oak Avenue, Baldwin Park Boulevard, Arrow Highway, and Irwindale Avenue. The nearest transit stop is for Foothill Transit Route 492 located at the intersection of Vincent Avenue/Arrow Highway approximately 300 feet from the project site.

The transit service map is shown in Figure 10 in Appendix C. Employees of the project would be expected to potentially make use of the transit service; however, the number of riders would be relatively minor and spread over a number of work shifts typical of warehousing employment. It is estimated that additional transit riders could be accommodated by the existing service, spread out over the various routes and frequency of service. Thus, the project's impact on transit facilities is not considered significant.

Pedestrian and Bicycle

There are buffered bike lanes/separated bikeways (Class II/IV) along Live Oak Avenue, Arrow Highway, Azusa Canyon Road, and Irwindale Avenue in the project vicinity. Sidewalks currently exist along both sides of Vincent Avenue and Arrow Highway adjacent to the project site. Controlled pedestrian crossings currently exist at the Vincent Avenue and Arrow Highway intersection.

The pedestrian facilities and bicycle route map are shown in Figures 8 and 9 in Appendix C. As required by Mitigation Measure Trans-2, the project will improve Vincent Avenue along the project site frontage to its ultimate half-section width, including landscaping and parkway improvements, in conjunction with development or as required by the City of Irwindale.

With planned improvements, the project does not result in any unsafe condition for pedestrians or bicyclists and does not conflict with planned pedestrian and bicycle facilities identified in adopted plans. Thus, the project's impact on pedestrian circulation is not considered significant.

Conclusion

Overall, project implementation would not result in significant impacts to transit, pedestrian, or bicycle facilities in the area. Therefore, the project would have a ***less than significant*** impact on public transit, pedestrian, or bicycle facilities.

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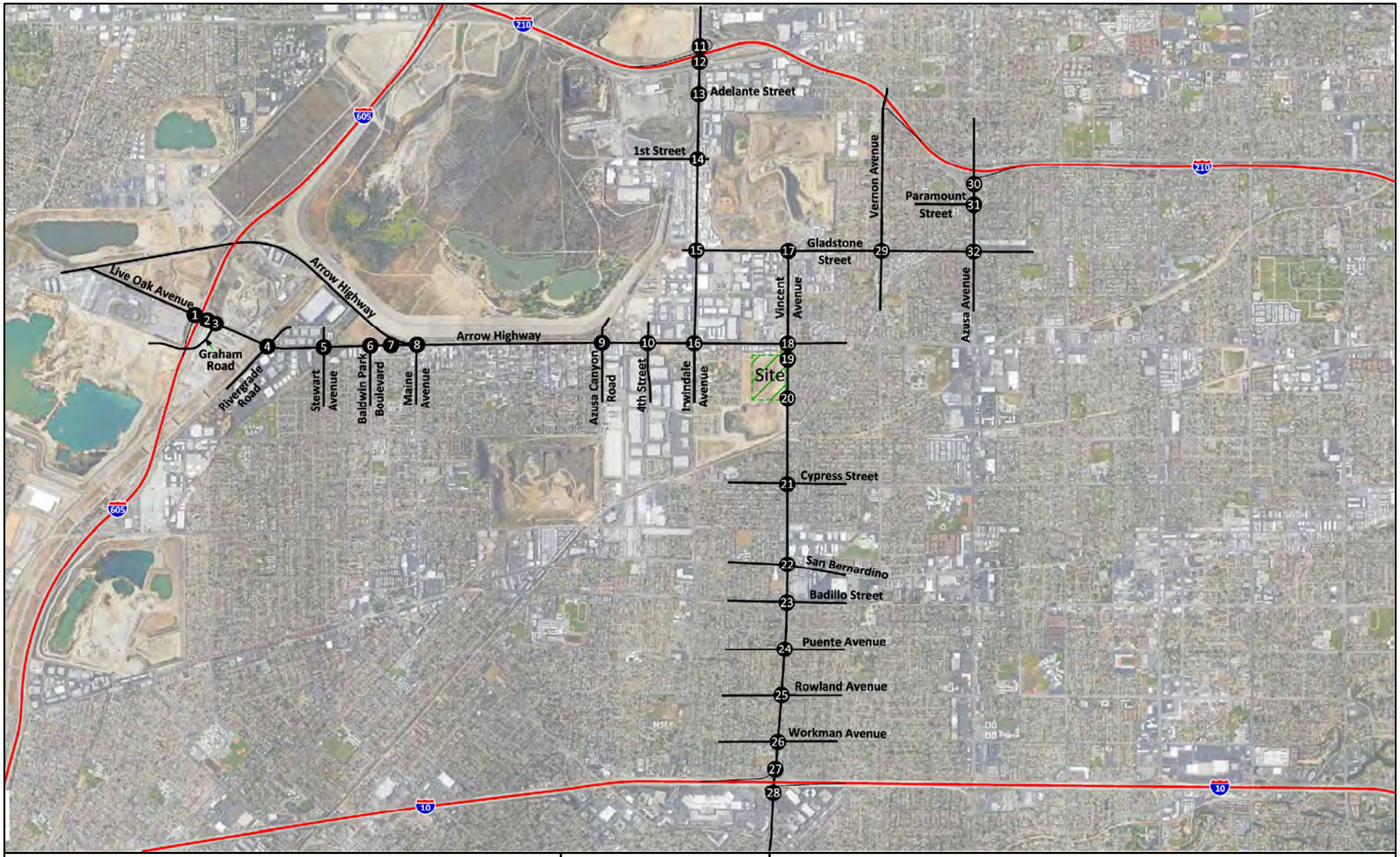

Legend

Project Site

Intersection Reference Number

N

0 1,500 3,000

Feet

Source: Kunzman Associates, Inc. Map date: July 24, 2018.

CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 13. Study Area

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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XVII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?				X
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 resources to a California Native American tribe.				X

Responses to Checklist Questions

Responses a-b): The City has initiated tribal consultation in accordance with Assembly Bill (AB) 52 and Senate Bill (SB) 18. In letters dated September 10, 2018, the City sent tribal consultation letters to the following tribes: Barbareño/Ventureño Band of Mission Indians, Gabrieleño/Tongva San Gabriel Band of Mission Indians, Gabrielino/Tongva Tribe, Gabrieleño Band of Mission Indians - Kizh Nation, Gabrielino/Tongva Nation, Kern Valley Indian Community, Kitanemuk & Yowlumne Teion Indians, LA City/County Native American Indian Commission, San Manuel Band of Mission Indians, Santa Ynez Band of Chumash Indians, Fernandeño Tataviam Band of Mission Indians, and Soboba Band of Luiseño Indians. In the letters, the City provided the tribes with information regarding the proposed project and requested that the tribes supply any information they might have concerning prehistoric sites or traditional use areas within the project site.

As of this writing, response letters have been received from the following tribes: San Manuel Band of Mission Indians (September 20, 2018), Gabrieleño Band of Mission Indians – Kizh Nation (September 17, 2018), and the Fernandeño Tataviam Band of Mission Indians (September 13, 2018). The San Manuel Band of Mission Indians and the Fernandeño Tataviam Band of Mission Indians noted that the project site is outside of the respective ancestral territory boundaries. The Gabrieleño Band of Mission Indians - Kizh Nation submitted a written request for a consultation meeting, pursuant to SB 18, Government Code Section 65352.3. The consultation meeting occurred on December 6, 2018. Upon further review of the project location and prior ground disturbance and fill activities, and the fact that there will be no ground disturbance outside of this footprint, the Gabrieleño Band of Mission Indians - Kizh Nation has concluded that the project has a low potential to impact Tribal Cultural Resources (TCR) and therefore additional mitigation for monitoring for TCR's is not necessary. The consultation efforts have been deemed complete.

The site has been filled with engineered materials which are known to not contain archaeological, historic, or paleontological resources, or human remains. Because the fill material has been placed on the site recently and the material is well documented, there is effectively zero chance

of finding a cultural resource on the site. Implementation of the proposed project would have ***no impact*** relative to this topic.

XVIII. UTILITIES AND SERVICE SYSTEMS

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?			X	
f) Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	

Responses to Checklist Questions

Responses a), b) and e): The Sanitation Districts of Los Angeles County provide all of Irwindale's sewer services. The great majority of the City is served by Sanitation District 22; with a small portion of its southwestern area served by District 15. Wastewater for areas served by Sanitation District 22 is treated at the San Jose Creek Water Reclamation Plan (WRP). The District's trunk sewer lines extend throughout the City, with no under-served areas. The Los Angeles County Sewer Maintenance District, located in Alhambra, provides maintenance for the City's six miles of sewers on a contract basis, including emergency services on a 24-hour basis.

The proposed project would connect to existing City infrastructure to provide sewer service. Existing sewer lines are currently located along Vincent Avenue and Allen Drive. To determine the potentially impact on sanitary sewer facilities, the flow rates shown in the Sanitation Districts of Los Angeles County loadings table for District 22 were used. Assuming a flow rate of 25 gallons per day (gpd) per 1,000 sf, the project would generate a total wastewater flow of approximately 13,643 gpd. The design capacity of the San Jose Creek WRP is 100 million gallons per day (mgd). The WRP currently processes an average flow of 69.4 mgd.[2] The total additional average

[2] City of Duarte. City of Hope Campus Plan Draft EIR, Wastewater Analysis. November 2017.

wastewater flow increased by buildout of the project (13,643 gpd) would not exceed the design capacity of the San Jose Creek WRP.

The existing sewer system has sufficient capacity to handle effluent from the proposed project. The proposed project would be reviewed by the City of Irwindale, as applicable, as well as the Sanitation Districts of Los Angeles County. Therefore, implementation of the proposed project would have a ***less than significant*** impact.

Response c): Development on the project site would place impervious surfaces on the project site. Development of the project site would potentially increase local runoff and would introduce constituents into storm water that are typically associated with urban runoff. These constituents include heavy metals (such as lead, zinc, and copper) and petroleum hydrocarbons. BMPs will be applied to the proposed site development to limit the concentrations of these constituents in any site runoff that is discharged into downstream facilities to acceptable levels.

A Hydrology/BMPs/LID Exhibit was prepared for the project. The project site consists of two drainage sub-areas, 1A (12.83 acres) and 2A (12.62 acres), which roughly bisect the site. In order to meet the City of Irwindale and County of Los Angeles storm water quality requirements, a combination of a rain garden and/or underground infiltration/detention system will be utilized as LID treatment devices to treat the low-flow. The underground infiltration/detention system will be located within an area (50-feet wide, eight-feet high, and 653-feet long) on the west side of the property. The rain garden areas will be located throughout the site, mainly around the perimeter. Within subarea 2A, the low flow will discharge into the LID treatment device rain garden via curb openings and then directed into the underground infiltration/detention system via infiltration. Subarea 1A will be directed to and treated by the proposed underground infiltration/detention system via underground storm drain pipe. The system is sized for infiltration and detention purposes which is much larger than the required storm water treatment volume.

The owner of the property will privately maintain the on-site drainage system, which would consist of catch basin, curb drains, and infiltration/detention system. The proposed storm drains and infiltration/detention system has been designed to convey the required flow rates and will comply with the flood protection and storm water quality requirements of the City of Irwindale and County of Los Angeles.

The construction of the stormwater conveyance and detention system would ensure that the project is consistent with all applicable plans and regulations related to stormwater conveyance and detention as required by the City, and would ensure that offsite, or onsite flooding does not occur during storm events.

The construction of drainage facilities falls within the project “footprint” and the environmental impacts associated with each topic have been addressed throughout this environmental document. Implementation of the proposed project would have a ***less than significant*** impact.

Response d): The City of Azusa Water Department provides basic water service to the largest portion of Irwindale from its most northeasterly boundaries to Ornelas Street, including all of the Santa Fe Dam area located to the east of the San Gabriel River Freeway. The City of Azusa Water Department would provide water to the project site.

From 1899 to 1993, the City of Azusa's water system served only the City of Azusa. In 1993, the City of Azusa purchased the Azusa Valley Water Company (AVWC), which expanded the City of Azusa's service area. Upon integration with AVWC, the City of Azusa's water system became

known as Azusa Light & Water (ALW). ALW's water supply consists of imported water, groundwater, and surface water. ALW distributes water to its 23,000 service customers through a 281-mile network of distribution mains ranging from two to 30 inches in size.

According to the ALW's 2015 Urban Water Management Plan (UWMP), the average per capita water use within ALW's service area between 1996 and 2015 is 195.8 gallons per capita per day (gpcd). The total number of employees that the proposed project would generate is unknown at this time because the exact uses and tenants of the warehouse are unknown. Generally, the project would generate between 15 and 250 employees. The project's water demand was calculated using the 195.8 gpcd average shown in the UWMP. Using this rate, the proposed project would require between 2,937 gallons per day (3.3 acre-feet per year [AFY]) and 48,950 gallons per day (approximately 54.9 AFY).

According to the ALW's 2015 UWMP, based on the current capacity of ALW's supply infrastructure, ALW can expect to meet the needs of its customers through 2040. As population and land-use densities increase, ALW understands the need to discover and support local water supply projects in order to continue its independency of imported water. According to the ALW's 2015 UWMP, the ALW had 23,997 acre-feet of available water supply in 2010. The proposed project water demand would not cause the ALW to exceed their available supply. Based on the current capacity of ALW's supply infrastructure, ALW can expect to meet the needs of its customers through 2040. Additionally, ALW's supply reliability in the near future is expected to increase through continued upgrades to its groundwater facilities, expansion of the Joseph F. Hsu Filtration Plant (from 12 to 16 mgd), continued access to imported water, and through the future potential use of recycled water.

The existing water system has sufficient capacity to handle the water demand from the proposed project. Therefore, implementation of the proposed project would have a ***less than significant*** impact.

Responses f), g): The City of Irwindale has an exclusive franchise agreement with Athens Services to provide mixed waste collection services and other available programs to its residents and business community. According to the City's General Plan EIR, significant impacts associated with solid waste disposal would not occur as a result of buildout of the General Plan. Development of the project site for industrial uses is assumed in the City's General Plan EIR.

Project construction activities would generate solid waste, including excess construction materials and material removed during site clearing. However, the site is vacant, and construction would not require demolition of existing structures or removal of large quantities of waste. City Ordinance No. 713 requires that 65% of the debris from demolition and construction is recycled. It is anticipated that compliance with the construction waste requirements in CALGreen and the existing City ordinance would be sufficient to minimize solid waste generation during construction. As a result, construction impacts associated with the proposed project would be ***less than significant***.

During operation of the project, the warehouse uses would produce solid waste that would be collected and transferred to the landfill system. Using CalRecycle's manufacturing/warehouse use solid waste generation rate of 1.42 pounds per 100 sf per day, the project is expected to produce approximately 7,749 pounds per day (1,414 tons of solid waste annually).

The City of Irwindale is required to maintain a 50 percent diversion rate as mandated by the State via the California Integrated Waste Management Act for all solid waste. The project is subject to

this diversion rate for solid waste generated by the project. The solid waste generated by the project would place a minimal burden on the City's required diversion rate. The increase would not require additional landfill capacity. The project is not anticipated to cause an adverse impact to either solid waste collection service or the landfill disposal system. Implementation of the proposed project would have a ***less than significant*** impact relative to this topic.

XVIX. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Responses to Checklist Questions

Response a): This Initial Study specifically includes an analysis of the project impacts associated with biological resources, cultural resources, and tribal cultural resources. This includes the potential for the proposed project to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

It was found that the proposed project would have either no impact, a less than significant impact, or a less than significant impact with the implementation of mitigation measures for each environmental topic. For the reasons presented throughout this Initial Study, the proposed project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. With the implementation of mitigation measures presented in this Initial Study, the proposed project would have a ***less than significant*** impact relative to this topic.

Response b): This Initial Study includes an analysis of the project impacts associated with aesthetics, agricultural and forest resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, tribal cultural resources, and utilities and service systems. The analysis covers a broad spectrum of topics relative to the potential for the proposed project to have environmental impacts. It was found that the proposed project would have either

no impact, a less than significant impact, or a less than significant impact with the implementation of mitigation measures for each environmental topic. These mitigation measures would also function to reduce the project's contribution to cumulative impacts. There are no significant cumulative or cumulatively considerable effects that are identified associated with the proposed project after the implementation of all mitigation measures presented in this Initial Study. With the implementation of all mitigation measures presented in this Initial Study, the proposed project would have a ***less than significant*** impact relative to this topic.

Response c): The construction phase could affect surrounding neighbors through increased air emissions and noise. The operational phase could also affect surrounding neighbors through increased air emissions, noise, and traffic. With the implementation of mitigation measures, conditions of approval, regulatory standards, and best management practices, the project impacts would be less than significant related to these topics. The proposed project would not cause substantial adverse effects on human beings. With the implementation of all mitigation measures presented in this Initial Study, the proposed project would have a ***less than significant*** impact relative to this topic.

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