COMMUNITY DEVELOPMENT DEPARTMENT
Planning Division

City of Arts & Innovation

Draft Mitigated Negative Declaration

WARD: 2

1. **Case Number:** P14-0045 (General Plan Amendment), P14-0046 (Specific Plan Amendment), P14-0047 (Rezone), P14-0048 (Site Plan Review), P15-0953 (Variance), P15-0954 (Variance), and P15-0939 (Certificate of Appropriateness)

2. **Project Title:** Mission Lofts

3. **Hearing Date:** March 24, 2016 Cultural Heritage Board (CHB)
   April 07, 2016 City Planning Commission (CPC)

4. **Lead Agency:** City of Riverside
   Community Development Department
   Planning Division
   3900 Main Street, 3rd Floor
   Riverside, CA 92522

5. **Contact Person:** Brian Norton, Senior Planner
   Phone Number: (951) 826-2308

6. **Project Location:** The Project site is generally located north of 9th Street, south of Mission Inn Avenue, east of Commerce Street, and west of Park Avenue in the City of Riverside, California as identified in **Figure 1 – Project Location**. The Project site is bisected by University Avenue but connected by an existing vacated Southern Pacific Railroad (SPRR) railroad bridge. The Project is located within Sections 23 & 24, Township 2 South, Range 5 West, San Bernardino Base and Meridian and consists of the following assessor's parcel numbers (APNs):

North Side of University Ave.	South Side of University Ave.
211-121-002	211-122-004
211-121-020	211-122-022
211-121-024	211-122-023
211-121-027	211-122-024
211-121-028	
211-121-032	
211-121-033	

7. **Project Applicant/Project Sponsor's Name and Address:**

   Mission Lofts LLC
   1201 Dove Street, Suite 520
   Newport Beach, CA 92660
   (949) 975-1122

8. **Existing General Plan Designation:** Industrial (I), Mixed Use Village (MU-V) and Business/Office Park (B/OP)

   Proposed General Plan Designation: Mixed Use-Urban (MU-U)

9. **Existing Zoning:** I-SP-CR – Industrial - Specific Plan (Marketplace Specific Plan) – Cultural Resources (Seventh Street East Historic District) Overlay Zones, BMP-SP-CR – Business and Manufacturing Park – Specific Plan (Marketplace Specific Plan) – Cultural Resources (Seventh Street East Historic District) Overlay Zones, BMP-SP – Business and Manufacturing – Specific Plan (Marketplace Specific Plan) Overlay Zone, CR-SP – Commercial Retail – Specific Plan (Market Plan Specific Plan) Overlay Zone, I-SP – Industrial – Specific Plan (Marketplace Specific Plan) Overlay Zone

   Proposed Zoning: MU-U-SP - Mixed Use-Urban – Specific Plan (Marketplace Specific Plan) Overlay Zones and MU-U-SP-CR – Mixed Use – Urban – Specific Plan (Marketplace Specific Plan) – Cultural Resources (Seventh Street East Historic District) Overlay Zones

   Existing Specific Plan SubArea: Neighborhood Market SubArea and Marketplace/Urban Industrial SubArea

   Proposed Specific Plan SubArea: Mixed Use Marketplace SubArea

10. **Description of Project:** The proposed Mission Lofts Project (Project) is a 212 unit multiple family residential development located north of 9th Street, south of Mission Inn Avenue, east of Commerce Street, and west of Park Avenue. The proposed Project site is bisected into two separate areas by University Avenue and will be connected by an existing railroad bridge over University Avenue that was vacated by the Southern Pacific railroad (SPRR). The portion of the Project site north of University Avenue consists of the apartment units and approximately 46% of the on-site parking. Vehicle access to the northern area will be provided by two driveways; one on Mission Inn Avenue and the second on University Avenue. The portion of the Project site south of University Avenue consists of the remaining residential parking, 1,221 square feet of commercial along 9th Street. Vehicle access to the southern area will be provided by a single gated driveway directly across from the Metrolink parking lot driveway (See **Plate 1 – Architectural Site Plan**).

    The total Project site encompasses 4.69 gross acres. The Project's apartment complex and approximately 46% of the on-site parking will be developed on approximately 3.11 net acres of the Project site, north of University Avenue (APNs 211121032, 211121033, 211121020, 211121024, 211121027, 211121028, and 211121002). Residential parking, commercial lease space will be developed on approximately 1.50 net acres of the Project site, south of University Avenue (APNs 211122022, 211122023, 211122024, and 211122004).

    A portion of the Project site is located within the Seventh Street East Historic District. The site is currently vacant, but the area north of University Avenue contains an old concrete loading dock from the site's prior use. The dock will be demolished during Project construction.

    The Mission Lofts project proposes one 2-story and one 4-story apartment building containing 212 units. The Project provides a range of apartment housing options consisting of 52 studio apartments, 77 one-bedroom apartments, and 83 two-bedroom apartments. Amenities include; a courtyard containing a pool, spa, cabanas, outdoor showers, sun beds, fire pit, barbecue area, dining terrace, dog run, , enhanced pedestrian bridge with seating and landscaping, and an indoor fitness room and clubroom. The entirety of the Project site will be landscaped as shown on **Plate 2a – Conceptual Landscape Plan (North Site)** and **Plate 2b – Conceptual Landscape Plan (South Site)**.

    The Project includes design components intended to integrate historic rail and citrus industrial uses in the Project area and the historic character of the Citrus Thematic Industrial Historic District. The Project incorporates large, functional, full-height continuous masses that appear segmented or linked by articulated

columns of perforated metal balconies reminiscent of railway gangways or couplings between passenger and freight cars (see **Plates 3a, 3b, and 3c**). Mission Lofts utilizes railroad-related features as functional design elements, which mimic the historic use and look of the former SPRR right-of-way area.

The cutaway corner at Mission Inn Avenue and Commerce Street mimics a corner freight-inspired cantilever, clad in corrugated metal siding painted red and signed with bold, block letters (See **Plate 4 –Perspectives**). The Project uses corrugated metal siding as well as stucco, cementitous plaster, exterior metal systems, and concrete block, which incorporates and modernizes functional, historic industrial materials. While brick is not proposed, the color scheme includes deep red and various shades of gray, which invokes brick and metal. The SPRR Bridge, which will be cleaned of graffiti, repaved for ADA compliance and enhanced, will remain visible in its current state from University Avenue and Commerce Street.

The Project will be constructed to Title 24 (CalGreen) standards, which requires energy efficient and water saving fixtures. The Project also incorporates advanced filtration into the Project design. The Project will install air filtration systems with efficiencies equal to or exceeding Minimum Efficiency Reporting Value (MERV) 16, as defined by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 52.2.

The proposed Project includes the following land use applications:

P14-0045 General Plan Amendment: Implementation and development of the Project requires an amendment to the City's General Plan (GPA), to change the land use designation for the Project site. The proposed GPA will change the land use designation of approximately 4.69 acres from Industrial (I), Mixed Use Village (MU-V) and Business/Office Park (B/OP) to Mixed Use Urban (MU-U). Refer to **Figure 2 – General Plan Amendment**.

P14-0046 Specific Plan Amendment: An amendment to the Neighborhood Market SubArea and the Marketplace Urban Industrial SubArea within the Marketplace Specific Plan to create the Mixed Use Marketplace SubArea and adopt development standards of Title 19. Refer to **Figure 3 – Specific Plan Amendment**.

P14-0047 Zone Change: A rezone to the adopted Municipal Code, Title 19is proposed to rezone 4.69 acres from I-SP-CR – Industrial - Specific Plan (Marketplace Specific Plan) – Cultural Resources (Seventh Street East Historic District) Overlay Zones, BMP-SP-CR – Business and Manufacturing Park – Specific Plan (Marketplace Specific Plan) – Cultural Resources (Seventh Street East Historic District) Overlay Zones, BMP-SP – Business and Manufacturing – Specific Plan (Marketplace Specific Plan) Overlay Zone, CR-SP – Commercial Retail – Specific Plan (Market Plan Specific Plan) Overlay Zone, I-SP – Industrial – Specific Plan (Marketplace Specific Plan) Overlay Zone to MU-U-SP - Mixed Use Urban – Specific Plan (Marketplace Specific Plan) Overlay Zones and MU-U-SP-CR – Mixed Use-Urban – Specific Plan (Marketplace Specific Plan) – Cultural Resources (Seventh Street East Historic District) Overlay Zones. Refer to **Figure 4 – Zone Change Amendment**.

P14-0048 Site Plan Review: A site plan review to ensure a high quality project through compatibility, environmental factors and attractive and harmonious development. Refer to **Plate 1**.

With the exception of two variances, the Project meets all applicable development standards:

- P15-0954: to permit315 parking spaces where 365 parking spaces are required by the City's Municipal Code,
- P15-0953: to allow 16 tandem parking stalls;

Findings to support these variances can be found in the Staff Report.

P15-0939 Certificate of Appropriateness: For the development of a mixed-use project partially within the Seventh Street East Historic District and partially within the boundaries of the Citrus Thematic Industrial Potential Historic District.

11. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

	Existing Land Use	General Plan Designation	Zoning Designation
Project Site	Vacant land (north of University Avenue) Parking lot (south of University Avenue)	Mixed Use Village and Business/Office Park (north of University Avenue) Industrial (south of University Avenue)	Industrial with specific plan and cultural resources overlay, Business and Manufacturing Park with specific plan and cultural resources overlays, and Commercial Retail with specific plan overlay (north of University Avenue). Industrial with specific plan overlay (south of University Avenue)
North	Industrial and single family residential	Business/Office Park	Business and Manufacturing Park with specific plan and cultural resources overlays.
East	Single family residential, public facility (health center) and vacant lot	Mixed Use Village and Industrial	Single Family Residential (R-1-7000) with specific plan overlay, Commercial Retail- Specific Plan; Industrial-Specific Plan; and Business and Manufacturing Park with specific plan
South	Metrolink parking lot	Industrial	Industrial-Specific Plan
West	Train tracks	Business office park and industrial (note that these uses are separated from the site by the train tracks immediately west of the site)	Industrial-Specific Plan and Business and Manufacturing-Specific Plan-Cultural Resources Overlay (note that these uses are separated from the site by the train tracks immediately west of the site)

12. **Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreement.):**

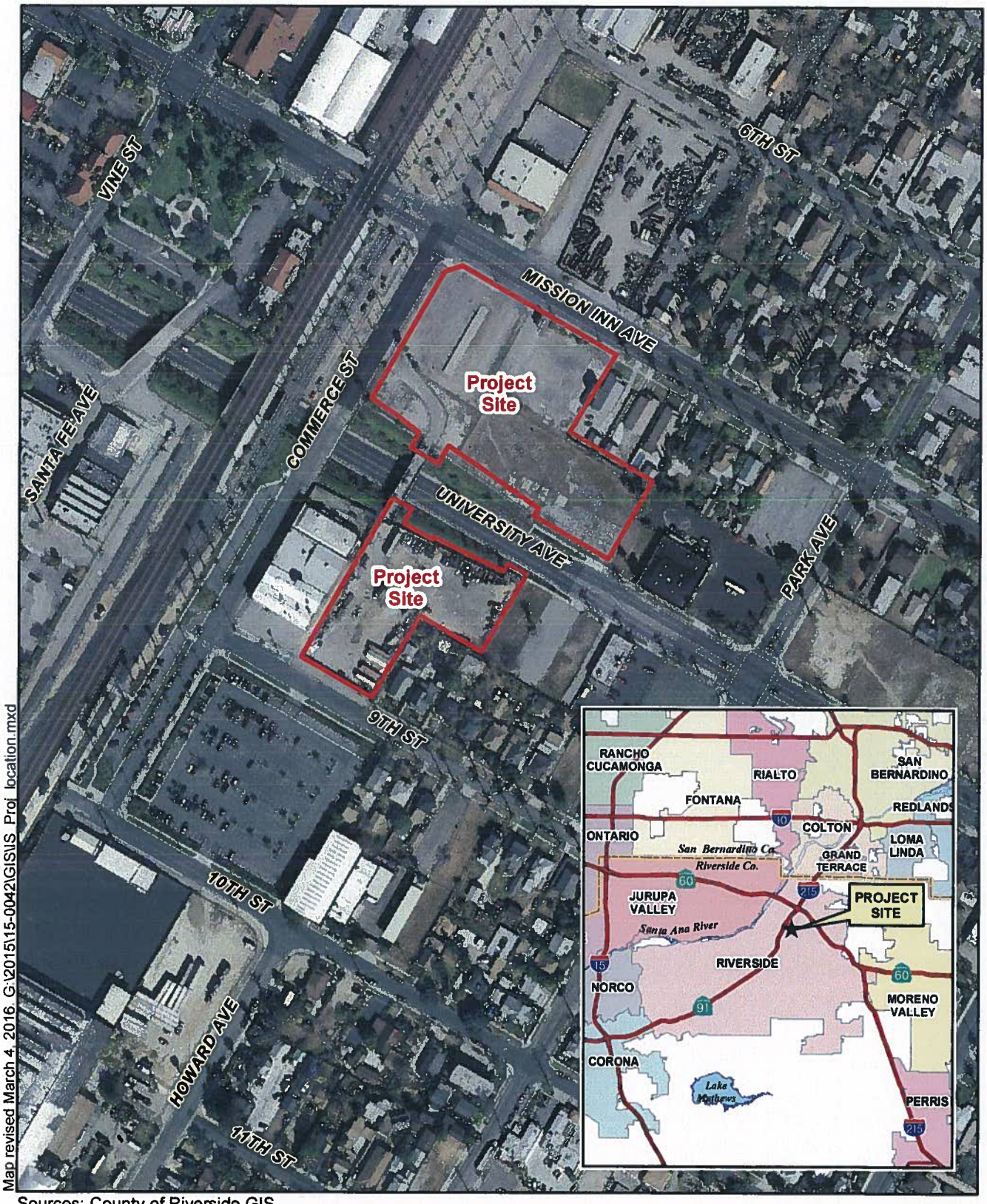
    a. RCALUC – Riverside County Airport Land Use Commission

13. **Other Environmental Reviews Incorporated by Reference in this Review:**

a. General Plan 2025
b. GP 2025 FPEIR
c. Geotechnical Investigation prepared by Geotechnical Professionals Inc., February 17, 2014
d. Project Specific Water Quality Management Plan prepared by KHR Associates, February 23, 2016
e. Transportation Impact Analysis prepared by Fehr and Peers, April 2015
f. Air Quality/Greenhouse Gas Analysis prepared by Albert A. Webb Associates, May 27, 2015
g. Air Toxic and Criteria Pollutant Health Risk Assessment prepared by Urban Crossroads, May 26, 2015
h. Cultural Resources Survey prepared by JM Research & Consulting, June 2015
i. Noise Impact Analysis prepared by Kunzman Associates, Inc., May 31, 2015

14. **Acronyms**

AQMP -	Air Quality Management Plan
CBC	California Building Code
CEQA -	California Environmental Quality Act
CMP -	Congestion Management Plan
EIR -	Environmental Impact Report
EOP -	Emergency Operations Plan
FEMA -	Federal Emergency Management Agency
FPEIR -	GP 2025 Final Programmatic Environmental Impact Report
GIS -	Geographic Information System
GHG -	Greenhouse Gas
GP 2025 -	General Plan 2025
HRA	Health Risk Assessment
IS -	Initial Study
MSHCP -	Western Riverside County Multiple-Species Habitat Conservation Plan
OPR -	Office of Planning & Research, State
PEIR -	Program Environmental Impact Report
RCALUC -	Riverside County Airport Land Use Commission
RCALUCP -	Riverside County Airport Land Use Compatibility Plan
RCP -	Regional Comprehensive Plan
RCTC -	Riverside County Transportation Commission
RMC -	Riverside Municipal Code
RPD -	Riverside Police Department
RPU -	Riverside Public Utilities
RTIP -	Regional Transportation Improvement Plan
RTP -	Regional Transportation Plan
RUSD -	Riverside Unified School District
SCAG -	Southern California Association of Governments
SCAQMD -	South Coast Air Quality Management District
SCH -	State Clearinghouse
SKR-HCP -	Stephens' Kangaroo Rat - Habitat Conservation Plan
SPRR	Southern Pacific Railroad
SWPPP -	Storm Water Pollution Prevention Plan
TOD	Transit Oriented Development
USGS -	United States Geologic Survey
WQMP -	Water Quality Management Plan



Map revised March 4, 2016. G:\2015\15-0042\GIS\S_Proj_location.mxd

Sources: County of Riverside GIS, 2016; City of Riverside, 2014.

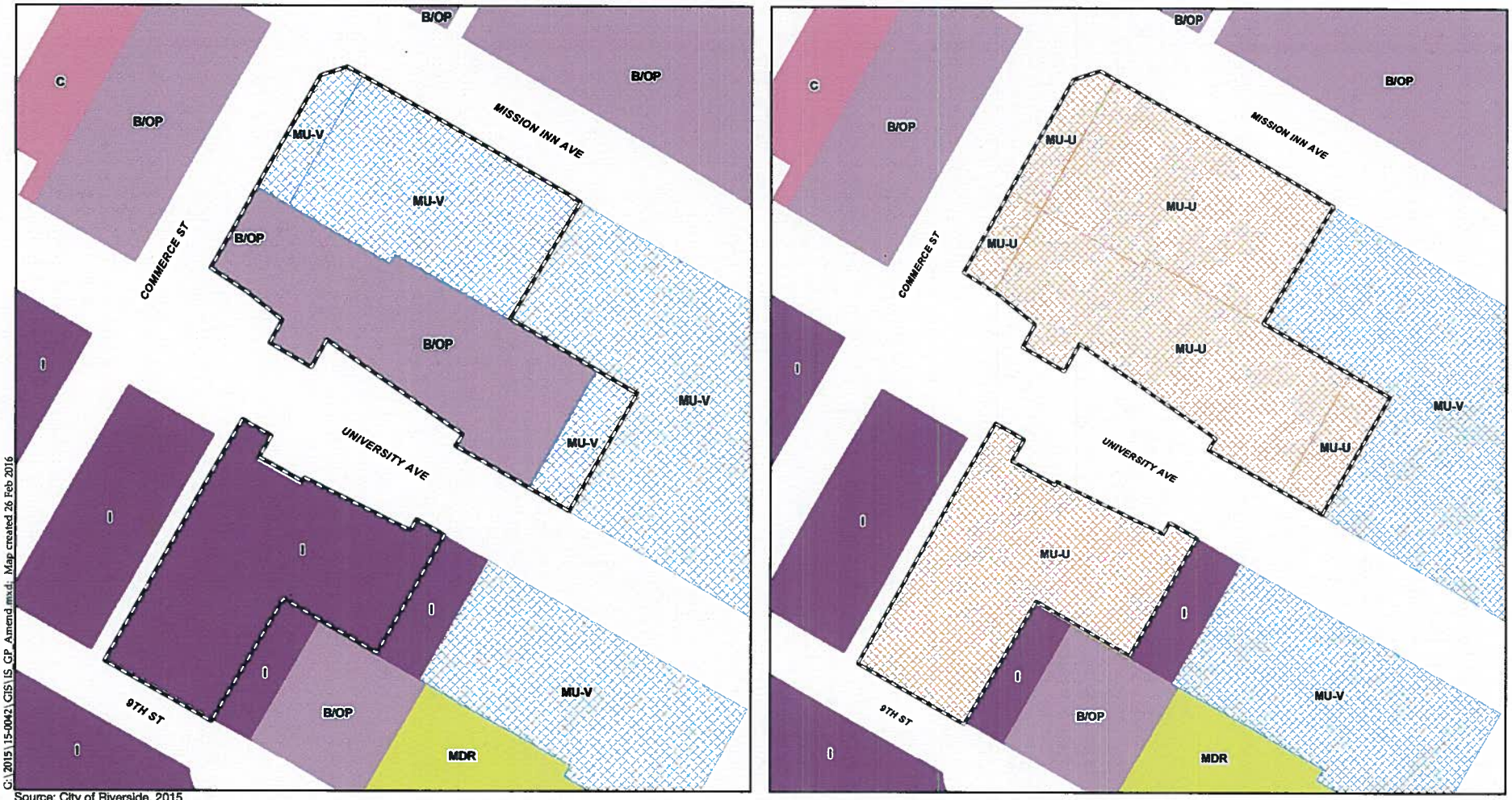
0 250 500 750 Feet

Figure 1 – Project Location

Mission Lofts

ALBERT A. WEBB ASSOCIATES

Exhibit 12 - P14-0045 - P14-0048, P14-0953 & P14-0954, CEQA Document - MND



G:\2015\15-0042\GIS\IS_GP_Amend.mxd, Map created 26 Feb 2016

Source: City of Riverside, 2015

Existing General Plan Designations

Proposed General Plan Designations

N

0 100 200 300 Feet

Project Boundary
Medium Density Residential
Commercial
Business/Office Park
Industrial
Mixed Use - Village
Mixed Use - Urban

Figure 2 - General Plan Amendment
Mission Lofts

ALBERT A. WEBB ASSOCIATES

Exhibit 12 - P14-0045 - P14-0048, P14-0953 & P14-0954, CEQA Document - MND

G:\2015\15-0042\GIS\IS_SPA_change.mxd: Map revised 08 Mar 2016

Source: City of Riverside, 2016

Existing Specific Plan

Proposed Specific Plan Amendment

Figure 3 - Specific Plan Amendment
Mission Lofts

ALBERT A. WEBB ASSOCIATES

Exhibit 12 - P14-0045 - P14-0048, P14-0953 & P14-0954, CEQA Document - MND

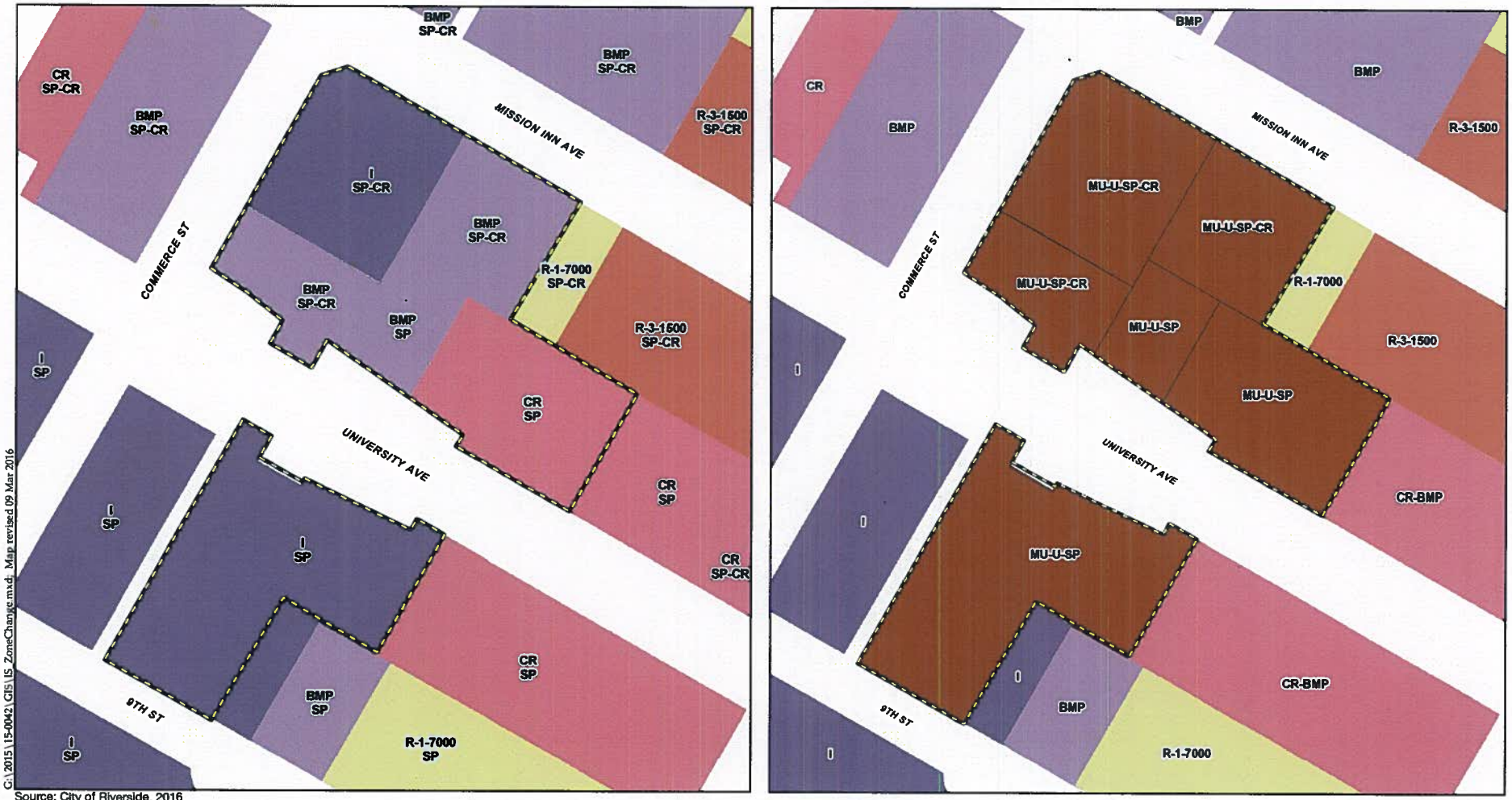
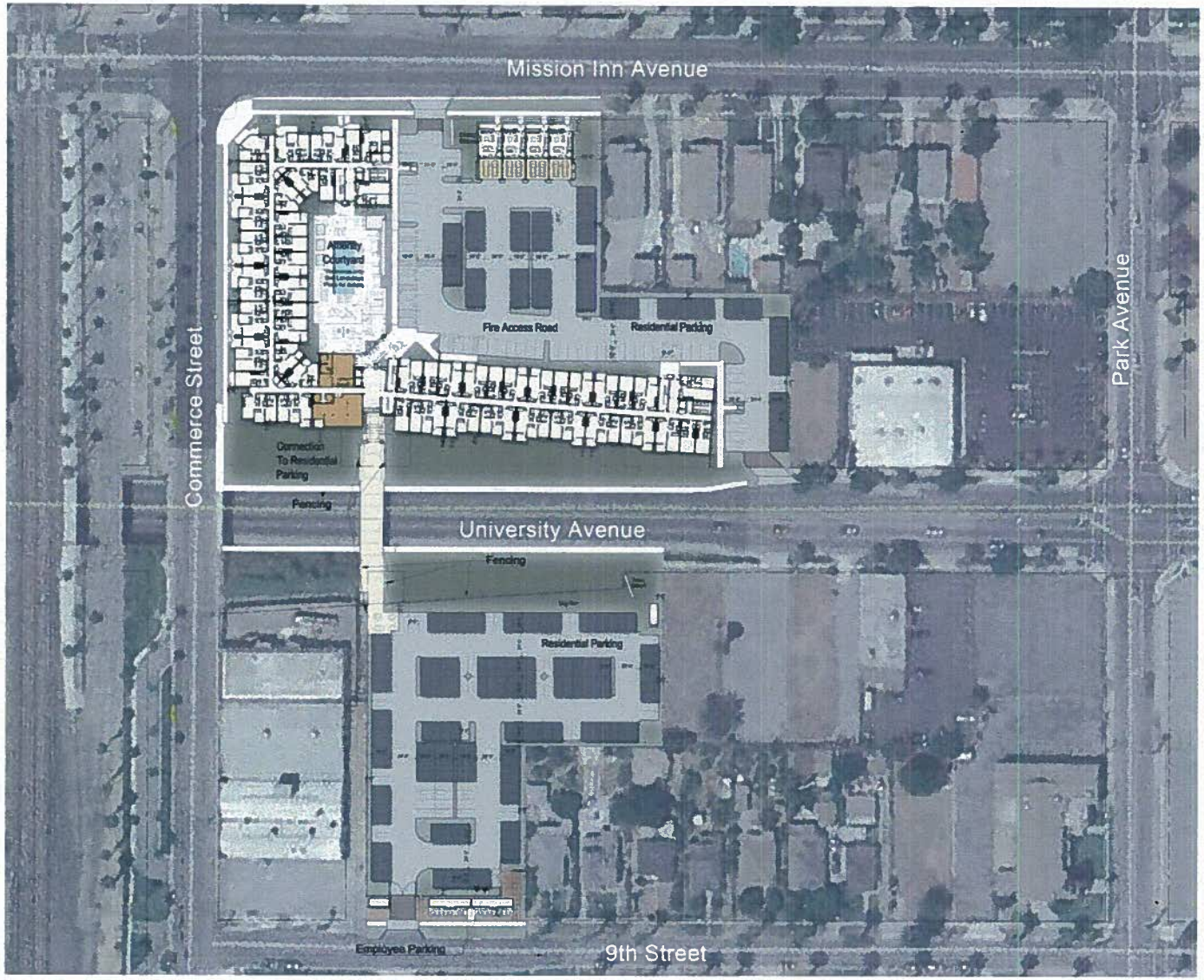


Figure 4 - Zone Change Amendment
Mission Lofts

ALBERT A. WEBB ASSOCIATES

Exhibit 12 - P14-0045 - P14-0048, P14-0953 & P14-0954, CEQA Document - MND



Project Data			
Project	Mission Lofts Riverside, CA		
Site Area Information			
Parcel North	Gross Site Area		3.16 AC
Parcel South	Gross Site Area		1.53 AC
Total	Gross Site Area	4.69 AC	
	Total Dwelling Units	212 DU	
	Density	45.2 DU/AC	

Building Plan Summary		Type V Construction
Building A		4 Story Residential on Grade
Building B		2 Story Residential on Grade
Building A		208 DU
Building B		4 DU
Total		212 DU
Building Area Summary		
Parcel North	FAR 1.50	205,865 GSF
Building A		196,523 GSF
Building B		9,342 GSF
Parcel South	FAR 0.02	1,540 GSF
Shipping Containers (2-Full, 2-Half)		960 GSF
Patio Area		580 GSF

Unit Plan	Unit Type	Gross SF	Total	Percent
Plan 0-1	Studio	439	51	24.1%
Plan 0-2	Studio	639	1	0.5%
Plan 1-0	1 Bd / 1 Ba	624	16	7.5%
Plan 1-1	1 Bd / 1 Ba	657	4	1.9%
Plan 1-2	1 Bd / 1 Ba	661	52	24.5%
Plan 1-3	1 Bd / 1 Ba	739	2	0.9%
Plan 1-4	1 Bd / 1 Ba	828	3	1.4%
Plan 2-0	2 Bd / 2 Ba	888	73	34.4%
Plan 2-1	2 Bd / 2 Ba	952	6	2.8%
Plan 2-2	2 Bd / 2 Ba	1,177	4	1.9%
Totals			212	100%
Average Unit Size		709 SF		
Studio Plan			52	25%
1 Bedroom Plan			77	36%
2 Bedroom Plan			83	39%
Totals			212	100%

Residential Parking Provided	
Parcel North Parking	
Covered Parking	65 stalls
Open Parking	79 stalls
Total Parcel North Parking	144 stalls
Parcel South Parking	
Covered Parking	124 stalls
Open Parking	47 stalls
Total Parcel South Parking	171 stalls
Total Covered Parking	189 stalls
Total Open Parking	126 stalls
Total Stalls Provided	315 stalls
Parking Ratio	1.49 stalls per unit

Carport Parking

0 20 40 80

Plate 1

MISSION LOFTS

Mission Lofts LLC
1201 Dove Street, Suite 250
Newport Beach, CA 92660
949.975.1122

ARCHITECTURAL SITE PLAN

RIVERSIDE, CA

SP1.0

KTGY Group, Inc.
Architecture+Planning
17911 Von Karman Ave., Suite 200
Irvine, CA 92614
949.851.2133
ktgy.com

Exhibit 12 - P14-0045 - P14-0048, P14-0953 & P14-0954, CEQA Document - MND

PROPOSED PLANT LIST

TREES

PALMS/ACCENT/EVERGREEN VERTICAL SHRUBS

STREET TREES

SHRUBS - HYDRO-ZONE 1 NORTHEAST EXPOSURE

SHRUBS - HYDRO-ZONE 2 SOUTHWEST EXPOSURE

SYNTHETIC TURF

PLANT PALETTE NOTES:

WUCOLS NOTE:

TREE SURVEY NOTE:

WATER EFFICIENT LANDSCAPING

THE FOLLOWING MEASURES WILL BE INCORPORATED INTO THE PROJECT TO CONSERVE WATER:

1. THE IRRIGATION SYSTEM SHALL MEET THE REQUIREMENTS OF THE CITY OF RIVERSIDE GUIDELINES FOR WATER EFFICIENT LANDSCAPES.
2. THE ESTIMATED APPLIED WATER USE ALLOWED FOR THE LANDSCAPE AREA SHALL NOT EXCEED THE MAWA CALCULATION.

Plate 2a

0 10 20 40

MISSION LOFTS

CONCEPTUAL LANDSCAPE PLAN (NORTH SITE)

L.1

Mission Lofts LLC
1201 Dove Street, Suite 250
Newport Beach, CA 92660
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RIVERSIDE, CA

MJS Design Group
Cannery Lofts
507 30th Street
Newport Beach, CA 92663
(949) 675-9964

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PROPOSED PLANT LIST

TREES

ACACIA STENOPHYLLA — SHOESTRING ACACIA — 24" BOX — LOW

ARBUTUS 'MARINA' — STRAWBERRY TREE — 24" BOX — MEDIUM

CERCIDIUM X 'DESERT MUSEUM' — PALO VERDE — 24" BOX — MEDIUM

MAGNOLIA GRANDIFLORA — SOUTHERN MAGNOLIA — 24" BOX — MEDIUM

PISTACIA 'RED PUSH' — CHINESE PISTACHE — 24" BOX — MEDIUM

FLUORESCENT/EVERGREEN VERTICAL SHRUBS

CUPRESSUS SEMPERVIRENS — ITALIAN CYPRESS — 15 GAL. — MEDIUM

PHOENICOPHORIUM MACROPHYLLUM — MAN PALM — 15 GAL. — MEDIUM

WASHINGTONIA FILIFERA — CALIFORNIA FAN PALM — 15 GAL. — MEDIUM

STREET TREES

PER CITY OF RIVERSIDE MASTER STREET TREE PROGRAM — 24" BOX — 1 A.D.

SHRUBS - HYDRO-ZONE 1 NORTHEAST EXPOSURE

SHRUBS - HYDRO-ZONE 2 SOUTHWEST EXPOSURE

SYNTHETIC TURF

SYNTHETIC TURF AT REAR COURTYARD

PLANT PALETTE NOTES:

WUCOLS NOTE:

TREE SURVEY NOTE:

WATER EFFICIENT LANDSCAPING

THE FOLLOWING MEASURES SHALL BE INCORPORATED INTO THE PROJECT TO CONSERVE WATER:

1. THE IRRIGATION SYSTEM SHALL MEET THE REQUIREMENTS OF THE CITY OF RIVERSIDE GUIDELINES FOR WATER EFFICIENT LANDSCAPES.
2. THE ESTIMATED APPLIED WATER USE ALLOWED FOR THE LANDSCAPE AREA SHALL NOT EXCEED THE MAXIMUM ALLOCATION.

Plate 2b

0 10 20 40

MISSION LOFTS

CONCEPTUAL LANDSCAPE PLAN (SOUTH SITE)

L.2

Mission Lofts LLC
1201 Dove Street, Suite 250
Newport Beach, CA 92660
949.975.1122

RIVERSIDE, CA

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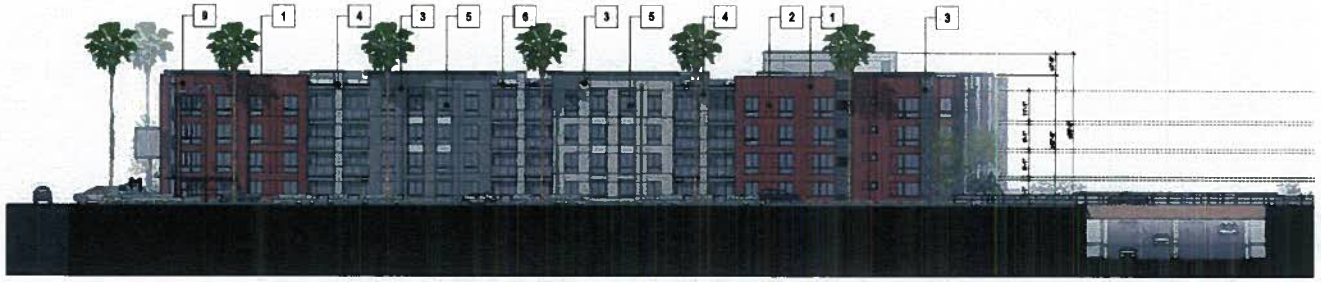
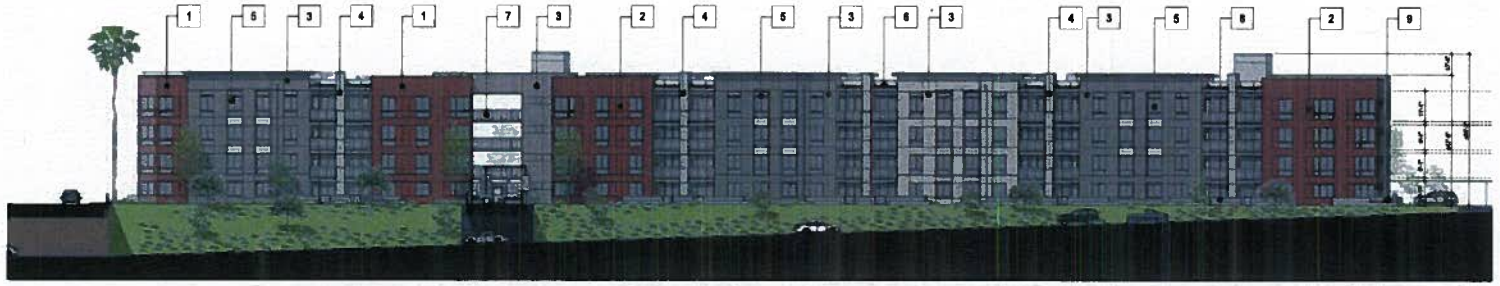
(949) 675-6964



1. Commerce Street Elevation



2. University Avenue Elevation

Key Map n.t.s.

Material Legend

1. Corrugated Metal Siding
2. Exterior Metal System
3. Stucco
4. Cementitious Plaster
5. Recessed Window
6. Metal Awning
7. Perforated Metal
8. Concrete Block
9. Project Signage
10. Carport

Plate 3a

MISSION LOFTS

BUILDING A: ELEVATIONS

A1.4

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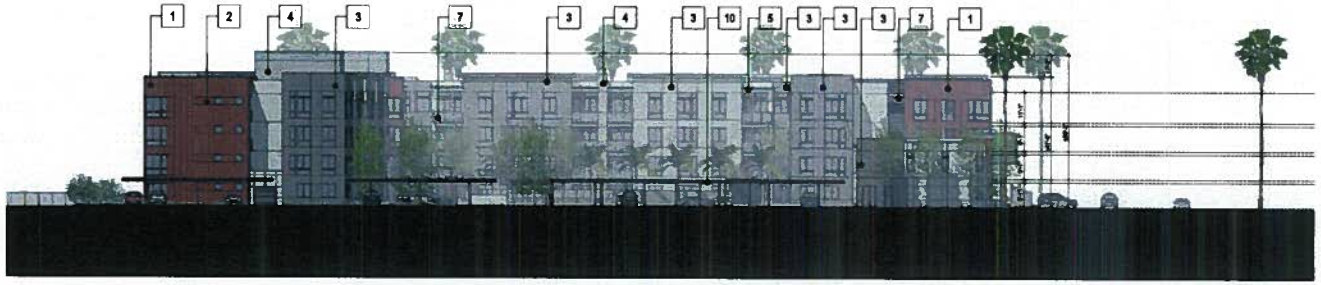
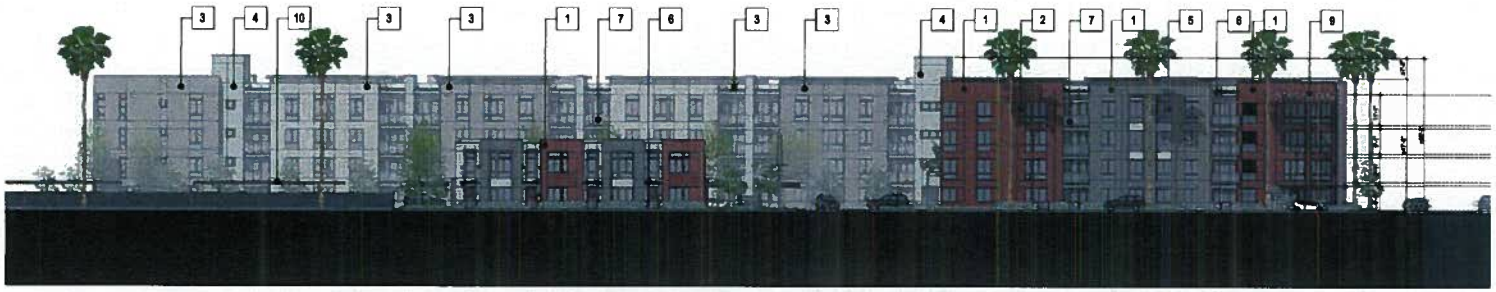
Key Map n.t.s.



1. East Elevation

Material Legend

1. Corrugated Metal Siding
2. Exterior Metal System
3. Stucco
4. Cementitious Plaster
5. Recessed Window
6. Metal Awning
7. Perforated Metal
8. Concrete Block
9. Project Signage
10. Carport



2. Mission Inn Avenue Elevation

Plate 3b

MISSION LOFTS

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1201 Dove Street, Suite 250
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949.975.1122

BUILDING A: ELEVATIONS

RIVERSIDE, CA

0 8 16 32

A1.5

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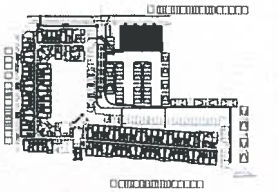
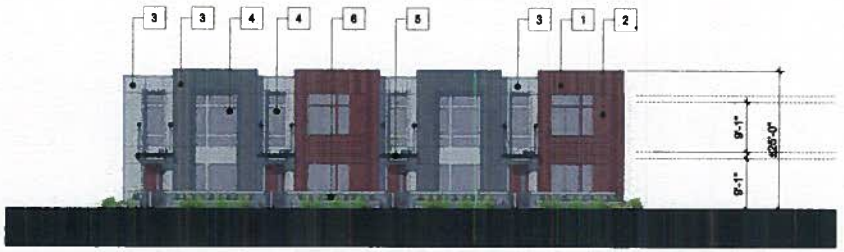
Irvine, CA 92614
949.851.2133
ktgy.com





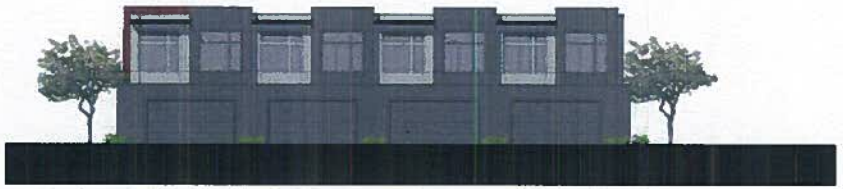


Plate 3c

MISSION LOFTS

Mission Lofts LLC

2

2

22

BUILDING B: ELEVATIONS

RIVERSIDE, CA

A2.1

KTGY Group, Inc.
Architecture+Planning

2

8 2 33

ktgy

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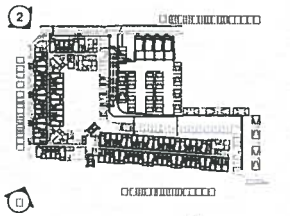

Plate 4

MISSION LOFTS

PERSPECTIVES

A4.2

Mission Lofts LLC

RIVERSIDE, CA

KTGY Group, Inc.
Architecture+Planning

Exhibit 12 - P14-0045 - P14-0048, P14-0953 & P14-0954, CEQA Document - MND

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture & Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Service	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Service Systems	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation which reflects the independent judgment of the City of Riverside, it is recommended that:

The City of Riverside finds that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

The City of Riverside finds 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. ☒

The City of Riverside finds that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

The City of Riverside finds 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. ☐

The City of Riverside finds 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 _____

Printed Name & Title Brian Norton, Senior Planner _____ For City of Riverside

COMMUNITY DEVELOPMENT DEPARTMENT
Planning Division

City of Arts & Innovation

Environmental Initial Study

EVALUATION OF ENVIRONMENTAL IMPACTS:

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 "Earlier Analyses," as described in (5) below, 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 with in 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 measure 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) 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 significance.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

1a. Response: ***(Source: General Plan 2025 FPEIR; Figure CCM-4 – Master Plan of Roadways, General Plan 2025 FPEIR Figure 5.1-1 – Scenic and Special Boulevards and Parkways, Table 5.1-A – Scenic and Special Boulevards, and Table 5.1-B – Scenic Parkways; General Plan 2025 Figure LU-3-Riverside Park; Citywide Design Guidelines and Sign Guidelines CDGSG)***

Less Than Significant Impact. According to page 5.1-2 of the General Plan 2025 FPEIR, the hills and ridgelines that surround the City provide scenic vistas to residents of the City where they can experience long distance views of natural terrain. Vista points can be found throughout the City, both as viewed from urban areas toward the hills and from wilderness areas toward Riverside. The most notable scenic vistas in the City include the La Sierra/Norco Hills, Sycamore Canyon Wilderness Park, and Box Springs Mountain Regional Park.

General Plan 2025 Figure LU-3 shows natural and scenic vistas within the City of Riverside. Per Figure LU-3, there are no scenic vistas in the immediate vicinity of the Project site. Although the proposed Project would alter the Project site by introducing new development to the site, implementation of the Project will not impair any views of the distant natural vistas since the Project site is located in a developed urban area. Furthermore, the proposed Project's proposed site plan and architectural elevations ensure that the Project is consistent with the Citywide Design Guidelines. The Citywide Design Guidelines encourage high-quality design, and implementation of the Guidelines will ensure that any potential impacts are **less than significant.**

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐

1b. Response: ***(Source: General Plan 2025 Figure CCM-4 – Master Plan of Roadways, General Plan 2025 FPEIR Figure 5.1-1 – Scenic and Special Boulevards, Parkways, Table 5.1-A – Scenic and Special Boulevards, Table 5.1-B – Scenic Parkways; Citywide Design Guidelines and Sign Guidelines CDGSG)***

Less Than Significant Impact. According to the General Plan FPEIR, the City has designated several scenic and special boulevards within the City that meet local criteria for designation as scenic routes. University Avenue and Mission Inn Avenue are both listed in City's General Plan FPEIR as a "Scenic Boulevard" (see 2025 FPEIR Figure 5.1-1-Scenic and Special Boulevards and Parkways and Table 5.1-A, Scenic and Special Boulevards, in the General Plan FPEIR). In addition, Table 5.1-B, Scenic Parkways, in the General Plan FPEIR also designates University Avenue as a "Scenic Parkway."

While the Project is adjacent to two designated scenic boulevards, University Avenue and Mission Inn Avenue. The proposed Project site is vacant and as such does not contain any scenic resources.

With regard to post-project impacts to scenic boulevards, most of the Project site is not visible from University Avenue because of the grade difference as University Avenue crosses under the SPRR Bridge. Thus, the Project will not substantially affect the views from this scenic boulevard. **Plate 3a – Building A Elevations**, shows the building elevations in relation to the grade difference. The Project site is highly visible from Mission Inn Avenue and as discussed in the Project Description incorporates design elements that integrate historic rail and citrus industrial uses in the Project area and the historic character of the Citrus Thematic Industrial Historic District. **Plate 3c – Building B Elevations**, shows the view of the Project from Mission Inn Avenue. To ensure consistency with the surrounding built environment, the Project will be subject to a Certificate of Appropriateness and is required to be consistent with the Citywide Design Guidelines. The Citywide Design Guidelines encourage high-quality design, and will reduce any potential impacts to **less than significant**.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

With regard to State designed scenic highways, page 5.1-4 of the General Plan FPEIR states that there are no officially designated State scenic highways or any eligible State scenic highways that traverse the City or its Sphere of Influence. Therefore, the proposed Project would have no impact in this regard.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐

1c. Response: ***(Source: Citywide Design Guidelines and Sign Guidelines CDGSG, Project Description)***

Less Than Significant Impact. As discussed in the Project Description and in response 1b, above, the Project has been designed to integrate historic rail and citrus industrial uses in the Project area through the use of corrugated metal siding as well as stucco, cementitous plaster, exterior metal systems, and concrete block. The Project's color scheme includes deep red and various shades of gray to invoke brick and metal. See response to item 5a for additional discussion regarding the Project's aesthetic compatibility with surrounding historic districts.

To ensure consistency with the surrounding built environment, the Project will be subject to a Certificate of Appropriateness and is required to be consistent with the Citywide Design Guidelines. Implementation of the Project will not degrade the quality of the site or its surroundings. Rather implementation of the Project will actually improve the quality of the site with the construction of new development designed to be consistent with the historical character of the Project area on a site that is currently vacant, underutilized and blighted. Due to all these factors, Project impacts on the visual character and quality of the site and its surroundings are **less than significant.**

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

1d. Response: ***(Source: General Plan 2025, General Plan 2025 FPEIR Figure 5.1-2 – Mount Palomar Lighting Area)***

Less Than Significant Impact The proposed Project will involve the introduction of new lighting typically associated with residential development. This lighting would be similar to that which exists in the surrounding area and would not be considered significant. Additionally, the site is not within the Mount Palomar Lighting Area. Therefore, impacts are **less than significant.**

2. AGRICULTURE AND FOREST RESOURCES:				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information complied by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
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,	☐	☐	☐	☒

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
to non-agricultural use?				

2a. Response: ***(Source: General Plan 2025 – Figure OS-2 – Agricultural Suitability, General Plan 2025 – Figure OS-3 - Williamson Act Preserves, General Plan 2025 FPEIR – Figure 5.2-4 – Proposed Zones Permitting Agricultural Uses)***

No Impact. The Project site is located in an urbanized area and does not contain any farmland. According to General Plan 2025 Figure OS-2, the proposed Project site is identified as "Other Land," and there is no designated Farmland on the Project site. Per General Plan 2025 Figure OS-3, the Project site is not designated as Williamson Act Preserve. Per General Plan FPEIR Figure 5.2-4, Proposed Zones Permitting Agricultural Uses, the existing zoning of the site does not permit agriculture uses, nor would the proposed Change of Zone to Mixed-Use Urban (MU-U) permit agriculture uses. Thus, the proposed Project will have **no impact** in this regard.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

2b. Response: ***(Source: General Plan 2025 – Figure OS-3 - Williamson Act Preserves, General Plan 2025 FPEIR – Figure 5.2-4 – Proposed Zones Permitting Agricultural Uses)***

No Impact. The project site is within an urbanized area, not zoned for agricultural use, and is not subject to a Williamson Act contract. There is no property within proximity of the Project site zoned for agricultural use or under a Williamson Act contract. As such the proposed Project will not conflict with existing zoning for agricultural uses or any applicable Williamson Act contracts. For these reasons the Project will have **no impact.**

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

2c. Response: ***(Source: General Plan 2025 Zoning Map for the City of Riverside)***

No Impact. The Project site is currently zoned Industrial and Business and Manufacturing Park, and Commercial Retail. The Project site is located in an urbanized area and is not zoned for forestland, timberland or timberland production. Therefore, **no impacts** will occur.

d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

2d. Response: ***(Source: General Plan 2025 Zoning Map for the City of Riverside)***

No Impact. As stated in 2c above, the Project site is currently zoned Industrial, Business and Manufacturing Park, and Commercial Retail, is located in an urbanized area and is surrounded by existing development. Neither the site nor its surroundings are zoned for forestland, timberland or timberland production. Therefore, **no impacts** will occur.

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?	☐	☐	☐	☒

2e. Response: (Source: General Plan – Figure OS-2 – ***Agricultural Suitability, Figure OS-3 – Williamson Act Preserves, General Plan 2025 Zoning Map for the City of Riverside)***

No Impact. Per Figure OS-2, Agricultural Suitability, in the Open Space and Conservation Element of the City of Riverside General Plan, the Project site is located on urban and built-up and is surrounded by other urban uses. As stated in 2b above,

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

the Project site is not located on land that is designated with Williamson Act lands. As stated in 2c above, the Project site is located in an urbanized area and is not zoned for forestland, timberland or timberland production. Therefore, **no impacts** will occur from this Project.

3. AIR QUALITY.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

3a. Response: ***(Source: South Coast Air Quality Management District's 2012 Air Quality Management Plan (AQMP), GP 2025 FPEIR)***

Less Than Significant Impact. The City is located within the South Coast Air Basin ("the Basin"). The South Coast Air Quality Management District (SCAQMD) prepares the Air Quality Management Plan (AQMP) for the Basin. The AQMP sets forth a comprehensive program that will lead the Basin into compliance with all federal and state air quality standards. The AQMP's control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, if a project demonstrates compliance with local land use plans and/or population projections, then the AQMP would have taken into account such uses when it was developed.

The proposed Project includes a General Plan Amendment to change the land use designation from I - Industrial, MU-V - Mixed Use Village and BO/P - Business/Office Park to a MU-U - Mixed Use-Urban land use designation. Although this change is not consistent with the General Plan 2025 land uses which were incorporated in the AQMP, the Project will not result in a substantial change for the following reasons. The GP 2025 FPEIR estimated a total of 127,692 dwelling units at build-out within the City's sphere under the "Typical Growth Scenario." The Project's increase of 212 units is less than a one percent increase. The GP 2025 FPEIR determined that implementation of the General Plan 2025 would generally meet attainment forecasts and attainment of the standards of the AQMP. The General Plan 2025 contains policies to promote mixed use, pedestrian-friendly communities that serve to reduce air pollutant emissions over time, this Project is consistent with those policies. Because the proposed Project is consistent with air quality policies within the General Plan 2025 and the GP 2025 FPEIR determined the General Plan 2025 to be consistent with the AQMP, the proposed Project will not conflict or obstruct implementation of the AQMP. The Project will also be subject to the applicable control measures contained in the AQMP. Therefore, the Project will have **less than significant** impacts directly, indirectly, or cumulatively to the implementation of an air quality plan.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐

3b. Response: ***(Source: General Plan 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, Air Quality/Greenhouse Gas Analysis prepared by WEBB on May 27, 2015)***

Less Than Significant Impact. Air quality impacts can be described in a short- and long-term perspective. Short-term impacts will occur during site grading and Project construction. Long-term air quality impacts will occur once the Project is in operation.

The Project's short-term and long-term emissions were evaluated using the CalEEMod version 2013.2.2 computer program (Appendix A – AQ/GHG Analysis). Project construction will be subject to SCAQMD Rule 403 for fugitive dust. The AQ/GHG Analysis evaluated Project compliance with Rule 403 by incorporating the option of watering the site three times daily. Short-term emissions consist of fugitive dust and other particulate matter, as well as exhaust emissions generated by construction-related vehicles. Maximum daily emissions from Project construction are summarized below and compared to

the SCAQMD's daily regional thresholds: The maximum emissions from Project operation are summarized in the subsequent table and compared to the SCAQMD daily regional thresholds.

CalEEMod MODEL RESULTS SHORT-TERM IMPACTS						
Activity	Maximum Daily Emissions (lbs/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Thresholds Construction	75	100	550	150	150	. 55
Daily Project - Emissions Construction	**56.33**	**60.06**	**53.88**	**0.09**	**6.64**	**4.29**
Exceeds Y/N Threshold?	**N**	**N**	**N**	**N**	**N**	**N**

Source: Table 2, AQ/GHG Analysis

CalEEMod MODEL RESULTS LONG-TERM IMPACTS						
Activity	Maximum Daily Emissions (lbs/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Thresholds Operation	55	55	550	150	150	55
Daily Project - Emissions Operational	**12.48**	**20.06**	**84.14**	**0.16**	**11.40**	**3.32**
Exceeds Y/N Threshold?	**N**	**N**	**N**	**N**	**N**	**N**

Source: Table 3 and 4, AQ/GHG Analysis

As shown in the tables above, the emissions from construction and operation of the Project are below the SCAQMD daily construction thresholds for all the criteria pollutants. In addition, the short-term emissions do not exceed SCAQMD's localized significance thresholds (LST) without mitigation, as contained in the AQ/GHG Analysis.

Therefore, the Project will have **less than significant** impacts directly, indirectly, or cumulatively.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	☐	☐	☒	☐

3c. Response: ***(Source: General Plan 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2012 Air Quality Management Plan)***

Less Than Significant Impact. The portion of the South Coast Air Basin within which the Project is located is designated as a non-attainment area for ozone, PM-10, and PM-2.5 under both state and federal standards. Since the Project's emissions do not exceed the SCAQMD established thresholds of significance (see Response 3b, above); the Project's net increase in criteria pollutant emissions for which the Project region is non-attainment is not cumulatively considerable. Impacts will be **less than significant.**

d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

3d. Response: ***(Source: Air Quality/Greenhouse Gas Analysis prepared by WEBB on May 27, 2015; Health Risk Assessment prepared by Urban Crossroads on May 26, 2015)***

Less Than Significant Impact. The proposed Project is located in a developed area with a mix of uses. As detailed in the AQ/GHG Analysis, the closest sensitive receptors are the residences adjacent to the local area streets and Project site. Short-term emissions will be generated in the Project area during construction of the Project and have been found to be less than significant (see Response 3b and Appendix A of this Initial Study). In addition, Project will not result in carbon monoxide (CO) hot spots.

Because it is recognized that the effects of freeway traffic and rail road pollutants may impact the proposed Project's residents, an off-site health risk assessment (HRA) was prepared to identify the cancer and non-cancer health risk resulting from exposure to toxics from the freeway and diesel particulates from the rail line. The Project is approximately 875 feet east of State-Route 91 and 150 feet east of the existing rail line, used daily by a total of 105 freight, Amtrak, and Metrolink trains. The HRA found that maximum cancer risk from the freeway and rail line is 7.6 in one million, which is less than the SCAQMD significance threshold of 10 in one million. The HRA also found that non-cancer risks were below the SCAQMD threshold, which is a hazard index of 1.0. In addition, the HRA also predicted concentrations of criteria pollutants (PM-10, PM-2.5, CO, and NO_2) from the freeway and rail line and concluded that the ambient concentrations were also below identified thresholds of significance and/or ambient air quality standards.

Hence, the Project will not expose sensitive receptors to substantial pollutant concentrations and impacts are considered **less than significant** directly, indirectly, or cumulatively.

e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

3e. Response: ***(Source: Air Quality/Greenhouse Gas Analysis prepared by WEBB on March 24, 2015)***

Less Than Significant Impact. The Project presents the potential for generation of objectionable odors in the form of diesel exhaust during construction in the immediate vicinity of the Project site. Odors generated during construction will be short-term and will not result in a long-term odorous impact to the surrounding area. Recognizing the short-term duration and quantity of emissions in the Project area, the Project will result in **less than significant** impacts relating to objectionable odors directly, indirectly, or cumulatively.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES. Would the project:				
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?	☐	☐	☐	☒

4a. Response: ***(Source: RCIP Conservation Summary Report Generator, General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP), Figure OS-7 – MSHCP Cores and Linkages, and General Plan 2025 FPEIR Figure 5.4-8 – MSHCP Burrowing Owl Survey Area)***

No Impact. The Project site is a previously disturbed site within an urbanized area and does not contain any sensitive species or habitat. A portion of the Project site is paved. Therefore, the Project will have **no impact** on habitat modifications, species identified as a candidate, sensitive, or special status species in local or regional plans, and policies or regulations of the California Department of Fish and Game or U.S. Fish and Wildlife Service.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

4b. Response: ***(Source: RCIP Conservation Summary Report Generator, General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP), Figure OS-7 – MSHCP Cores and Linkages, and General Plan 2025 FPEIR Figure 5.4-8 – MSHCP Burrowing Owl Survey Area)***

No Impact. See response to 4a above. The Project site is located on a previously disturbed site within an urbanized area and does not contain any evidence of wetland or riparian habitat. The Project site is located within an urban built-up area, and is surrounded on all sides by existing development. Generally, the surrounding area has been developed for many years and a long history of severe disturbance exists in the area, such that there is little chance that any riparian habitat could have persisted. Therefore, the Project will have **no impact** to any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

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?	☐	☐	☐	☒

4c. Response: ***(Source: RCIP Conservation Summary Report Generator, General Plan 2025 – Figure OS-5 – Habitat Areas and Vegetation Communities)***

No Impact. The Project site consists of two previously disturbed properties, within an urbanized area, that do not present any evidence of federally protected wetlands or riparian vegetation; there will be **no impacts**.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

4d. Response: ***(Source: RCIP Conservation Summary Report Generator, General Plan 2025 –Figure OS-7 – MSHCP Cores and Linkage)***

No Impact. The project site is located in a developed/urban area of the City and is not located within an MSHCP Criteria Cell. The Project site is surrounded on all sides by developed land and as such is not located in an area that facilitates the movement of resident or migratory species. Per General Plan 2025 Figure OS-7, MSHCP Cores and Linkages, the Project site is not designated as an existing Core or Linkage, and is not designated as a proposed Core, Habitat Block, or designated Linkage. Therefore, there will be **no impact**.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

4e. Response: ***(Source: City of Riverside Urban Forestry Policy Manual UFPM)***

Less Than Significant Impact. The project will adhere to the City of Riverside Urban Forest Tree Policy in respect to street trees, therefore a **less than significant** impact will occur.

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?	☐	☐	☐	☒

4f. Response: ***(Source: RCIP Conservation Summary Report Generator, General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP))***

No Impact. The purpose of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) is to conserve habitat for selected species throughout western Riverside County. The MSHCP consists of a Criteria Area that assists in facilitating the process by which individual properties are evaluated for inclusion and subsequent conservation. In addition to Criteria Area requirements, the MSHCP requires consistency with Sections 6.1.2 (Protection of Species within Riparian/Riverine Areas and Vernal Pools), 6.1.3 (Protection of Narrow Endemic Plant Species), 6.1.4 (Urban Wildlands Interface), 6.3.2 (Additional Survey Needs and Procedures), Appendix C (Standard Best Management Practices), and 7.5.3 (Construction Guidelines). The MSHCP serves as a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP), pursuant to Section (a)(1)(B) of the Endangered Species Act (ESA), as well as the Natural Communities Conservation Plan (NCCP) under the State NCCP Act of 2001.

The Project site is not within an MSHCP Criteria Cell, Core, or Habitat Block and therefore does not have any conservation goals for species covered in the MSHCP. The Project site is also not within focused survey areas for any MSHCP-covered plant or animal species. The Project is not located in an area with SKR core reserves nor is the Project located within the El Sobrante Landfill or Lake Mathews Habitat Conservation Plans. With payment of MSHCP fees, the project will be in compliance with the MSHCP. Because the Project will not conflict with the provisions of a habitat conservation plan or natural community conservation plan and there will be no impact.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5 of the CEQA Guidelines?	☐	☐	☒	☐

5a. Response: ***(Source: GP 2025 FPEIR Table 5.5-A Historical Districts and Neighborhood Conservation Areas and Appendix D, Title 20 of the Riverside Municipal Code, and site specific Cultural Resources Survey prepared by JM Research and Consulting, June 2015; Citywide Design Guidelines and Sign Guidelines [CDGSG])***

Less Than Significant Impact. A Cultural Resources Survey (the Survey) was completed for the proposed Project by JM Research and Consulting. The Survey included a literature and records search at the Eastern Information Center (EIC), and additional research including review of historic maps, aerial images, previous surveys, published local and regional historical accounts were collected and reviewed, and intensive property ownership and construction history was researched. In addition to the research, an intensive level historical and archaeological survey of the Project site was conducted by walking parallel transects spaced approximately 15 meters apart. The site and soil exposures were carefully inspected for evidence of historic resources or archaeological activities. Current condition and architectural features were noted in the field and architectural quality and integrity were assessed.

A large portion of the Project site is within the boundaries of the locally designated Seventh Street East Historic District and the locally eligible Citrus Thematic Industrial Potential Historic District. The Project site is also immediately adjacent to the locally eligible Ninth Street Potential Neighborhood Conservation Area (NCA). These three historic districts are considered "historical resources" under CEQA.

The edge of the Ninth Street Potential NCA, which is currently lined with an existing block wall, has always been clearly demarcated. Although the lots within the Project area located to the rear of the potential NCA once supported similar housing stock, the parcels adjacent to the west were never developed or functioned as part of the adjacent historic residential neighborhood along 9th Street. The large parcel across 9th Street once supported a citrus packing house, and is now a parking lot. The Project proposes to construct surface parking in this southerly portion of the Project site as well as add small-scale amenities structures fronting 9th Street. The Project's proposed use of railroad freight shipping containers will blend with the neighboring residences and are appropriate as is the use of railroad-related features as functional design elements, which is a familiar historic neighbor to the Ninth Street properties. Therefore, as currently proposed, the Mission Lofts project constitutes a less than significant impact to the adjacent residential Ninth Street Potential NCA.

The Seventh Street East Historic District reflects a diverse collection of architectural styles in residences (1880-1945) compatible in scale, age and tone that reflect the lives of average citizens. However, the portion of this District in which a portion of the Project site is located never supported housing stock and contains no contributing features. The potential for Project-related impacts to this District exists near Building B at the northeasterly project boundary, which is closest to the historic neighborhood development. However, the three residences adjacent to this project boundary are modern, non-contributing compatible infill of slightly larger size and it appears slightly less setback than the 25-foot setback of earlier historic construction further east and are separated from the Project by an existing block wall. This infill buffer is further enhanced by several proposed design components, including the reduction of Building B to two stories in height, the use of 5-foot patios for Building B to soften the effect of a more shallow, and approximately 11-foot front setback from the back of sidewalk to the building elevation, the approximately 20-foot open space side setback, which will be planted with a specimen tree, and the placement of rear carports and surface parking, which maximizes the distance between the modest-scale historic neighborhood and the four-story Building A. Therefore, as currently proposed, the Mission Lofts project appears to constitute a less than significant impact to the residential Seventh Street East Historic District.

The Citrus Thematic Industrial Potential Historic District is located at the west end of the Eastside adjacent to residential neighborhoods and is characterized by the combination of rail transportation, water infrastructure, citrus industrial, and light industrial development that together formed the basis of Riverside's early economy and catalyst for prosperity in the late-19th and early-20th centuries. Historic development is scattered throughout this wide corridor, including rail stations, tracks,

loading docks and platforms, packing houses, warehouses, mills, and canal segments. As described in the Project Description, design components of the proposed Mission Lofts project are intended to integrate historic rail and citrus industrial uses in the Project area and the historic character of the Citrus Thematic Industrial Historic District into the new design. In keeping with the industrial uses of the area, the Project incorporates large, functional, full-height continuous masses that appear segmented or linked by articulated columns of perforated metal balconies reminiscent of railway gangways or couplings between passenger and freight cars. Although the four-story height of the main Building A is higher than any other historic period industrial or current development in the area, the size and scale of citrus packinghouses, warehouses, and mills were larger, more imposing buildings compared to their contemporary property types with high, open raftered ceiling space for added storage. Thus, the size and scale of the proposed improvements may be viewed as acceptable, particularly as they are distant from other construction and historic buildings such as the AT&SF train station across Commerce Street and the AT&SF right-of-way, and packing house and warehouse industrial buildings across Mission Inn Avenue and the lowered University Avenue.

The Project proposes the use of railroad-related features as functional design elements, which mimic the historic use and look of the former SPRR right-of-way area and is a familiar and longtime neighbor in this location. The cutaway corner at Mission Inn Avenue and Commerce Street makes focal a corner freight-inspired cantilever that is clad in corrugated metal siding painted red and signed with bold, block letters. The metal square arch entry to the interior leasing office suggests a railroad signal bridge. The project proposes the use of corrugated metal siding as well as stucco, cementitous plaster, exterior metal systems, and concrete block, which both incorporates and modernizes functional, historic industrial materials. While brick is not proposed, the color scheme includes deep red and various shades of gray, which invokes brick and metal. Although utilized as part of the project, the SPRR bridge, which will be cleaned of graffiti and repaved for ADA compliance, will remain as visible as it is currently to the motoring public on University Avenue and Commerce Street.

The site, building, and architectural design components proposed for this large, nearly vacant Project Area have the potential to visually improve internal cohesion, and strengthen the existing boundary, of the Citrus Thematic Industrial Potential Historic District. Therefore, as currently proposed, the Mission Lofts project appears to constitute a less than significant impact to the Citrus Thematic Industrial Potential Historic District.

During the field survey two potential cultural resources were also identified: a long, rectangular concrete loading dock (ca. 1930-1947) framed by steel railroad rails near the corner of Mission Inn Avenue and Commerce Street and an abandoned railroad bridge over University Avenue. The Project proposes to demolish the loading dock and reuse the railroad bridge as a pedestrian walkway connecting the two portions of the Project site. The Survey concluded that these two potential historic resources lacked the level of architectural distinction, strength of historic association, and sufficient integrity that would meet criteria for importance under CEQA, or for inclusion in the National Registrar of Historic Places, the California Registrar of Historical Resources, or local designation under the City's recently revised Cultural Resources Ordinance (Title 20; Ord. 7108 §1, 2010). Therefore, Project impacts to these resources will be less than significant.

In addition to the loading dock and abandoned railroad bridge, several historic and modern remnants and features of limited diagnostic value were also found within the Project boundaries, including concrete pads of various age (1925 and 1970s), various broken, clay (date unknown) and concrete (ca. 2000) roof tiles in a small debris pile adjacent (south) to the loading dock, a curved vehicular asphalt drive (ca. 2000) from Commerce Street to the abandoned railroad bridge, asphalt brow ditches (ca. 1960) above University Avenue, several wood creosote utility poles (one tagged by 1935), a billboard pole sign (1971), a broken, *in situ* piece of clay sewer pipe of unknown date perpendicular to Mission Inn Avenue and a standard cast iron manhole cover (ca. 1950s-1960s) above the north side of University Avenue, a green glass bottle fragment (ca. 1983), and two out of context railroad spikes of unknown date near the sewer pipe and by the northern brow ditch. It appears that rather than buried, all railroad tracks have been removed (1960 and ca. 2000) or cut and reused in the construction of the loading dock and as upright posts within the Project Area. No remains of earlier citrus industrial-related or residential construction were evident. These historic remnants and features were examined, partially researched, and ultimately determined not to be potential cultural resources. Therefore, any impacts to these items would be less than significant and no mitigation is required. Although not required as a mitigation measure based on the analysis and findings of the Survey, the City is including a standard condition with procedures in the event that unanticipated historic period resources are encountered.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

For the reasons set forth above, the Project's potential cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5 of the CEQA Guidelines is **less than significant.**

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5 of the CEQA Guidelines?	☐	☒	☐	☐

5b. Response: ***(Source: GP 2025 FPEIR Figure 5.5-1 - Archaeological Sensitivity and Figure 5.5-2 - Prehistoric Cultural Resources Sensitivity, Appendix D – Cultural Resources Study and site specific Cultural Resources Survey prepared by JM Research and Consulting, June 2015 [JMRC])***

Archaeological Resources

Less Than Significant with Mitigation Incorporated. The Cultural Resources Survey prepared for the proposed Project by JM Research and Consulting included a records search and intensive field survey of the Project site, the results of which did not reveal the presence of any previously recorded or potential archaeological resources. Further, the site has been previously disturbed and it is highly unlikely that any archaeological resources could exist. However, in order to provide protection in the unlikely event that archaeological resources are unearthed during Project construction, implementation of mitigation measure **MM CR 1** will reduce potential impacts to **less than significant with mitigation.**

MM CR 1: Prior to initiation of ground-disturbing activities, construction personnel shall be alerted to possibility of buried historic-period cultural deposits. Should any cultural and/or archaeological resources be inadvertently discovered during construction, construction activities in the vicinity of the discovery shall immediately halt and shall be moved to other parts of the Project site and a qualified archaeologist shall be contacted to determine the significance of the resource(s). If the find is determined to be a historical or unique archaeological resource, as defined in Section 15064.5 of the California Code of Regulations (State *CEQA Guidelines*), avoidance or other appropriate measures shall be implemented.

Tribal Cultural Resources

Less Than Significant with Mitigation Incorporated. Assembly Bill 52 (AB 52), signed into law in 2014, amends CEQA and establishes new requirements for tribal notification and consultation. AB 52 applies to all projects for which a notice of preparation or notice of intent to adopt a negative declaration/mitigated negative declaration is issued after July 1, 2015. AB 52 also broadly defines a new resource category of tribal cultural resources and establishes a more robust process for meaningful consultation that includes:

- Prescribed notification and response timelines;
- Consultation on alternatives, resource identification, significance determinations, impact evaluation, and mitigation measures; and
- Documentation of all consultation efforts to support CEQA findings.

On August 10, 2015, the City of Riverside provided written notification of the Project in accordance with AB 52 to all of the Native American tribes that requested to receive such notification. Responses were received by the Morongo Band of Mission Indians, San Manuel Band of Mission Indians, and Soboba Band of Luiseño Indians. The Morongo Band of Mission Indians did not request a formal consultation meeting, but requested that Standard Development Conditions be imposed and that the tribe be contacted in the event of undiscovered finds. The San Manuel Band of Mission Indians requested a formal consultation meeting that was held on September 10, 2015. The meeting resulted in no significant concerns after implementation of the City's standard conditions. The Soboba Band of Luiseño Indians also requested a formal consultation meeting that was held on September 14, 2015. The meeting resulted in a request to obtain records search results from the Cultural Resources Survey, that the City's standard conditions be imposed with tribal notification for inadvertent finds. The Soboba consultation was closed on September 21, 2015. The City will implement its standard condition as set forth in California Health and Safety Code section 7050.5 regarding the encountering of human remains, There shall be no further

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

disturbance until the County Coroner has a made a determination of origin and disposition pursuant to Public Resources code Section 5097.98. The County Coroner will be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. Further, **MM CR 1**, above will be implemented.

The Cultural Resources Survey prepared for the proposed Project by JM Research and Consulting included a records search and intensive field survey of the Project site, the results of which did not reveal the presence of any previously recorded or potential archaeological resources. Further, the site has been previously disturbed and it is highly unlikely that any tribal resources could exist. However, in order to provide protection in the unlikely event that cultural resources are unearthed during Project construction, implementation of mitigation measure **MM CR 1** and the City's standard conditions will reduce potential impacts to **less than significant with mitigation**.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

5c. Response: ***(Source: General Plan 2025 Policy HP-1.3)***

Less than Significant with Mitigation Incorporated. The Project area is identified in the General Plan EIR as having an unknown potential for paleontological resources. However, given that the Project area is mostly developed and the Project site has been previously disturbed, discovery of any unique paleontological resource is considered highly unlikely. Nonetheless, to ensure impacts to paleontological resources at the Project site are less than significant in the event of accidental discovery, the Project will incorporate **MM CR 2** which will reduce potential impacts to **less than significant with mitigation**.

> **MM CR 2:** If any paleontological resources are exposed during Project related excavation, ground disturbance activities in the vicinity of the discovery shall be moved and a qualified paleontological resources specialist will be retained by the Project Applicant to evaluate the resources. If the find is determined to be significant, avoidance or other appropriate measures as identified by the paleontological resources specialist shall be implemented. Appropriate measures include a qualified paleontologist to be permitted to recover, evaluate, and curate the finds in accordance with the standards and guidelines of the City of Riverside and the Society of Vertebrate Paleontology

d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

5d. Response: ***(Source: GP 2025 FPEIR Figure 5.5-1 - Archaeological Sensitivity and Figure 5.5-2 - Prehistoric Cultural Resources Sensitivity)***

Less than Significant Impact. The Project site is not located on any known cemetery. In the unlikely event that unknown human remains are uncovered during Project construction, California Health and Safety Code Sections 7052 and 7050.5 require the Riverside County Coroner's Office to be contacted within 24 hours and all work to be halted until a clearance is given by that office and any other involved agencies. Further, in that event, the Project Applicant will comply with the requirements of Public Resources Code Section 5097.98, as amended. Therefore, with adherence to existing laws and codes, impacts will be **less than significant**.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. GEOLOGY AND SOILS. Would the project:				
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.	☐	☐	☒	☐

6i. Response: ***(Source: General Plan 2025 Figure PS-1 – Regional Fault Zones, site specific Geotechnical Investigation prepared by Geotechnical Professionals Inc., [GPI])***

Less Than Significant Impact. Southern California is a seismically-active region that contains many earthquake faults. Per General Plan 2025 Figure PS-1, Regional Fault Zones, there are no Alquist-Priolo zones or fault lines that traverse the City. Therefore, the proposed Project site in not located within an Alquist-Priolo Earthquake Fault Zone and no known earthquake faults traverse the site. Thus, the potential for fault rupture is low. Additionally, any structure developed as a part of the Project will be subject to seismic design criteria in accordance with the 2013 California Building Code (CBC) which will reduce potential impacts to **less than significant**.

ii. Strong seismic ground shaking?	☐	☐	☒	☐

6ii. Response: ***(Source: General Plan 2025 Figure PS-1 – Regional Fault Zones site specific Geotechnical Investigation prepared by Geotechnical Professionals Inc., February 17, 2014 [GPI])***

Less Than Significant Impact. As stated above, Southern California is prone to seismic activity. Although the proposed Project site is not located within a fault zone and is not located within ½ mile of a fault; the Project site is located within an area that is subject to strong ground shaking due to being in close proximity of the San Jacinto Fault Zone (approximately 9 miles east of the site) and the Elsinore Fault Zone (approximately 17 miles southwest of the site). These faults have the potential to cause moderate to strong ground shaking. However, the proposed Project would be required to implement all requirements of the current edition of the California Building Code, applicable to the Project, which provides criteria for the seismic design of buildings. Therefore, with compliance with the California Building Code regulations, impacts will be **less than significant**.

iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐

6iii. Response: ***(Source: General Plan 2025 Figure PS-1 – Regional Fault Zones, Figure PS-2 – Liquefaction Zones, General Plan 2025 FPEIR Figure PS-3 – Soils with High Shrink-Swell Potential, and Appendix E – Geotechnical Report site specific Geotechnical Investigation prepared by Geotechnical Professionals Inc. on February 17, 2014 [GPI])***

Less Than Significant Impact. Seismically-induced liquefaction occurs when ground shaking causes water-saturated soils to become fluid and lose strength. Liquefaction historically has been responsible for significant damage, creating problems with bridges, buildings, buried pipes and underground storage tanks. The City is underlain by areas susceptible to varying degrees of liquefaction, ranging from very low to very high. According to the General Plan 2025 Figure PS-2, Liquefaction Zones Map, the proposed Project site is located in area identified as having low potential for liquefaction. The Project specific Geotechnical Investigation also determined that the potential for liquefaction to occur at the site is low due to the depth of groundwater, which was determined to be at a depth of 50 feet below existing grade. Therefore impacts related to seismic failure, including liquefaction will be **less than significant.**

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
iv. Landslides?	☐	☐	☒	☐

6iv. Response: ***(Source: General Plan 2025 FPEIR Figure 5.6-1 – Areas Underlain by Steep Slope site specific Geotechnical Investigation prepared by Geotechnical Professionals Inc. on February 17, 2014 [GPI])***

Less Than Significant Impact. According to General Plan 2025 FPEIR Figure 5.6-1, Areas Underlain by Steep Slope, the Project site is in an area designated as having a 0 to 10 percent slope. The Project site is currently vacant and is relatively flat, with no steep slopes. However University Avenue is located below both portions of the site along vegetated cut slopes ranging from approximately 1 to 6 feet near the eastern limits of the site to approximately 15 to 20 feet along the western limits of the site. The cut slopes are at an inclination of approximately 2:1 (horizontal:vertical). However, the proposed Project is designed to be set back from these slopes. Because these existing slopes are currently vegetated and maintained, and given the relatively small size of these slopes, they are not capable of producing landslides. Therefore, impacts will be **less than significant.**

b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

6b. Response: ***(Source: General Plan 2025 FPEIR Figure 5.6-1 – Areas Underlain by Steep Slope, Figure 5.6-4 – Soils, Table 5.6-B – Soil Types, Title 18 – Subdivision Code, Title 17 – Grading Code site specific Geotechnical Investigation prepared by Geotechnical Professionals Inc., [GPI])***

Less Than Significant Impact. Construction activities have the potential to result in soil erosion or the loss of topsoil. However, erosion will be addressed through the implementation of existing State and Federal requirements, and the preparation of a Storm Water Pollution Prevention Plan (SWPPP) which will identify Best Management Practices (BMPs) to address soil erosion. Upon compliance with these standard regulatory requirements, the project is not anticipated to result in substantial soil erosion or the loss of topsoil and no additional mitigation measures would be required. For these reasons impacts will be **less than significant**.

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?	☐	☐	☒	☐

6c. Response: ***(Source: General Plan 2025 Figure PS-1 – Regional Fault Zones, Figure PS-2 – Liquefaction Zones, General Plan 2025 FPEIR Figure PS-3 – Soils with High Shrink-Swell Potential, Figure 5.6-1 - Areas Underlain by Steep Slope, Figure 5.6-4 – Soils, Table 5.6-B – Soil Types, and site specific Geotechnical Investigation prepared by Geotechnical Professionals Inc. on February 17, 2014 [GPI])***

Less Than Significant Impact. Impacts related to landslides are addressed above in response to 6a.iv; impacts related to liquefaction are addressed above in response to 6a.iii. This analysis addresses impacts related to unstable soils, as a result of lateral spreading, subsidence, or collapse

Lateral Spreading: lateral spreading consists of lateral movement of level or near-level ground associated with liquefaction during an earthquake. As discussed in response to 6a.iv above, the Project site is located in an area identified as having a low potential for liquefaction and as such a low potential for lateral spreading.

Subsidence: Seismic ground subsidence (not related to liquefaction induced settlements) occurs when strong earthquake shaking results in the densification of loose to medium density sandy soils above groundwater. The Project specific Geotechnical Investigation determined that the total magnitude of subsidence would be on the order of ¼ to 1 inch. The majority of subsidence would occur in soils at depths from 10 to 25 feet below the existing ground surface.

Collapse: A collapsible soil will undergo a reduction in volume upon wetting. Collapsible soils will typically have a low dry density and low moisture content. Collapsible soils may support large pressures with low compressibility when dry but

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

experience significant compression upon wetting without an increase in pressure. According to the Project specific Geotechnical Investigation, the soils on the site exhibit a moderate potential for collapse. However, to lessen the potential impacts of collapsible soils at the site, the proposed Project will be constructed in accordance with the requirements of the CBC and the recommendations of the site specific Geotechnical Investigation.

For the reasons set forth above, impacts with regard to unstable geologic units or soils will be **less than significant**.

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?	☐	☐	☒	☐

6d. Response: ***(Source: General Plan 2025 FPEIR Figure 5.6-4 – Soils, Figure 5.6-4 – Soils, Table 5.6-B – Soil Types, Figure 5.6-5 – Soils with High Shrink-Swell Potential, California Building Code as adopted by the City of Riverside and set out in Title 16 of the Riverside Municipal Code and site specific Geotechnical Investigation prepared by Geotechnical Professionals Inc., February 17, 2014 [GPI])***

Less Than Significant Impact. Expansive soils have a significant amount of clay particles or other minerals that have the ability to give up water (shrink) or take on water (swell). Fine grained soils, such as silts and clays, may contain variable amounts of expansive clay minerals. When these soils swell, the change in volume exerts significant pressures on loads that are placed on them. This shrink/swell movement can adversely affect building foundations. According to the General Plan 2025 FPEIR Figure 5.6-4, Soils, the Project site is underlain by Arlington soil, which has low to moderate shrink swell potential (as indicated in Table 5.6-B, Soil Types in the General Plan 2025 FPEIR). According to the General Plan 2025 FPEIR Figure 5.6-5, Soils with High Shrink-Swell Potential, the Project site is not located in a part of the City which has soils with high shrink-swell potential. Compliance with the recommendations of the site specific Geotechnical Investigation and with applicable provisions of the CBC will reduce potential impacts to **less than significant**.

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?	☐	☐	☐	☒

6e. Response: ***(Source: Project Description)***

No Impact. The proposed Project will be served by a sewer system and no septic tanks or alternative wastewater disposal systems would be required. There will be no **impacts**.

7. GREENHOUSE GAS EMISSIONS. Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

7a. Response: ***(Source: AQ/GHG Analysis prepared by WEBB, May 27, 2015)***

Less Than Significant Impact. The AQ/GHG Analysis evaluated the Project's greenhouse gas (GHG) emissions associated with the Project and indicates that an estimated total of 2,862.42 metric tons per year of carbon dioxide (CO_2) equivalents ($MTCO_2E$) will occur from the Project, which includes construction-related emissions amortized over a typical project life of 30 years. The total GHG emissions are below the SCAQMD recommended screening level of 3,000 $MTCO_2E$/yr for non-industrial projects.

Therefore, the proposed Project will not generate GHG emissions and the impact is considered to be **less than significant** directly, indirectly, or cumulatively.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

7b. Response: ***(Source: Project Description)***

Less Than Significant Impact. As stated in response 7a, above, the Project's GHG emissions are below the SCAQMD recommended screening threshold and will not result in substantial amount of GHG emissions. Further, the Project will be subject to a variety of measures that reduce GHG emissions, including, but not limited to the current 2013 Title 24 (Building Energy Efficiency Standards), 2013 CalGreen Code (Green Building Standards Code), and measures being implemented under the California Air Resources Board Climate Change Scoping Plan. Therefore, the Project will not conflict with any applicable plan, policy, or regulation for the reduction in GHG emissions. Impacts are **less than significant**.

8. HAZARDS & HAZARDOUS MATERIALS. Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

8a. Response: ***(Source: General Plan 2025 Public Safety Element, GP 2025 FPEIR Tables 5.7 A – D, California Health and Safety Code, Title 49 of the Code of Federal Regulations, California Building Code)***

Less Than Significant Impact. Construction and operation of the proposed Project may include the transportation and storage of hazardous materials, such as fuels, cleaning solvents or pesticides. The transportation of hazardous materials can result in accidental spills, leaks, toxic releases, fire, or explosion.

However, a number of federal and state agencies prescribe strict regulations for the safe transportation of hazardous materials. Hazardous material transport, storage and response to upsets or accidents are primarily subject to federal regulation by the United States Department of Transportation (DOT) Office of Hazardous Materials Safety in accordance with Title 49 of the Code of Federal Regulations. California regulations applicable to Hazardous material transport, storage and response to upsets or accidents are codified in Title 13, (motor vehicles) Title 8 (Cal/OSHA), Title 22 (Health and Safety Code), Title 26 (Toxics) of the California Code of Regulations, Chapter 6.95 of the Health and Safety Code (Hazardous Materials Release Response Plans and Inventory) and the California Building Code.

Compliance with all applicable federal and state laws related to the transportation, storage and response to upsets or accidents that may involve hazardous materials would reduce the likelihood and severity of upsets and accidents during transit and storage, and potential impacts will be **less than significant**.

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?	☐	☐	☒	☐

8b. Response: ***(Source: General Plan 2025 Public Safety Element, GP 2025 FPEIR Tables 5.7 A – D, California Health and Safety Code, Title 49 of the Code of Federal Regulations, California Building Code)***

Less Than Significant Impact. As noted in response 8a above, the Project may involve the use of hazardous materials but shall comply with all applicable federal and state laws pertaining to the transport, use, disposal, handling, and storage of hazardous materials, including but not limited to Title 49 of the Code of Federal Regulations and Title 13, (motor vehicles) Title 8 (Cal/OSHA), Title 22 (Health and Safety Code), Title 26 (Toxics) of the California Code of Regulations, Chapter 6.95 of the Health and Safety Code (Hazardous Materials Release Response Plans and Inventory) and the California Building Code, which describes strict regulations for the safe transportation of hazardous materials. Compliance with all

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

applicable federal and state laws related to the transportation, use and storage of hazardous materials would reduce the likelihood and severity of accidents during transit, use and storage to a **less than significant** impact.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

8c. Response: ***(Source: Google Earth)***

Less Than Significant Impact. The proposed Project is not located within one-quarter mile of an existing or proposed school site. The nearest school is Longfellow Elementary School, located at 3610 Eucalyptus Avenue, in the City of Riverside which is approximately a 0.5 miles to the east of the Project site. Therefore, potential impacts will be **less than significant.**

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?	☐	☐	☒	☐

8d. Response: ***(DTSC EnviroStor Database)***

Less Than Significant Impact. On May 21, 2015 the California Department of Toxic Substance Control (DTSC) EnviroStor database was reviewed for hazardous material sites. The proposed Project site does not appear on any hazardous material site list compiled pursuant to Government Code Section 65962.5. The nearest site is the So Cal Gas/Riverside MGP located approximately 0.25 miles to the south of the site. The So Cal Gas/Riverside MGP is not listed on a National Priorities List and is a voluntary cleanup program. Two other sites are also listed approximately 0.25 miles to the north of the site. However both sites are listed as "inactive" and need further evaluation. Therefore, impacts are **less than significant.**

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?	☐	☐	☒	☐

8e. Response: ***(Source: General Plan 2025 Figure PS-6 – Airport Safety Zones and Influence Areas, RCALUCP and March Air Reserve Base/March Inland Port Comprehensive Land Use Plan dated November 13, 2014))***

Less Than Significant Impact. The proposed Project site is located within Airport Compatibility Zone E of the March Air Reserve Base/Inland Port Airport Influence Area (AIA), and therefore is subject to development review by the Riverside County Airport Land Use Commission (ALUC). Compatibility Zone E allows for residential development and has no restrictions on density. Neither residential density nor non-residential intensity is limited within Zone E, pursuant to the Countywide Policies section of the 2004 Riverside County Airport Land Use Compatibility Plan (RCALUCP). The proposed Project site is located more than 20,000 feet from the runways at Riverside Municipal Airport and March Air Reserve Base/Inland Port Airport (March ARB/IP). The top point elevation of the proposed structure will be more than 500 feet lower in elevation than the runway at March ARB/IP. The proposed Project site is also located approximately 12,000 feet from the northeasterly end of Runway 6-24 at Flabob Airport. Based on the distance and a runway elevation of 766.8 feet above mean sea level (AMSL), Federal Aviation Administration (FAA) review would be required for any structures with top of roof exceeding 1006.8 feet AMSL. The proposed Project site has an existing elevation of approximately 885 feet AMSL. With a maximum structure height of 55 feet 2 inches, the top point elevation would be 940.17 feet AMSL. Thus, FAA obstruction evaluation review for height/elevation reasons is not required.

On November 16, 2015, ALUC determined the Project's Site Plan Review is consistent with the 2014 March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, subject to the following conditions:

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

1) Any new outdoor lighting that is installed shall be hooded or shielded so as to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.
2) The following uses shall be prohibited:
    a. Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.
    b. Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.
    c. Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, production of cereal grains, sunflower, and row crops, artificial marshes, wastewater management facilities, composting operations, construction and demolition debris facilities, fly ash disposal, and incinerators.)
    d. Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.
3) The attached notice shall be provided to all potential purchasers of the property and to tenants of the proposed building.
4) Any new aboveground detention or water quality basins on the site shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention/water quality basin(s) that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping.

The above conditions of approval are recommended by ALUC should the City decide to approve the Project. Given ALUC's determination that the Project is consistent with 2014 March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan, impacts with regard to safety hazards for people residing or working in the area are **less than significant** directly, indirectly, or cumulatively.

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?	☐	☐	☐	☒

8f. Response: ***(Source: General Plan 2025 Figure PS-6 – Airport Safety Zones and Influence Areas)***

No Impact. The proposed Project is not located within the proximity of a private airstrip, and does not propose a private airstrip. As a result, the proposed Project will not expose people residing or working in the City to excessive noise levels related to a private airstrip. Therefore, **no impacts** are anticipated.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

8g. Response: ***(Source: GP 2025 FPEIR Chapter 7.5.7 – Hazards and Hazardous Materials)***

No Impact. The City has developed an extensive Emergency Operations Plan (EOP), created by the Emergency Management Office. The City's Fire Department promotes a high level of multi-jurisdictional cooperation and communication for emergency planning and response management through activation of the Standardized Emergency Management System. Additionally, the General Plan also provides policies to identify methods of implementing the emergency plan.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

The Project will be served by existing, fully improved streets (Mission Inn Avenue, University Avenue, and 9th Street). All streets have already been improved and have been designed to meet the Public Works and Fire Departments' specifications. Project compliance with City Fire codes, regulations, and conditions will ensure that implementation of the proposed project will not interfere or impair an adopted emergency response plan or emergency evacuation plan. Thus, **no impacts** are anticipated in this regard.

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?	☐	☐	☐	☒

8h. Response: ***(Source: General Plan 2025 Figure PS-7 – Fire Hazard Areas)***

No Impact. The proposed Project is located in an urbanized area and is surrounded by development. According to General Plan Figure PS-7, Fire Hazard Areas, the Project site is not located in a fire hazard area. The vicinity of the project site is considered to have a low fire risk and is not identified in the City's General Plan as a high fire severity zone. Therefore **no impact** regarding wildland fires will occur.

9. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐

9a. Response: ***(Source: GP 2025 FPEIR Table 5.8-A – Beneficial Uses Receiving Water and Project Specific Water Quality Management Plan prepared by KHR Associates, February 23, 2016 [KHR])***

Less Than Significant Impact. Activities associated with the construction of the proposed Project would include grading and site preparation, which may have the potential to release pollutants (e.g., oil from construction equipment, cleaning solvents, paint) and silt off-site which could impact water quality. However, the Project is required to prepare a Stormwater Pollution Prevention Plan (SWPPP) pursuant to the statewide General Construction Permit (NPDES General Permit No. CAS000002, Waste Discharge Requirements, Order No. 2009-0009-DWQ, adopted September 2, 2009 and effective as of July 2, 2010) issued by the State Water Resources Control Board (SWRCB) for construction projects. Further, the Project would incorporate appropriate Best Management Practices (BMPs) to minimize potential runoff and erosion.

Development of the proposed Project would add impervious surfaces to the site. Upon completion of the Project, the impervious area would cover approximately 80% of the site. By increasing the percentage of impervious surfaces on the site, less water would percolate into the ground and more surface runoff would be generated. Paved areas and streets would collect dust, soil and other impurities that would then be assimilated into surface runoff during rainfall events. Operation of the Project has the potential to release pollutants resulting from replacing vacant land with roadways, walkways, and parking lots. These improvements may potentially impact water quality. A project-specific Preliminary Water Quality Management Plan (WQMP) KHR Associates to address the potential for operational impacts. The Preliminary WQMP has been submitted to the City Public Works Department for review. Prior to issuance of a grading or building permit, a final WQMP will be required for the Project.

The Project incorporates site design, source controls and treatment control BMPs to address storm water runoff. A majority of the flows from the site will occur over impervious surfaces that discharge to the underground onsite infiltration tank. The proposed infiltration systems are considered to have zero discharge. These BMPs combined with compliance of existing regulations will have a **less than significant impact** with regard to violation of water quality standards or waste discharge requirements.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	☐	☐	☒	☐

9b. Response: ***(Source: General Plan 2025 Table PF-1 – RPU Projected Domestic Water Supply (AC-FT/YR), Table PF-2 – RPU Projected Water Demand, RPU Map of Water Supply Basins, RPU Urban Water Management Plan, and Project Specific Water Quality Management Plan prepared by KHR Associates, February 23, 2016 [KHR] and site specific Geotechnical Investigation prepared by Geotechnical Professionals Inc., February 17, 2014 [GPI], BlueRiverside.com website)***

Less Than Significant Impact. Water service will be provided to the Project by Riverside Public Utilities (RPU). RPU's water is sourced from local area wells in the Bunker Hill, San Bernardino, and Riverside Basins. The Project site is located within the Riverside South Water Supply Basin. The General Plan 2025 FPEIR concluded that implementation of the General Plan would not substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Because the Project includes a GPA and zone change that will change the land use designation of approximately 4.69 acres from Industrial (I), Mixed Use Village (MU-V) and Business/Office Park (B/OP) to Mixed Use-Urban (MU-U), the Project's water use was not considered during preparation of the General Plan 2025 FPEIR. However, the Project will comply with the CalGreen building code, which had not been adopted at the time the General Plan 2025 FPEIR was prepared. Because CalGreen requires a 20 percent reduction in indoor water use, even if the Project did not entail a GPA; the amount or what that will be used by the Project would be less than what would have evaluated in the General Plan 2025 FPEIR. Additionally, the proposed land use changes are minimal when compared to the overall buildout of the General Plan. Thus, the Project is not anticipated to substantially deplete the groundwater supplies.

The Project site is in an urbanized area and portions of the site are paved. These conditions are not conducive to groundwater recharge. Thus, development of the Project site will not substantially interfere with groundwater recharge.

For the reasons set forth above, impacts with regard to the depletion of groundwater supplies and substantial interference with ground water recharge will be **less than significant**.

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?	☐	☐	☒	☐

9c. Response: ***(Source: Preliminary grading plan, and Project Specific Water Quality Management Plan prepared by KHR Associates, February 23, 2016 [KHR])***

Less Than Significant Impact. The Project is located in an urban area of the City and as such, the Project will not alter the course of a stream or river. The Project is subject to NPDES requirements including preparing and implementing a SWPPP for the prevention of runoff during construction. Erosion, siltation and other possible pollutants associated with long-term implementation of the Project is addressed as part of the project-specific Preliminary WQMP and grading permit process. Therefore, through compliance with existing regulations and policies impacts will be **less than significant.**

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

9d. Response: ***(Source: Preliminary grading plan, and Project Specific Water Quality Management Plan prepared by KHR Associates on February 23, 2016 [KHR])***

Less Than Significant Impact. According to Figure PS-4 in the General Plan 2025, the Project site is not located in a flood hazard area. The runoff from the Project in a developed condition has been studied in the Project specific Preliminary WQMP and is required to be attenuated on-site, so that the off-site discharge is the same as the undeveloped condition. Therefore, no flooding on or off-site as a result of the project will occur. Impacts are **less than significant**.

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?	☐	☐	☒	☐

9e. Response: ***(Source: Preliminary Grading Plan, and Project Specific Water Quality Management Plan prepared by KHR Associates on February 23, 2016)***

Less Than Significant Impact The project incorporates site design, source controls and treatment control BMPs to address storm water runoff. A majority of the flows from the site will occur over impervious services that will discharge into a proposed underground onsite infiltration tank. Other flows will drain into adjacent landscaping for retention. In addition, all downstream conveyance channels that will receive runoff from the Project are engineered and regularly maintained to ensure flow capacity. As such, impacts will be **less than significant**.

f. Otherwise substantially degrade water quality?	☐	☐	☒	☐

9f. Response: ***(Source: Project Specific Water Quality Management Plan prepared by KHR Associates on February 23, 2016)***

Less Than Significant Impact. A Preliminary Project specific WQMP was prepared and has been submitted to the City Public Works Department for review and approval. The Preliminary WQMP identified pathogens, lead and copper as pollutants of concern. As such, appropriate site design, source control and treatment control best management practices were incorporated into the Project design to address the pollutants of concern in addition to and other potential and expected pollutants generally associated with a residential land use, such as trash and debris, oil, etc. As the Project will be reviewed by the City's Public Works Department and appropriate best management practices have been incorporated into the project design, impacts with regard to water quality will be **less than significant**.

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?	☐	☐	☐	☒

9g. Response: ***(Source: General Plan 2025 Figure PS-4 – Flood Hazard Areas)***

No Impact. General Plan 2025 FPEIR Figure 5.8-2 -- Flood Hazard Areas shows that the Project site is not located within or near a 100-year flood hazard area. Therefore, no impact will occur.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒

9h. Response: ***(Source: General Plan 2025 Figure PS-4 – Flood Hazard Areas)***

No Impact. General Plan 2025 FPEIR Figure 5.8-2 -- Flood Hazard Areas shows that the Project site is not located within or near a 100-year flood hazard area. Therefore, **no impacts** will occur.

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?	☐	☐	☐	☒

9i. Response: ***(Source: General Plan 2025 Figure PS-4 – Flood Hazard Areas)***

No Impact. According to General Plan 2025 Figure PS-4, Flood Hazard Areas, which shows the potential dam inundation zones throughout the City, the Project site is not located in a dam inundation area. Therefore, **no impacts** will occur.

j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

9j. Response: ***(Source: GP 2025 FPEIR Chapter 7.5.8 – Hydrology and Water Quality)***

No Impact. Tsunamis are large waves that occur in coastal areas; therefore, since the City is not located in a coastal area, **no impacts** due to tsunamis will occur directly, indirectly or cumulatively. Additionally, the Proposed project site and its surroundings have generally flat topography and is within an urbanized area not within proximity to Lake Mathews, Lake Evans, the Santa Ana River, Lake Hills, Norco Hills, Box Springs Mountain Area or any of the 9 arroyos which transverse the City and its sphere of influence. Therefore, **no impact** potential for seiche or mudflow exists either directly, indirectly or cumulatively.

10. LAND USE AND PLANNING: Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒

10a.Response: ***(Source: General Plan 2025 Land Use and Urban Design Element, Project site plan)***

No Impact. The Project site is currently vacant and can be accessed via Mission Inn Avenue, University Avenue, and 9th Street. Because Mission Lofts is an in-fill project, its development will not disrupt or divide the physical arrangement of an established community. Additionally, the Project does not propose to eliminate any existing roadways or create barriers to accessing existing development. Therefore, **no impacts** are anticipated

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?	☐	☐	☒	☐

10b. Response: ***(Source: General Plan 2025, General Plan 2025 Figure LU-10 – Land Use Policy Map, Table LU-5 – Zoning/General Plan Consistency Matrix, Downtown Specific Plan and Citywide Design and Sign Guidelines [CDGSG], Project Specific Traffic Impact Analysis prepared by Fehr & Peers, April 2015 [TIA])***

Less Than Significant Impact. The proposed Project involves a GPA, to change the land use designation for the Project site from Industrial (I), Mixed Use Village (MU-V) and Business/Office Park (B/OP) to Mixed Use-Urban (MU-U) and a

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Specific Plan Amendment to create the Mixed Use Marketplace SubArea and adopt the standards and uses of the Mixed Use-Urban land use found within Title 19 into the Marketplace Specific Plan and a change of zone to rezone 4.69 acres from General Industrial with specific plan and cultural resources overlays (I-SP-CR), General Industrial with specific plan overlay (I-SP), Business and Manufacturing Park with specific plan overlay (BMP-SP), Business Manufacturing Park with specific plan overlay and cultural resources overlay (BMP-SP-CR), and Commercial Retail with specific plan overlay (CR-SP) to MU-U-SP – Mixed Use-Urban – Specific Plan (Marketplace Specific Plan) and MU-U-SP-CR – Mixed-Use – Urban – Specific Plan (Marketplace Specific Plan) – Cultural Resources (Seventh Street East Historic District). Due to the Project's location to existing residential uses, the project would continue the development pattern of residential uses in the Project Area. Additionally, units step down from 4 stories to 2 stories along Mission Inn Avenue to be compatible with surrounding residential development.. A request for two variances has been submitted: (1) P15-0954; to permit fewer parking spaces than required by the City's Municipal Code, and (2) P15-0953; to allow 16 tandem parking stalls.

Because the Project is a Transit Oriented Development (TOD), it includes a request for a variance from Section 19.580.060 of the Zoning Code to allow fewer parking spaces than required by the City's Municipal Code. The project is proposing 315 parking stalls, at a ratio of 1.49 parking stalls per unit, a reduction of 50 parking stalls. The reduction in the number of stalls includes those for both the residential use and the 5 required for the commercial space located along 9th Street. The Project also includes variances to allow the use of tandem parking spaces. A Parking Demand Study (Section 8.0 of the TIA) was prepared to determine an appropriate parking ratio for the Project. Empirical data from national research on residential parking demand, research on parking in TODs, as well as the results of a parking study conducted at a residential development in Corona, California, were used to develop alternative parking estimates for the Project.

The results of the Parking Demand Study indicate that because the City's Zoning Code applies to the entire City, which includes a mix of suburban and urban areas, the Code requirements may not be well suited to the proposed Project, because the Project site is served by multi-modal transit and is within walking distance to employment, retail, and entertainment destinations in Downtown Riverside. A 2004 study[1] funded by Caltrans found that residents of TODs typically drive less than residents of traditional developments, and may be less likely to own a car or at least less likely to be a two-car household. This same study determined that TODs and projects within walking distance of downtown uses exhibit peak parking demands well below the minimum off-street parking requirements of most suburban zoning codes.

TODs and projects in downtowns tend to attract young single people and older couples whose children have left home. Therefore, the need for larger units with higher parking requirements is reduced. This leads to increased demand for one-bedroom units (occupied by one person) and more use of two bedroom units by a single person who uses the second bedroom as a study, home office, weekend bedroom for a child under a shared custody arrangement, or a guest bedroom for an occasional visitor. All of the above factors influence the size of units (with more small units being built), the density of habitation (with more single people occupying a one- or two-bedroom unit) and therefore, the amount of parking needed to serve the new demographic.

The results of an Urban Land Institute (ULI) sponsored study in 1984 established a basic methodology for analyzing parking demand and developed averages for parking rates by land use. The recommended parking ratio for residential rental units from this study was 1.65 spaces per dwelling unit (1.5 spaces per unit plus 0.15 guest space per unit). Fehr & Peers compiled data from TOD parking studies completed across the United States. While the provision of parking varies between TODs, in general, the average parking ratio per unit in TODs in both suburban and urban locations is substantially lower (1.0 to 1.3 spaces per dwelling unit compared with 1.7 spaces per dwelling unit) than what the Code would require for the Mission Lofts project.

Based on the range of parking ratios detailed in research on TODs and the empirical parking demand found at the comparable development in Southern California, a reduction to the required parking ratios found in the Riverside Zoning Code would be appropriate given the nature of the Mission Lofts development. Based on all of the available data, the parking demand at the Mission Lofts project is projected to be between 1.0 and 1.5 spaces per dwelling unit inclusive of on-site parking. The Project proposes 315 parking spaces.

[1] Lund, Cervero, and Wilson. *Travel Characteristics of Transit-Oriented Development in California,* 2004.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

With approval of the proposed GPA SPA, Change of Zone, parking variances, and certificate of appropriateness, the Project will have adequate parking and not conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the Project. Therefore, impacts are considered **less than significant**.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

10c. Response: ***(Source: RCIP Conservation Summary Report Generator, General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP)***

No Impact. See 4f, above.

11. MINERAL RESOURCES. Would the project:				
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?	☐	☐	☒	☐

11a. Response: ***(Source: General Plan 2025 Figure – OS-1 – Mineral Resources)***

Less Than Significant Impact. The mineral resource zone (MRZ) mapped for this area is MRZ-3. This classification is an area where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined. Given the size and location of the Project site in relationship to surrounding urban uses, it is highly unlikely that any surface mining or mineral recovery operation could feasibly take place in these areas. For these reasons impacts with regard to the loss of a known mineral resource are **less than significant**.

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?	☐	☐	☐	☒

11b. Response: ***(Source: General Plan 2025 Figure – OS-1 – Mineral Resources)***

No Impact. The GP 2025 FPEIR determined that there are no specific areas within the City or its Sphere of Influence which have locally important mineral resource recovery sites and that the implementation of the General Plan 2025 would not significantly preclude the ability to extract state designated resources. **No impacts** are anticipated.

12. NOISE. Would the project result in:				
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?	☐	☒	☐	☐

12a. Response: ***(Source: General Plan Figure N-1 – 2003 Roadway Noise, Figure N-2 – 2003 Freeway Noise, Figure N-3 – 2003 Railway Noise, Figure N-5 – 2025 Roadway Noise, Figure N-6 – 2025 Freeway Noise, Figure N-7 – 2025 Railroad Noise, Figure N-10 – Noise/Land Use Noise Compatibility Criteria, FPEIR Table 5.11-I – Existing and Future Noise Contour Comparison, Table 5.11-E – Interior and Exterior Noise Standards, Title 7 – Noise Code, and Project Specific Noise Impact Analysis prepared by Kunzman Associates, Inc., May 31, 2015)***

Less than Significant with Mitigation Incorporated. Noise impacts are evaluated from two perspectives – impacts to the Project and impacts from the Project. Noise impacts to a project may occur as a result of excessive off-site noise sources.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Noise impacts from a project may occur as a result of on-site activities or project-related traffic. To evaluate these impacts a Noise Impact Analysis (NIA) was prepared for the Project by Kunzman Associates Inc.

Impacts to the Project: The dominant noise source at the Project site is from vehicles on University Avenue and Mission Inn Avenue and trains using the railroad track northwest of the Project site. Measured ambient noise in the Project area ranges from 60.8 dBA to 82.5 dBA.

During long term operation of the Project, exterior noise levels for the proposed residential buildings could exceed the City of Riverside land use compatibility guidelines set forth in the General Plan. The General Plan noise/landuse compatibility criteria for infill residential land uses states that noise would be "normally acceptable" in areas with noise levels up to 65 dBA CNEL and "conditionally acceptable" in areas with noise levels up to 75 dBA CNEL. The NIA determined that unmitigated future buildout traffic noise levels in the Project area could reach up to 73 dBA CNEL at the façade of the proposed apartment buildings. Noise levels at the Project's proposed outdoor recreation area are not expected to exceed 59.3 dba CNEL. The 59.3 dBA CNEL noise leave falls within the "normally acceptable" category and the 73 dBA CNEL falls into the category of what is considered to be "conditionally acceptable." As a matter of policy, the City supports new residential development within already urbanized areas where ambient noise levels may be higher than those experienced in neighborhoods located on the urban periphery. New construction is still required to comply with standards set forth in Title 24 of the State Health and Safety Code. Special insulation, windows and sealants shall be utilized to ensure that the interior noise levels meet the 45 dBA CNEL standard. The Project also includes heating, ventilating, and air conditioning units (HVAC) to allow windows and doors to remain closed for prolonged periods of time to maintain interior noise standards. Due to the proximity of the existing rail crossing at Mission Inn Avenue, the proposed apartment units will be subject to rail crossing bells and train horns. Noise from the train horns is anticipated to reach up to 98 dBA at the Project site; however, this noise is intermittent it contributes very little to the 24-hour averaged and weighted noise level (CNEL) standard. To ensure that future noise levels on the Project site do not exceed the City's interior noise standards for residences, mitigation measure **MM Noise 1** will be implemented. **MM Noise 2** will be implemented to ensure that train proximity and schedules are disclosed to potential residents. Rail related vibration is discussed below in response 12b.

Impacts from the Project: Existing traffic noise modeling resulted in noise levels ranging between 58.6 dBA and 70.0 dBA at 50 feet from the centerlines of Commerce Street (from University Avenue to Mission Inn Avenue), Lime Street (from 9th Street to University Avenue), Mission Inn Avenue (from Vine Street to Commerce Street) and University Avenue (from Lemon Street to Lime Street; Park Avenue to Victoria Avenue; and Santa Fe Avenue to Commerce Street). With the addition of Project-related traffic to these street segments, the modeled noise levels range between 58.7 dBA and 70.1 dBA. (See Table 5 in the NIA.) Because the increase in noise is less than 5 dBA, impacts are considered less than significant.

During Project construction, temporary increases to ambient noise levels may occur. Sensitive receptors that may be affected by Project generated noise during construction include single-family detached residential dwelling units located south and southeast of the Project site, commercial establishments and a medical clinic located just south of the Project site. Noise levels may increase due to the operation of construction equipment and increased traffic volumes from workers commuting to and from the Project sites and delivery of construction material. Construction noise is further discussed below in response 12c.

The City does not provide specific construction noise control standards but controls construction noise by limiting the hours that construction activities may occur. According to the Municipal Code Section 7.35.010 (General Noise Regulations), temporary construction activities are allowed provided they do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between 5:00 p.m. on Fridays and 8 a.m. on Saturdays, after 5:00 p.m. Saturdays or at any time on Sunday or Federal Holidays. By adhering to the above listed limitations on working hours, which are standard conditions for typical projects in the City, the proposed Project will avoid creating offensive noise during nighttime hours and/or on Sundays or Federal Holidays when noise standards are more stringent. However, despite the restrictions on construction hours, construction noise levels could still exceed the City's exterior noise standards. To decrease construction noise levels experienced at noise sensitive land uses, mitigation measures **MM Noise 3** through **MM Noise 5** will be implemented.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

For the reasons set forth above, impacts with regard to the exposure of persons to or the generation of noise levels in excess of established City standards are considered **less than significant with mitigation incorporated**.

MM Noise 1: Prior to issuance of building permit, the Project proponent shall demonstrate to the City that all exposed residential exterior window/wall assemblies facing Mission Inn Avenue provide a Sound Transmission Class (STC) rating of a least 28 dB; window/wall assemblies facing Commerce Street and the Railroad provide an STC rating of at least 25 dB; and window/wall assemblies facing University Avenue provide an STC rating of at least 23.4 dB. The building plans submitted to the City for review and approval shall identify the STC rating of the materials used to construct the exterior windows/wall assemblies.

MM Noise 2: All future property managers at the project site shall be required to disclose to potential residents the number of trains that pass by per day and at what time of day they pass. They should also be required to inform potential residents that the train horn noise will be audible in most of the proposed residential dwelling units. Relatively current train inventory data can be found on the Federal Railroad Administration's website. More specifically, data can currently be found at http://safetydata.fra.dot.gov/officeofsafety/publicsite/crossing/crossing.aspx.

MM Noise 3: Two weeks prior to the commencement of construction, notification must be provided to surrounding land uses disclosing the construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period. For the duration of construction activities, the construction manager shall serve as the contact person should noise levels become disruptive to local residents. A sign shall be posted at the Project site with the contact phone number.

MM Noise 4: Prior to and during construction activities, the Project contractor shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturer standards.

MM Noise 5: The construction contractor shall locate noise generating construction equipment and construction staging in areas that will create the greatest distance between construction related noise sources and noise sensitive receptors (nearby residences)that are nearest the Project site. The location of the construction staging areas shall be shown on the construction specifications and shall be reviewed by the City prior to the issuance of grading permit.

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

12b. Response: ***(Source: General Plan Figure N-1 – 2003 Roadway Noise, Figure N-2 – 2003 Freeway Noise, Figure N-3 – 2003 Railway Noise, Figure N-5 – 2025 Roadway Noise, Figure N-6 – 2025 Freeway Noise, Figure N-7 – 2025 Railroad Noise, FPEIR Table 5.11-G – Vibration Source Levels For Construction Equipment, and Project Specific Noise Impact Analysis prepared by Kunzman Associates, Inc., May 31, 2015)***

Less than Significant Impact. Construction related activities although short term, are the most common source of groundborne noise and vibration that could affect occupants of neighboring uses. Intermittent train vibration is also a source of groundborne noise and vibration. Since the Project is located next to the railroad tracks and will involve short term construction activities a Noise and Vibration Study was conducted for the proposed Project and is included as Appendix E to the NIA.

During construction vibratory equipment including loaded trucks, large bulldozes and a hoe-ram may be utilized during demolition activities that would include the tearing up of concrete. The most vibration causing piece of equipment that will likely be used on-site is a vibratory roller. Vibratory equipment may be annoying to people if operated within 25 feet of the existing adjacent single family dwelling units. Because construction-generated groundborne vibration is temporary and infrequent, and is considered a less than significant impact.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

The Project site is located approximately 170 feet from an existing rail crossing at Mission Inn Avenue. The Noise Impact Analysis documented that 9 passenger trains and 105 freight trains pass by the Project site during a 24-hour period; 52 freight train pass-bys occur between the hours of 6:00 PM and 6:00 AM. Considering the number of trains that pass by the Project site and the fact that most are freight trains, the correct threshold to evaluate potential ground borne vibration impacts to the proposed project is 72 VdB (for more than 70 events per day) per the FTA Transit Noise and Vibration Impact Assessment Guidelines (2006). In addition, the FTA prescribes third-octave band limitations on vibration levels from 4 Hz to 80 Hz. On-site vibration measurements did not exceed 72 VdB between 4 Hz and 80 Hz. Because rail-related ground borne vibration is not expected to exceed the FTA vibration thresholds, impacts are considered less than significant.

For the reasons set forth above, Project impacts with regard to the exposure of persons to or the generation of excessive groundborne vibration or groundborne noise levels is **less than significant**.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

12c. Response: ***(Source: General Plan Figure N-1 – 2003 Roadway Noise, Figure N-2 – 2003 Freeway Noise, Figure N-3 – 2003 Railway Noise, Figure N-5 – 2025 Roadway Noise, Figure N-6 – 2025 Freeway Noise, Figure N-7 – 2025 Railroad Noise, FPEIR Table 5.11-I – Existing and Future Noise Contour Comparison, Table 5.11-E – Interior and Exterior Noise Standards, Title 7 – Noise Code, and Project Specific Noise Impact Analysis prepared by Kunzman Associates, Inc., May 31, 2015)***

The Project site is located in a urbanized and built out area. Although noise sensitive residential uses exist adjacent to the site, given that the Project is located along a major arterial street that is a contributor to the existing noise environment. As discussed in response 12a, above, the NIA found that Project-related traffic will not result in substantial increases in ambient noise levels. Further, as a residential project, there are no operational activities that would result in a substantial increase in ambient noise. Impacts will be **less than significant**.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐

12d. Response: ***(Source: FPEIR Table 5.11-J – Construction Equipment Noise Levels, and Project Specific Noise Impact Analysis prepared by Kunzman Associates, Inc., May 31, 2015)***

Less than Significant with Mitigation. The primary source of temporary noise associated with the proposed Project is from construction activity. A likely worst-case one-hour construction noise scenario was modeled to determine what construction noise levels would be at the nearest sensitive receptors (adjacent residential properties). The worst-case scenario included three pieces of equipment most likely to be operated simultaneously near the adjacent single-family detached residential dwelling units during the demolition/excavation phase (hydra break ram, backhoe, dozer, and dump truck). The equipment was modeled at a distances ranging between 25-200 feet from the receptor. Unmitigated construction noise levels experienced at the sensitive receptors nearest to the project site could reach 82.6 dBA Leq. The loudest piece of equipment that may be used on the project site (a jackhammer) operating at the property line could generate a maximum noise level of up to 94.9 dBA Lmax at a receptor within 25 feet. With implementation of mitigation measures **MM Noise 3 through MM Noise 5** (see response 12a, above); impacts will be reduced to **less than significant with mitigation**.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

12e. Response: ***(Source: General Plan 2025 Figure N-8 – Riverside and Flabob Airport Noise Contours, Figure N-9 – March ARB Noise Contour, Figure N-10 – Noise/Land Use Noise Compatibility Criteria, RCALUCP, March Air Reserve Base/March inland Port Comprehensive Land Use Plan November 13, 2014)***

Less Than Significant Impact. The proposed Project is located within Airport Compatibility Zone E of the March Air Reserve Base /Inland Port Airport Influence Area: however the proposed Project is not located within the 60 dB CNEL contour and is not located within any of the airport noise contour areas as depicted on Exhibit MA-4 of the RCALUCP. As a result, the proposed Project would not expose people residing or working in the project area to excessive noise levels related to airport noise. Therefore, the impacts are **less than significant**.

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?	☐	☐	☐	☒

12f. Response: ***(Source: General Plan 2025 Figure PS-6 – Airport Safety Zones and Influence Areas)***

The proposed Project is not located within 2 miles of a private airstrip and as such will have **no impact** on people residing or working in the project area to excessive noise levels.

13. POPULATION AND HOUSING. Would the project:				
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)?	☐	☐	☒	☐

13a. Response: ***(Source: General Plan 2025 Table LU-3 – Land Use Designations, FPEIR Table 5.12-A – SCAG Population and Households Forecast, Table 5.12-B – General Plan Population and Employment Projections– 2025, Table 5.12-C – 2025 General Plan and SCAG Comparisons, and Table 5.12-D - General Plan Housing Projections 2025)***

Less Than Significant Impact. The proposed Project consists of the construction of a 212 unit apartment complex, which may directly induce growth. According to the General Plan 2025, the City's projected population by the year 2025 is 346,867. Although the Project proposes a GPA, SPA, and zone change that will change the land use designation of approximately 4.69 acres from Industrial (I), Mixed Use Village (MU-V) and Business/Office Park (B/OP) to Mixed Use-Urban (MU-U), the Project will not induce substantial population growth for the following reasons. The GP 2025 FPEIR estimated a total of 127,692 dwelling units at build-out within the City's sphere under the "Typical Growth Scenario." The Project's increase of 212 units is less than a one percent increase. Because this is an infill Project and does not include the extension of roads or other infrastructure facilities, it will not indirectly induce population growth. For these reasons, impacts to population growth will be **less than significant**.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

13b. Response: ***(Source: Google Earth; Site Visit)***

No Impact. The Project will not displace existing housing or people, necessitating the construction of replacement housing elsewhere because the Project site is vacant. There will be **no impact.**

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

13c. Response: ***(Source: Google Earth; Site Visit)***

No Impact. The Project will not displace existing housing or people, necessitating the construction of replacement housing elsewhere because the Project site is vacant. There will be **no impact.**

14. PUBLIC SERVICES.				
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:				
a. Fire protection?	☐	☐	☒	☐

14a. Response: ***(Source: FPEIR Table 5.13-B – Fire Station Locations, Table 5.13-C – Riverside Fire Department Statistics and Ordinance 5948 § 1)***

Less Than Significant Impact. The development of the proposed Project will result in the construction of 212 residential dwelling units. The addition of these structures and residents would increase the number of responses for fire protection services and emergency medical services to the Project site and vicinity.

The City of Riverside Fire Department (RFD) operates 14 fire stations throughout the city. The Project will be served by City of Riverside Fire Station 1, located at 3420 Mission Inn Avenue, which is approximately 0.5 miles west of the site. The fire department currently serves the exiting parcel; therefore the construction of the proposed Project will not represent a significant increase in the number of developments requiring service.

The proposed Project will be required to implement General Plan 2025 policies and comply with existing codes, standards and practices set forth by the City of Riverside Fire Department. In addition, per Ordinance 5984, adopted in 1991, new development is required to pay impact fees which can go toward purchasing land and construction of new fire facilities. With adherence to these regulations, impacts are considered **less than significant**.

b. Police protection?	☐	☐	☒	☐

14b. Response: ***(Source: General Plan 2025 FPEIR Section 5.13-Public Services)***

Less Than Significant Impact. The Riverside Police Department (RPD) does not use a formula for calculating the number of officers per capita. Instead, staffing for the department is based on the business and residential growth and evaluated on a project by project basis. Residential staffing is based on dwellings per development and business staffing is based on square

footage of the business, type of business and type of police services required. As a result RPD estimates its staffing projections through 2025 are 110 additional sworn officers and 55 additional non-sworn personnel above present levels. According to General Plan Policy PS-7.5 RPD will endeavor to respond to Priority 1 calls within 7 minutes, and to respond to Priority 2 calls within 12 minutes. As the proposed Project consists of the construction of a 212 unit apartment complex, the number of new units and subsequent growth in population is minimal when compared to the overall population of the City. Hence, while the proposed Project will increase population, the amount of growth is not significant and is within the rate of growth projected under General Plan buildout projections. Therefore with implementation of General Plan 2025 policies and compliance with existing codes and standards, there will be a **less than significant impact** on the demand for additional police facilities or services.

c. Schools?	☐	☐	☒	☐

14c. Response: ***(Source: FPEIR Figure 5.13-2 – RUSD Boundaries, RUSD- Elementary School Attendance Areas, RUSD-Middle School Attendance Areas, RUSD-High School Attendance Areas)***

Less Than Significant Impact. The project site is located within the Riverside Unified School District (RUSD). The closest elementary school is Longfellow Elementary School, located at 3610 Eucalyptus Avenue which is approximately a 0.5 miles to the east of the Project site. The closest middle school is the University Heights Middle School, located at 1155 Massachusetts Avenue, approximately 2 miles east of the site. The closest high school is Riverside Poly High School, located at 5450 Victoria Avenue, approximately 3 miles south of the site.

Development of the Project would result in 212 dwelling units, thereby increasing the number of school age children within the local Districts. However, Assembly Bill 2926 and Senate Bill 50 assist in providing school facilities to serve students generated by new development projects by allowing school districts to collect impact fees from developers of new residential. Therefore, with the payment of school impact mitigation fees, impacts are **less than significant**.

d. Parks?	☐	☐	☒	☐

14d. Response: ***(Source: General Plan 2025 Figure PR-1 – Parks, Open Spaces and Trails, Table PR-4 – Park and Recreation Facilities, Parks Master Plan 2003, GP 2025 FPEIR Table 5.14-A – Park and Recreation Facility Types, and Table 5.14-C – Park and Recreation Facilities Funded in the Riverside Renaissance Initiative)***

Less Than Significant Impact. Per Figure PR-1 and Table PR-1 in the City's General Plan, the Project is located in proximity to several parks including: North Park (located approximately 500 feet west of the Project site) this is a 1.23-acre neighborhood park and Lincoln Park (located approximately 0.6 mile south of the Project site) this is a 3.26- acre park with lighted basketball horseshoe courts, community center playground, and picnic facilities.

With the addition of an estimated 212 dwelling units, it is anticipated that development of the project may increase the use of existing neighborhood parks. However, Chapter 16.60, Local Park Development Fees, of the City of Riverside Municipal Code was created to enable the acquisition, development, or improvement of neighborhood and community parks to provide both passive and active recreational opportunities to the residents of the City in order to improve the quality of life for the public. Per Chapter Section 16.60.020, Determinations, of the City's Municipal Code, "The imposition of a Local Park Development Fee is necessary to provide funding for the acquisition and/or development of new parks and the expansion and/or improvement (including rehabilitation) of existing parks in order to provide adequate neighborhood and community parks benefiting the development upon which the fee is imposed. The amount of the Local Park Development Fee is to be calculated based upon the following adopted minimum standards: that the public interest, convenience, health, welfare and safety requires the provision of three acres of local parks per thousand population, consisting of 0.75 acre of Community Park per thousand population and 2.25 acres of Neighborhood Park per thousand population." In lieu of payment of all or a portion of the Local Park Development Fee, land may be dedicated to the City for park and recreational purposes. The proposed Project does not propose to dedicate any land to the City for park and recreational purposes. The proposed project is therefore required to pay park fees. These fees are a requirement for project development and will reduce impacts to parks to **less than significant**.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Other public facilities?	☐	☐	☒	☐

14e. Response: ***(Source: General Plan 2025 Figure LU-8 – Community Facilities, FPEIR Figure 5.13-5 - Library Facilities, Figure 5.13-6 - Community Centers, Table 5.3-F – Riverside Community Centers, Table 5.13-H – Riverside Public Library Service Standards)***

Less Than Significant Impact. The proposed Project will result in an incremental increased demand for library services and community services due to the addition of 212 dwelling units. The proposed Project is located within the service areas of adequate public facilities and services, including libraries and community centers that are available to serve the proposed Project. Implementation of General Plan 2025 policies, compliance with existing codes and regulations and through payment of development impact fees, impacts will be **less than significant.**

15. RECREATION.				
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?	☐	☐	☒	☐

15a. Response: ***(Source: General Plan 2025 Figure PR-1 – Parks, Open Spaces and Trails, Table PR-4 – Park and Recreation Facilities, Figure CCM-6 – Master plan of Trails and Bikeways, Parks Master Plan 2003, FPEIR Table 5.14-A – Park and Recreation Facility Types, and Table 5.14-C – Park and Recreation Facilities Funded in the Riverside Renaissance Initiative, Table 5.14-D – Inventory of Existing Community Centers, Riverside Municipal Code Chapter 16.60 - Local Park Development Fees, Bicycle Master Plan May 2007)***

Less Than Significant Impact. Refer to response 15d above regarding parks. Payment of required park fees will reduce impacts to **less than significant**.

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?	☐	☐	☒	☐

15b. Response: ***(Source: Project Description)***

Less Than Significant Impact. The proposed Project includes onsite amenities consisting of a pool, community fitness area, spa, dog run, pedestrian bridge, bar-be-que area and fire pit with a lounge. These proposed private amenities would serve future residents and would not require additional maintenance services from the City. While the proposed Project may increase the use of existing neighborhood parks, the recreational amenities that are provided as a part of the Project will lessen any substantial physical deterioration to existing recreation facilities in the area. For these reasons impacts to existing parks will be **less than significant.**

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. TRANSPORTATION/TRAFFIC. Would the project result in:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐

16a. Response: ***(Source: Project Specific Traffic Impact Analysis prepared by Fehr & Peers, April 2015 [TIA])***

Less than Significant with Mitigation. A Traffic Impact Analysis (TIA) was prepared for the Project to evaluate the proposed Project's impacts on traffic. Based on the analysis in the TIA, the Project is anticipated to generate a total of 1,410 daily trip-ends including 108 total trip-ends during the AM peak hour and 131 total trip-ends during the PM peak hour.

Nine (9) study intersections were analyzed in the TIA. These locations are listed below and are shown on Figure 2-1 in the TIA:

1. SR-91 Westbound Off Ramp and Mission Inn Avenue
2. Mulberry Street/SR-91 Eastbound On Ramp and Mission Inn Avenue
3. Lime Street and University Avenue
4. Mulberry Street/SR-91 Eastbound Off Ramp and University Avenue
5. Lime Street and 9th Street
6. Commerce Street and Mission Inn Avenue
7. Lime Street and 10th Street/SR-91 Westbound On Ramp
8. Park Avenue and University Avenue
9. 9th Street and Metrolink Driveway/Project Site 2 Driveway 1

In addition Six (6) roadway segments were analyzed in the TIA. The locations are listed below and are shown on Figure 4-2 in the TIA:

1. University Avenue between Lemon Street and Lime Street
2. Lime Street between 9th Street and University Avenue
3. Mission Inn Avenue between Vine Street and Commerce Street
4. University Avenue between Santa Fe Street and Commerce Street
5. Commerce Street between University Avenue and Mission Inn Avenue
6. University Avenue between Park Avenue and Victoria Avenue

As part of the analysis the TIA analyzed the following future scenarios:

- Existing (2015) Conditions
- Existing Plus Project (2016) Conditions
- Cumulative (2016) Conditions
- Cumulative (2016) Plus Project Conditions
- Build Out (2025) Conditions
- Build Out (2025) Plus Project Condition

The results of the TIA indicate that none of the study locations would be significantly impacted by the proposed project traffic during any of the scenarios. As a result, no off-site improvements are required.

In addition to evaluating the intersections and road segments identified above, the TIA evaluated Project site access, including the anticipated delay and level of service for the Project access driveways. The proposed Project driveway on University Avenue is forecasted to operate at LOS F during the PM peak hour under Build Out (2025) Plus Project

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Conditions. A peak hour traffic signal warrant was prepared for the intersection for the Build-Out (2025) Plus Project scenario volumes to identify if a traffic signal may be warranted. However, the intersection does not meet the signal warrant in the peak hour due to low egress volumes.

To address the access control at the Project's proposed driveways, the City Public Works Department requested preparation of a Lane and Striping Study. The results of this study (included in Section 9.0 of the TIA) indicate that the access driveways from Mission Inn Avenue and 9th Street will not require any striping modifications. The proposed driveway from University Avenue will require striping modifications to accommodate the eastbound left turn movement into the Project site. To ensure the access at University Avenue will operate at an acceptable level of service, the Project will incorporate mitigation measure **MM Trans 1**, which requires striping modifications and adequate space for vehicles to queue. Impacts will **less than significant mitigation.**

MM Trans 1: To provide adequate and safe access to the Project site from University Avenue, the Project Applicant shall coordinate with the City Public Works Department and provide a striping plan in substantial conformance to the University Avenue Driveway Access Striping Exhibit shown on Figure 9-1 of the TIA unless the City Public Works Department determines that an alternate plan would provide acceptable access to the Project site.

b. Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒

16b. Response: ***(Source: General Plan 2025 Figure CCM-4 – Master Plan of Roadways, RCTC 2011 Riverside County Congestion Management Program)***

No Impact. Each county in California is required to develop a Congestion Management Program (CMP) that analyzes at the links between land use, transportation and air quality. The Riverside County Transportation Commission (RCTC) is the County of Riverside's Congestion Management Agency. The RCTC prepares and periodically updates the County's CMP to meet federal Congestion Management System guidelines and state CMP legislation.

According to Table 2-1-CMP System of Highways and Roadways, in the 2011 Riverside County Congestion Management Program, the segments of Mission Inn Avenue and University Avenue from Market Street to SR 91 are the only roads in proximity to the Project site listed as part of the CMP System of Highways and Roadways. These road segments are not adjacent to the Project site. The TIA evaluated the intersection of SR-91 Westbound Off Ramp and Mission Inn Avenue and determined it would operate at an acceptable level of service. Therefore the Project will have **no impact** in this regard.

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?	☐	☐	☐	☒

16c. Response: ***(Source: General Plan 2025 Figure PS-6 – Airport Safety Zones and Influence Areas)***

No Impact. The Project will not change air traffic patterns, increase air traffic levels or change the location of air traffic patterns. It is not located within an airport influence area. As such, **no impact** will occur.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐

16d. Response: ***(Source: Project Specific Traffic Impact Analysis prepared by Fehr & Peers, April 2015.)***

Less than Significant with Mitigation Incorporated. The Project does not propose any design features that would increase traffic hazards. Although the Project includes a GPA, SPA, and change of zone, implementation of the Project will not introduce incompatible uses to the Project Area. To provide safe access to the Project site from the University Avenue, a striping plan will be prepared and implemented as required by mitigation measure **MM Trans 1** (see response 16a). **Impacts will be less than significant with mitigation.**

e. Result in inadequate emergency access?	☐	☐	☒	☐

16e. Response: ***(Source: Municipal Code, Fire Code and Project Specific Traffic Impact Analysis prepared by Fehr & Peers, April 2015)***

Less than Significant Impact. The Project has been reviewed by the City of Riverside and is in compliance with applicable sections of the Municipal Code (such as Chapter 18.210, Development Standards and Section 13.32.080, Fire Apparatus Access Roads) regarding emergency access. The Project has also been reviewed by the City Fire Department to ensure compliance with the Fire Code. As such, the Project provides adequate emergency access in accordance with City regulations and requirements. Therefore, a **less than significant impact** will occur.

f. Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities)?	☐	☐	☒	☐

16f. Response: ***(Source: FPEIR, General Plan 2025 Land Use and Urban Design, Circulation and Community Mobility and Education Elements, and Project Specific Traffic Impact Analysis prepared by Fehr & Peers, April 2015)***

Less Than Significant Impact. The proposed Project as designed is not in conflict with adopted policies, plans, or programs supporting alternative transportation. The Project area is currently served by the Riverside Transit Agency (RTA). Currently, RTA Routes 1 (UCR to W. Corona Metrolink Station), Route 10 (Big Springs and Watkins to Galleria at Tyler), Route 14 (Galleria at Tyler to Loma Linda VA Hospital), Route 16 (Riverside Downtown Terminal to Moreno Valley Mall), Route 22, (Riverside Downtown Terminal to Lake Elsinore Outlet Center), Route 208, Route 210/Sunline 220 (Riverside Downtown Terminal to Palm Desert), and Route 212 serve roadways within the vicinity of the Project area.

In addition, the Project site is located directly to the east of the Riverside Downtown Metrolink Station, just across 9th Street. This station is served by the Los Angeles Union Station and San Bernardino Lines of the Metrolink commuter rail which as well as Los Angeles Union Station and San Bernardino Lines of the Amtrak rail. Headways for each line range from 30 to 120 minutes. Given that the Project will be immediately adjacent to the transit center, it can be considered a transit oriented development (TOD).

Transit service is reviewed and updated by RTA and Metrolink periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. However roadway improvements are anticipated to provide safe and efficient pedestrian connections between the proposed Project and surrounding area through construction of sidewalks along the Project frontage. Therefore impacts are **less than significant.**

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
17. UTILITIES AND SYSTEM SERVICES. Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐

17a. Response: ***(Source: General Plan 2025 Figure PF-2 – Sewer Facilities Map, FPEIR Figure 5.16-5 – Sewer Service Areas and Table 5.16-K - Estimated Future Wastewater Generation for the City of Riverside's Sewer Service Area)***

Less Than Significant Impact. The City is within the Santa Ana Regional Water Quality Control Board. Wastewater conveyance and treatment for the proposed Project will be provided by the Riverside Public Works Department. Project-generated wastewater will be treated at the Riverside Water Quality Control Plant (RWQCP). The RWQCP is currently undergoing a plant wide expansion to increase the treatment capacity from 40 million gallons per day (MGD) to 46 MGD. The RWQCP Phase 1 expansion is expected to be completed in summer, 2016. The RWQCP is operated in compliance with State and federal requirements governing the treatment and discharge of wastewater. Although the proposed Project includes a GPA, SPA and change of zone to develop 212 apartment units, there will be adequate capacity at the RWQCP to treat the Project's wastewater. For these reasons, the proposed Project is not anticipated to exceed wastewater treatment requirements of the applicable Santa Ana Regional Water Quality Control Board and impacts will be **less than significant**.

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?	☐	☐	☒	☐

17b. Response: ***(Source: General Plan 2025 Table PF-1 – RPU PROJECTED DOMESTIC WATER Supply (AC-FT/YR), Table PF-2 – RPU Projected Water Demand, RPU, FPEIR Table 5.16-G – General Plan Projected Water Demand for RPU Including Water Reliability for 2025,, Figure 5.16-4 – Water Facilities and Figure 5.16-6 – Sewer Infrastructure and Wastewater Integrated Master Plan and Certified EIR.)***

Less Than Significant Impact. Water service to the proposed Project will be provided by RPU. As discussed in response 9b, RPU's water is sourced from local area wells in the Bunker Hill, San Bernardino, and Riverside Basins and RPU has sufficient supply to serve the Project. As discussed in response 17a, Project-generated wastewater will be conveyed in existing sewer pipelines to the RWQCP for treatment. The RWQCP will have adequate treatment capacity to serve the proposed Project. Because no new or expanded water or wastewater treatment facilities will be required, impacts will be **less than significant.**

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?	☐	☐	☒	☐

17c. Response: ***(Source: FPEIR Figure 5.16-2 - Drainage Facilities)***

Less Than Significant Impact. Implementation of the Project will require construction of an on-site storm water drainage system to carry flows away from the Project site into the area's storm drain system. Subdivision Code (Title 18, Section 18.48.020) requires drainage fees to be paid to the City for new construction. Fees are transferred into a drainage facilities fund that is maintained by Riverside County Flood Control and Water Conservation District. This Section also complies with the California Government Code (section 66483), which provides for the payment of fees for construction of drainage facilities. Fees are required to be paid as part of the conditions of approval/waiver for filing of a final map or parcel map.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

General Plan 2025 Policies PF 4.1 and PF 4.3 require the City to continue to routinely monitor its storm drain system and to fund and improve those systems as identified in the City's Capital Improvement plan. Implementation of these policies will ensure that the City is adequately served by drainage systems. The General Plan 2025 also includes policies and programs that will minimize the environmental effects of the development of such facilities. Therefore, impacts are **less than significant**.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐

17d. Response: ***(Source: FPEIR Figure 5.16-3 – Water Service Areas, Figure 5.16-4 – Water Facilities, Table 5.16-E – RPU Projected Domestic Water Supply (AC-FT/YR, Table 5.16-F – Projected Water Demand, Table 5.16-G – General Plan Projected Water Demand for RPU including Water Reliability for 2025, Table 5.16-H – Current and Projected Domestic Water Supply (acre-ft/year)***

Less Than Significant Impact. Water service to the project site will be provided by Riverside Public Utilities (RPU) from existing water supplies. **Impacts will be less than significant.**

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 project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐

17e. Response: ***(Source: FPEIR Figure 5.16-5 - Sewer Service Areas, Figure 5.16-6 -Sewer Infrastructure, Table 5.16-K - Estimated Future Wastewater Generation for the City of Riverside's Sewer Service Area, and Wastewater Integrated Master Plan and Certified EIR)***

Less Than Significant Impact. Please see 17b above.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐

17f. Response: ***(Source: FPEIR Table 5.16-A – Existing Landfills and Table 5.16-M – Estimated Future Solid Waste Generation from the Planning Area)***

Less Than Significant Impact. The proposed Project would provide for the development of 212 residential dwelling units. The Project site is located within the jurisdiction of the Riverside County Waste Management Department and is serviced by the City of Riverside Public Works Department, which collects the solid waste with option of hauling waste to El Sobrante, Badlands Landfills, or Lamb Canyon Landfill after being sorted at the Robert A. Nelson transfer station. The **Landfill Capacity** table, below, reflects the amount of capacity remaining and maximum tonnage accepted at each facility.

Landfill Capacity

Landfill	Remaining Capacity (Tons)	Maximum Daily Throughput (Tons/Day)
El Sobrante	145,530,000	16,054
Badlands	14,730,025	4,000
Lamb Canyon	18,955,000	5,000

As shown in the **Solid Waste Generation** table below, the Project is estimated to generate 1,484 pounds of solid waste per day or 0.74 tons per day which is approximately one-tenth of one percent of the maximum daily capacity of El Sobrante Landfill, Badlands Landfill, or Lamb Canyon Landfill.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Solid Waste Generation

Land Use	*Units*	*Pounds Per Day Solid Waste*	
		Per Unit	***Total***
Multi-Family Residential	*212*	*7*	*1,484*
		Solid Generation Tons Per Day	
			0.74

In addition, Public Resources Code 41780 requires every city and county to divert from landfills at least 60% of the quantity of waste generated within their jurisdiction in 2004. Because the Project will be regulated by waste reduction and diversion from landfill programs the proposed Project would not result in a substantial increase in demand for local solid waste disposal facilities and regional landfill capacity. Therefore impacts are **less than significant.**

g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

17g. Response: ***(Source: California Integrated Waste Management Board 2002 Landfill Facility Compliance Study EPA)***

No Impact. The California Integrated Waste Management Act under the Public Resource Code requires that local jurisdictions divert at least 50% of all solid waste generated by January 1, 2000. The City is currently achieving a 60% diversion rate, well above State requirements. In addition, the California Green Building Code requires all developments to divert 50% of nonhazardous construction and demolition debris for all projects and 100% of excavated soil and land clearing debris for all non-residential projects beginning January 1, 2011. The proposed project must comply with the City's waste disposal requirements as well as the California Green Building Code and as such would not conflict with any Federal, State, or local regulations related to solid waste. Therefore, **no impacts** related to solid waste statutes will occur directly, indirectly or cumulatively.

18. MANDATORY FINDINGS OF SIGNIFICANCE.				
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 an endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

18a. Response: ***(Source: General Plan 2025 – Figure OS-6 – Stephen's Kangaroo Rat (SKR) Core Reserve and Other Habitat Conservation Plans (HCP), Figure OS-7 – MSHCP Cores and Linkages, Figure OS-8 – MSHCP Cell Areas, General Plan 2025 FPEIR Figure 5.4-2 – MSHCP Area Plans, Figure 5.4-4 - MSHCP Criteria Cells and Subunit Areas, Figure 5.4-6 – MSHCP Narrow Endemic Plant Species Survey Area, Figure 5.4-7 – MSHCP Criteria Area Species Survey Area, Figure 5.4-8 – MSHCP Burrowing Owl Survey Area, MSHCP Section 6.1.2 - Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, FPEIR Table 5.5-A Historical Districts and Neighborhood Conservation Areas, Figure 5.5-1 - Archaeological Sensitivity, Figure 5.5-2 - Prehistoric Cultural Resources Sensitivity, Appendix D, Title 20 of the Riverside Municipal Code, and Cultural Resources Survey prepared by JM Research and Consulting, June 2015; Citywide Design Guidelines and Sign Guidelines [CDGSG]),)***

Potential impacts related to habitat of fish or wildlife species were discussed in the Biological Resources Section of this Initial Study, and were all found to be **less than significant**. Potential impacts to cultural, archaeological and paleontological

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

resources related to major periods of California and the City of Riverside's history or prehistory were discussed in the Cultural Resources Section of this Initial Study, and were found to **be less than significant with mitigation**.

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)?	☐	☐	☒	☐

18b. Response: ***(Source: FPEIR Section 6 – Long-Term Effects/ Cumulative Impacts for the General Plan 2025 Program)***

Less Than Significant Impact. Because the Project will not result in a considerable contribution to cumulative impacts, there will be no cumulative impact beyond those previously considered in the GP 2015 FPEIR.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

18c. Response: ***(Source: FPEIR Section 5 – Environmental Impact Analysis for the General Plan 2025 Program)***

Effects on human beings were evaluated as part of the aesthetics, air quality, hydrology & water quality, noise population and housing, hazards and hazardous materials, and traffic sections of this initial study and found to be less than significant for each of the above sections. Based on the analysis and conclusions in this initial study, the proposed Project will not cause substantial adverse effects directly or indirectly to human beings. Therefore, potential direct and indirect impacts on human beings that result from the proposed Project are **considered less than significant with mitigation**.

Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151, Public Resources Code; Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988); Leonoff v. Monterey Board of Supervisors, 222 Cal.App.3d 1337 (1990).

References

The following documents were referenced as general information sources during the preparation of this document. They are available for public review at the locations listed for each reference. These documents may also be available at public libraries and at other public agency offices.

AQ/GHG	Albert A. WEBB Associates, *Air Quality/Greenhouse Gas Analysis for the Mission Lofts Project*, May 27, 2015. (Appendix A)
AQMP	South Coast Air Quality Management District, *Air Quality Management Plan 2012*, February 2013. (Available at http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan, accessed May 27, 2015.)
BlueRiverside.com	Riverside Public Utilities, *BlueRiverside.com* website. (Available at http://www.riversideca.gov/utilities/water-faqs.asp, accessed July 20, 2015)

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

California Building Code	California Building Standards Commission, California Building Code, California Code of Regulations Title 24, Part 2, Volume 1 of 2, 2013. (Available at http://www.ecodes.biz/ecodes_support/Free_Resources/2013California/13Building/13Building_main.html, accessed July 17, 2015.)
CDGSG	Citywide Design Guidelines and Sign Guidelines for the City of Riverside, adopted November 2007. (Available at **http://www.riversideca.gov/planning/2008-0909/DG/Citywide_Design_and_Sign_Guidelines-OK.pdf**, accessed July 17, 2015.)
DTSC	Department of Toxic Substance Control, Envirostor database website. (Available at http://www.envirostor.dtsc.ca.gov/public/, July 17, 2015.)
EPA	California Environmental Protection Agency. Integrated Waste Management Board, Landfill Facility Compliance Study, April 2007. (Available at Webb)
FPEIR	Final Program Environmental Impact Report for City of Riverside General Plan and Supporting Documents, certified November 2007. (Available at http://www.riversideca.gov/planning/gp2025program/FPEIR_V2.asp, accessed July 17, 2015.)
Google Earth 2015	Google Earth.33 58'42.78" N and 117 21'48.51" W. Accessed July 17, 2015.)
GP 2025	City of Riverside, General Plan 2025, adopted November 2007. (Available at http://www.riversideca.gov/planning/gp2025program/general-plan.asp, accessed July 17, 2015.)
GPI	Geotechnical Professionals, Inc. *Geotechnical Investigation Proposed Mission Lofts Sec Mission Inn Avenue and Commerce Street Riverside, California,* February 17, 2015. (Appendix D)
Health and Safety Code	California Health and Safety Code. (Available at http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc, accessed July 17, 2015.)
HRA	Urban *Crossroads, Air Toxic and Criteria Pollutant Health Rise Assessment*, May 26, 2015.
JMRC	JM Research and Consulting. *Cultural Resources Survey for Mission Lofts*, June 2015. (Appendix C)
KHR	KHR Associates. Project Specific Water Quality Management Plan for Mission Lofts, February 23, 2016. (Appendix E)
Kunzman	Kunzman Associates, Inc. *Mission Lofts Project Noise Impact Analysis*, May 31, 2015. (Appendix F)
MSHCP	Riverside County, *Western Riverside County Multiple Species Habitat Conservation Plan*, adopted June 2003. (Available at http://rctlma.org/Portals/0/mshcp/volume1/index.html, accessed March 25, 2015.)
Public Resources Code	California Public Resources Codes. (Available at http://www.leginfo.ca.gov/.html/prc_table_of_contents.html, accessed January 5 through February 9, 2015.)

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

RCIP	County of Riverside, Transportation and Land Management Agency, RCIP Conservation Summary Report Generator. (Available at: http://onlineservices.rctlma.org/content/rcip_report_generator.aspx, accessed May 20, 2015
RCALUCP	Riverside County Airport Land Use Commission, *March Air Reserve Base / Inland Port Airport Land Use Compatibility Plan*, adopted November 13, 2014. (Available at http://www.rcaluc.org/plan_new.asp, accessed November 20, 2015.)
RCTC CMP	Riverside County Transportation Commission, *2011 Riverside County Congestion Management Program*, December 14, 2011. (Available at http://www.rctc.org/uploads/media_items/congestionmanagementprogram.original.pdf, accessed March 30, 2015.)
RMC	City of Riverside, *Municipal Code*. (Available at http://www.riversideca.gov/municode/, accessed December 12 through March 26, 2015.)
RTA	Riverside Transit Agency, System Map, January 2015. (Available at http://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules, accessed July 17, 2015.)
TIA	Fehr & Peers, *Traffic Impact Analysis for Mission Lofts*, April 2015. (Appendix G)
Title 49 Code of Federal Regulations	Code of Federal Regulations, Title 49 Transportation. (Available at http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title49/49tab_02.tpl, accessed March 26, 2015.)
UFPM	City of Riverside, Urban Forestry Policy Manual, revised November 2007. (Available at **https://www.riversideca.gov/publicworks/trees/pdf/UrbanForestry-TOC.pdf**, accessed July 17, 2015.)
Zoning Map	City of Riverside, *Zoning Map*, December 16, 2013. (Available at http://www.riversideca.gov/planning/pdf/maps/zoning.pdf, accessed December 12, 2014 through March 26, 2015.)

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Mitigation, Monitoring, and Reporting Program

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[2]	Monitoring/Reporting Method
Cultural Resources	**MM CR 1:** Prior to initiation of ground-disturbing activities, construction personnel shall be alerted to possibility of buried historic-period cultural deposits. Should any cultural and/or archaeological resources be inadvertently discovered during construction, construction activities in the vicinity of the discovery shall immediately halt and shall be moved to other parts of the Project site and a qualified archaeologist shall be contacted to determine the significance of the resource(s). If the find is determined to be a historical or unique archaeological resource, as defined in Section 15064.5 of the California Code of Regulations (State *CEQA Guidelines*), avoidance or other appropriate measures shall be implemented.	During construction	Qualified Archaeologist Project Applicant	If any resources are discovered, a qualified archaeologist shall submit a report documenting the significance of the find and mitigation to the Planning Division.
	MM CR 2: If any paleontological resources are exposed during Project related excavation, ground disturbance activities in the vicinity of the discovery shall be moved and a qualified paleontological resources specialist will be retained by the Project Applicant to evaluate the resources. If the find is determined to be significant, avoidance or other appropriate measures as identified by the paleontological resources specialist shall be implemented. Appropriate measures include a qualified paleontologist to be permitted to recover, evaluate, and curate the finds in accordance with the standards and guidelines of the City of Riverside and the Society of Vertebrate Paleontology.	During construction	Qualified Paleontological Resources Specialist Project Applicant	If any resources are discovered, a qualified paleontologist shall submit a report documenting the significance of the find and curation to the Planning Division.
Noise	**MM Noise 1:** Prior to building issuance of building permit, the Project proponent shall demonstrate to the City that all exposed residential exterior window/wall assemblies facing Mission Inn Avenue provide a Sound Transmission Class (STC) rating of a least 28 dB; window/wall assemblies facing Commerce Street and the Railroad provide an STC rating of at least 25 dB; and window/wall assemblies facing University Avenue provide an STC rating of at least 23.4 dB. The building plans submitted to the City for review and approval shall identify the STC rating of the materials used to construct the exterior windows/wall assemblies.	Prior to issuance of building permits	Planning Division Building & Safety Division	Review of building plans

[2] All agencies are City of Riverside Departments/Divisions unless otherwise noted.

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[2]	Monitoring/Reporting Method
	MM Noise 2: All future property managers at the project site shall be required to disclose to potential residents the number of trains that pass by per day and at what time of day they pass. They should also be required to inform potential residents that the train horn noise will be audible in most of the proposed residential dwelling units. Relatively current train inventory data can be found on the Federal Railroad Administration's website. More specifically, data can currently be found at http://safetydata.fra.dot.gov/officeofsafety/publicsite/crossing/crossing.aspx.	Prior to final inspection	Planning Division Property Manager(s)	Disclosure details shall be submitted to the Planning Division.
	MM Noise 3: Two weeks prior to the commencement of construction, notification must be provided to surrounding land uses disclosing the construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period. For the duration of construction activities, the construction manager shall serve as the contact person should noise levels become disruptive to local residents. A sign shall be posted at the Project site with the contact phone number.	Two weeks prior to construction	Construction manager/Project Applicant	Evidence of notification shall be submitted to Planning Division.
	MM Noise 4: Prior to and during construction activities, the Project contractor shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturer standards.	Prior to and during construction activities	Project contractor Building & Safety Division	Construction Inspection
	MM Noise 5: The construction contractor shall locate noise generating construction equipment and construction staging in areas that will create the greatest distance between construction related noise sources and noise sensitive receptors (nearby residences)that are nearest the Project site. The location of the construction staging areas shall be shown on the construction specifications and shall be reviewed by the City prior to the issuance of grading permit.	Prior to issuance of grading permit and during construction activities	Construction contractor Planning Division Building & Safety Division	Review of construction plans and specifications Construction Inspection
Transportation	**MM Trans 1:** To provide adequate and safe access to the Project site from University Avenue, the Project Applicant shall coordinate with the City Public Works Department and provide a striping plan in substantial conformance to the University Avenue Driveway Access Striping Exhibit shown on Figure 9-1 of the TIA unless the City Public Works Department determines that an alternate plan would provide acceptable access to the Project site.	Prior to construction activities	Project Applicant Public Works Department	Approval of Striping Plans

ALBERT A. WEBB ASSOCIATES

Technical Memorandum

To: Todd Cadwell, Mission Lofts LLC.

From: Eliza Laws, Senior Environmental Analyst

Date: May 27, 205

Re: Air Quality/Greenhouse Gas Analysis for the Mission Lofts Project, City of Riverside

The following air quality assessment was prepared to evaluate whether the expected criteria air pollutant emissions generated as a result of construction and operation of the proposed Project would cause exceedances of the South Coast Air Quality Management District's (SCAQMD) thresholds for air quality in the Project area. The greenhouse gas (GHG) assessment was prepared to evaluate whether the expected criteria GHG emissions generated as a result of construction and operation of the proposed Project would exceed the SCAQMD draft screening significance thresholds. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000 et seq.). The methodology follows the *CEQA Air Quality Handbook* prepared by the SCAQMD for quantification of emissions and evaluation of potential impacts to air resources. As recommended by SCAQMD staff, the **Cal**ifornia **E**missions **E**stimator **Mod**el® version 2013.2.2 (CalEEMod) was used to quantify Project-related emissions.

The Project proposes development of a multi-family residential development consisting of 212 units on approximately 4.69 acres on the southeast corner of Mission Inn Avenue and Commerce Street, in the City of Riverside, California. Additional parking is provided south of University Avenue and is accessed via an existing pedestrian bridge.

▪ Regional Significance Thresholds

The thresholds contained in the *SCAQMD CEQA Air Quality Handbook*[1] (SCAQMD 1993) are considered regional thresholds and are shown in **Table 1 – SCAQMD CEQA Daily Regional Significance Thresholds**, below. These regional thresholds were developed based on the SCAQMD's treatment of a major stationary source.

Table 1 – SCAQMD CEQA Daily Regional Significance Thresholds

Emission Threshold	Units	VOC	NO_x	CO	SO_x	PM-10	PM-2.5
Construction	lbs/day	75	100	550	150	150	55
Operation[1]	lbs/day	55	55	550	150	150	55

[1] South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993. (Available at SCAQMD.)

Air quality impacts can be described in a short- and long-term perspective. Short-term impacts occur during site grading and Project construction and consist of fugitive dust and other particulate matter, as well as exhaust emissions generated by construction-related vehicles. Long-term air quality impacts occur once the Project is in operation.

The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 or more acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of this Project's disturbance area (less than five acres), a Fugitive Dust Control Plan or a Large Operation Notification Form would not be required.

Short-Term Analysis

Short-term emissions from Project construction were evaluated using the CalEEMod version 2013.2.2 program. The estimated construction period for the proposed Project is approximately one year, beginning no sooner than October 2015. The default parameters within CalEEMod were used and these default values reflect a worst-case scenario, which means that Project emissions are expected to be equal to or less than the estimated emissions. In addition to the default values used, assumptions relevant to model inputs for short-term construction emission estimates used are:

- Construction is anticipated to begin in October 2015 with grading and end with architectural coatings (painting):

Construction Activity	Start Date	End Date	Total Working Days
Grading	October 1, 2015	October 31, 2015	22 days
Building Construction	November 1, 2015	September 16, 2016	230 days
Paving	September 1, 2016	September 30, 2016	22 days
Architectural Coatings	August 15, 2016	September 30, 2016	35 days

- The equipment to be used for each activity is shown below and represents program defaults. Each piece of equipment is assumed to operate 8 hours per day:

Construction Activity	Off-Road Equipment	Unit Amount
Grading	Excavators	1
	Graders	1
	Rubber Tired Dozers	1
	Tractors/Loaders/Backhoes	3
Building Construction	Cranes	1
	Forklifts	3
	Generator Sets	1
	Tractors/Loaders/Backhoes	3
	Welders	1
Paving	Pavers	1
	Cement and Mortar Mixer	2
	Paving Equipment	2
	Rollers	2
	Tractors/Loaders/Backhoes	1
Architectural Coatings	Air Compressors	1

- To evaluate Project compliance with SCAQMD Rule 403 for fugitive dust control, the Project utilized the mitigation option of watering the Project site three times daily which achieves a control efficiency of 61 percent for PM-10 and PM-2.5 emissions. Two (2) one-way vendor trips were added to the grading and paving activity to account for water truck trips.
- Approximately 3,600 cubic yards of soil will be imported during grading operations. CalEEMod defaults assumptions were used related to truck trips.

The results of this analysis are summarized below.

Table 2 – Estimated Maximum Daily Construction Emissions

Activity	Peak Daily Emissions (lb/day)					
	VOC	NO_x	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Construction Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Grading	4.27	47.10	31.72	0.05	5.42	3.70
Building Construction-2015	4.96	36.72	34.67	0.06	4.59	2.80
Building Construction-2016	4.58	34.59	33.03	0.06	4.42	2.64
Architectural Coatings	49.33	3.33	4.55	0.01	0.66	0.37
Paving	2.42	22.14	16.30	0.02	1.56	1.28
Maximum[1]	**56.33**	**60.06**	**53.88**	**0.09**	**6.64**	**4.29**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note: [1] Maximum emissions are the greater of grading alone or building construction in 2016 and architectural coating and paving since these activities overlap.

As shown in the table above, the emissions from construction of the Project are below the SCAQMD daily construction thresholds for all the criteria pollutants.

Long-Term Analysis

Long-term emissions are evaluated at build-out of a project. The Project is assumed to be operational in 2016. Mobile source emissions refer to on-road motor vehicle emissions generated from the Project's traffic and based on the trip generation provided in the Project-specific Traffic Impact Analysis.[2] Area source emissions from the Project include stationary combustion emissions of natural gas used for space and water heating (shown in a separate row as energy), yard and landscape maintenance, consumer use of solvents and personal care products, and an average building square footage to be repainted each year. CalEEMod computes area source emissions based upon default factors and land use assumptions. CalEEMod defaults were utilized with the exception of fireplaces, which were assumed to be absent from the Project. In addition, the Project's energy emissions were adjusted to account for the increased efficiency related to the 2013 Title 24 standards.[3] Separate emissions were computed for both the summer and winter.

[2] Fehr & Peers, *Mission Lofts Transportation Impact Analysis*, April 2015.

[3] The 2013 Title 24 standards are 25 percent more efficient for residential uses than the previous 2008 standards in CalEEMod. http://www.energy.ca.gov/releases/2012_releases/2012-05-31_energy_commission_approves_more_efficient_buildings_nr.html

Table 3 – Estimated Daily Project Operation Emissions (Summer)

Source	Peak Daily Emissions (lb/day)					
	VOC	NO_x	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Area	6.54	0.21	17.73	0.00	0.10	0.10
Energy	0.06	0.51	0.22	0.00	0.04	0.04
Mobile	5.88	18.55	66.19	0.16	11.26	3.18
Total	**12.48**	**19.27**	**84.14**	**0.16**	**11.40**	**3.32**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions reported as zero are rounded and not necessarily equal to zero.

Table 4 – Estimated Daily Project Operation Emissions (Winter)

Source	Peak Daily Emissions (lb/day)					
	VOC	NO_x	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Area	6.54	0.21	17.73	0.00	0.10	0.10
Energy	0.06	0.51	0.22	0.00	0.04	0.04
Mobile	5.74	19.34	61.55	0.15	11.26	3.18
Total	**12.34**	**20.06**	**79.50**	**0.15**	**11.40**	**3.32**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions reported as zero are rounded and not necessarily equal to zero.

Evaluation of the data presented on the above tables indicates that criteria pollutant emissions from operation of this Project will not exceed the SCAQMD regional daily thresholds for any pollutant during summer or winter.

▪ Localized Significance Threshold Analysis

Background

As part of the SCAQMD's environmental justice program, attention has been focused on localized effects of air quality. Staff at SCAQMD has developed localized significance threshold (LST) methodology[4] that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (both short- and long-term). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The Project is located near the border of SRA 23.

Short-Term Analysis

According to the LST methodology, only on-site emissions need to be analyzed. Emissions associated with vendor and worker trips are mobile source emissions that occur off site. The emissions analyzed under the LST methodology are NO_2, CO, PM-10, and PM-2.5. SCAQMD has provided LST lookup tables and sample construction scenarios[5] to allow users to readily determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts for projects five acres or smaller. Although the Project site is almost five acres, it is anticipated that an area of approximately three acres would be disturbed per day during construction.[6] Therefore, the sample construction scenario for the three-acre site was modified using Project-specific information such as the construction equipment usage information.

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[4] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, Revised July 2008. (Available at http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds, accessed May 27, 2015.)

[5] http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds

[6] http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2

The LST thresholds are estimated using the maximum daily disturbed area (in acres) and the distance of the Project to the nearest sensitive receptors (in meters). The closest sensitive receptors are the existing residences adjacent to the Project site off of Mission Inn Avenue and 9th Street. The closest receptor on the LST look-up tables is 25 meters. According to LST methodology, projects with boundaries closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters. Therefore, a receptor distance of 25 meters (85 feet) was used. The results are summarized below.

Table 5 – LST Results for Daily Construction Emissions

Pollutant	Peak Daily Emissions (lb/day)			
	NO_x	CO	PM-10	PM-2.5
LST Threshold for 3 acre at 25 meters	**203**	**1,114**	**9**	**5**
Grading	43.6	26.5	8.2	3.3
Building Construction	31.7	20.5	1.7	1.6
Paving	21.3	31.8	2.1	2.0
Exceeds Threshold?	**No**	**No**	**No**	**No**

Note: SCAQMD LST for 3-acre site predicted using Appendix K of SCAQMD LST Methodology.

Emissions from construction of the Project will be below the LST established by SCAQMD for the Project.

Long-Term Analysis

This Project involves the construction of a multi-family residential development. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site; such as warehouse/transfer facilities. The proposed Project does not include such uses. Therefore, due to the lack of stationary source emissions, no long-term LST analysis is needed.

CO Hot Spots Analysis

A carbon monoxide (CO) "hot spot" is a localized concentration of CO that is above the state or federal 1-hour or 8-hour ambient air quality standards (AAQS). Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles.

Based on the information presented below, a CO "hot spot" analysis is not needed to determine whether the addition of Project related traffic will contribute to an exceedance of either the state or federal AAQS for CO emissions in the Project area.

The analysis prepared for CO attainment in the South Coast Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances in the South Coast Air Basin. CO attainment was thoroughly analyzed as part of the SCAQMD's 2003 Air Quality Management Plan (2003 AQMP)[7] and the Revised 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan). [8] As discussed in the 1992 CO Plan, peak carbon monoxide concentrations in the South Coast Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections (2003 AQMP Appendix V, p. V-4-32). Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of the 1992 CO Plan and subsequent plan updates and air quality management plans.

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[7] SCAQMD, *2003 Air Quality Management Plan, August 1, 2003.* (Available at http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/2003-aqmp, accessed March 24, 2015.)

[8] SCAQMD, *Revision to the 1992 Carbon Monoxide Attainment Plan*, September 1994. (Available at SCAQMD.)

In the 1992 CO Plan, a CO hot spot analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: Long Beach Blvd. and Imperial Highway (Lynwood); Wilshire Blvd. and Veteran Ave. (Westwood); Sunset Blvd. and Highland Ave. (Hollywood); and La Cienega Blvd. and Century Blvd. (Inglewood). These analyses did not predict a violation of CO standards. The busiest intersection evaluated in the 1992 CO Plan and subsequent 2003 AQMP was that at Wilshire Blvd. and Veteran Ave., which has a daily traffic volume of approximately 100,000 vehicles per day (2003 AQMP Appendix V, Table 4-7). The Los Angeles County Metropolitan Transportation Authority (MTA)[9] evaluated the LOS in the vicinity of the Wilshire Blvd./Veteran Ave. intersection and found it to be level E at peak morning traffic and Level F at peak afternoon traffic (MTA, Exhibit 2-5 and 2-6). Considering Project-related traffic as well as 2025 Build-out conditions, the highest average daily trips would be 26,889 on University Avenue between Santa Fe Street and Commerce Street,[10] which is lower than the values studied by SCAQMD. Therefore, none of the roadway segments in the vicinity of the proposed Project site would have daily traffic volumes exceeding those at the intersections modeled in the 2003 AQMP, nor would there be any reason unique to the meteorology to conclude that this intersection would yield higher CO concentrations if modeled in detail. Thus, the Project would not result in CO hot spots.

▪ Greenhouse Gas Analysis

Greenhouse gases (GHG) are not presented in lbs/day like criteria pollutants; they are typically evaluated on an annual basis using the metric system. Additionally, unlike the criteria pollutants, GHG do not have adopted significance thresholds associated with them at this time. Several agencies, at various levels, have proposed draft GHG significance thresholds for use in CEQA documents. SCAQMD has been working on GHG thresholds for development projects. In December 2008, the SCAQMD adopted a threshold of 10,000 metric tonnes per year of carbon dioxide equivalents ($MTCO_2E/yr$) for stationary source projects where SCAQMD is the lead agency. The most recent draft proposal was in September 2010[11] and included significance thresholds for residential, commercial, and mixed-use projects at 3,500, 1,400, and 3,000 $MTCO_2E/yr$, respectively. Alternatively, a lead agency has the option to use 3,000 $MTCO_2E/yr$ as a threshold for all non-industrial projects. Although both options are recommended by SCAQMD, a lead agency is advised to use only one option and to use it consistently. The SCAQMD significance thresholds also evaluate construction emissions by amortizing them over an expected project life of 30 years.

The CalEEMod output results for construction-related GHG emissions present the GHG emissions estimates for the Project for CO_2, methane (CH_4), nitrous oxide (N_2O), and CO_2E.[12]

Short-Term Analysis

Construction-Related Emissions

The CalEEMod model calculates GHG emissions from fuel usage by construction equipment and construction-related activities, like construction worker trips, for the Project. The CalEEMod estimate does not analyze emissions from construction-related electricity or natural gas. Construction-related electricity and natural gas emissions vary based on the amount of electric power used during construction and other unknown factors which make them too speculative to quantify.

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[9] Metropolitan Transportation Authority, *2004 Congestion Management Plan for Los Angeles County*, Adopted July 22, 2004. (Available at http://www.metro.net/images/cmp_2004.pdf, accessed March 24, 2015.)

[10] Fehr & Peers, *Mission Lofts Transportation Impact Analysis*, April 2015.

[11] http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-main-presentation.pdf?sfvrsn=2

[12] CO_2E is the sum of CO_2 emissions estimated plus the sum of CH_4 and N_2O emissions estimated multiplied by their respective global warming potential (GWP).

Table 6 – Project Construction Equipment GHG Emissions

Year	Metric Tons per year (MT/yr)			
	Total CO_2	Total CH_4	Total N_2O	Total CO_2E
2015	158.66	0.03	0.00	159.21
2016	495.94	0.08	0.00	487.54
Total	654.60	0.10	0.00	656.85
			Amortized	**21.89**

Evaluation of the table above indicates that an estimated 656.85 $MTCO_2E$ will occur from Project construction equipment over the course of the estimated construction period. Since the draft SCAQMD GHG threshold Guidance document released in October 2008[13] recommends that construction emissions be amortized for a project lifetime of 30 years to ensure that GHG reduction measures address construction GHG emissions as part of the operational reduction strategies. Therefore, the total GHG emissions from Project construction were amortized and are included in **Table 8**, below.

Long-Term Analysis

Area Source Emissions

CalEEMod estimates the GHG emissions associated with area sources which include landscape equipment emissions, architectural coating, consumer products, and hearths. Landscape equipment servicing the Project site create CO_2 resulting from fuel combustion based on the Project's land uses. Consumer products consist of consumer use of solvents and personal care products and architectural coatings consist of an average building square footage to be repainted each year. Hearth emissions are not included because, as stated above, the Project is not anticipated to include fireplaces. **Table 8** summarizes the Project's area source emissions.

Energy-Related Emissions

CalEEMod estimates the GHG emissions associated with building electricity and natural gas usage (non-hearth) for each land use type. Electricity and natural gas used in buildings is typically generated at an off-site power plant which indirectly generates GHG emissions. The default energy usage values used in CalEEMod are based on the CEC sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies and reflect 2008 Title 24 improvements (CalEEMod User's Guide, p. 30.). As stated above, the Project's emissions were adjusted to account for the new 2013 Title 24 standards which are 25 percent more efficient than the 2008 standards. The following table summarizes the GHG emissions estimates reported by CalEEMod for the Project.

Table 7 – Energy-Related GHG Emissions

Source	Metric Tons per year (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2E
Electricity	508.84	0.01	0.00	509.78
Natural Gas	106.80	0.00	0.00	107.45
Total	**615.64**	**0.01**	**0.00**	**617.23**

Note: Emissions reported as zero are rounded and not necessarily equal to zero.

Mobile Source Emissions

CalEEMod estimates the annual GHG emissions from Project-related vehicle usage based on trip generation data contained in defaults or in a project-specific traffic analyses. The weekday trip generation provided in the Project-specific Traffic Study was used and the remaining trip generation data contained in CalEEMod defaults was used herein. **Table 8** shows the mobile source emissions from the Project.

[13] http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-6/ghg-meeting-6-guidance-document-discussion.pdf?sfvrsn=2

Solid Waste Emissions

CalEEMod also calculates the GHG emissions associated with the disposal of solid waste into landfills based on default data contained within the model for waste disposal rates, composition, and the characteristics of landfills throughout the state. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. This analysis assumes a solid waste diversion from the landfills consistent with data provided by the state. Conservatively, this was assumed as 64 percent for the City of Riverside[14], the waste diversion rate reported for the year 2006. **Table 8** shows the solid waste emissions from the Project.

Water-Related Energy Usage

Electricity is also indirectly used in water supply, treatment, and distribution, as well as wastewater treatment in Southern California and plays a large role in GHG production.

There are three processes necessary to supply potable water to urban users (i.e., residential, commercial, and industrial): (1) supply and conveyance of the water from the source; (2) treatment of the water to potable standards; and (3) distribution of the water to individual users. After use, the wastewater is treated and either reused as reclaimed/recycled water or returned to the environment. CalEEMod calculates the GHG emissions from these processes based on default emissions factors and water/wastewater generation rates for a project's location. Default values were used for electricity intensity factor associated with the supply and conveyance of water from its source which assumes that the water is being imported from Northern California. The Project's emissions were adjusted to account for the CalGreen building code which requires a 20 percent reduction in indoor water use. **Table 8** shows the GHG emissions from water-related energy usage for the Project.

Total Project GHG Emissions

As shown on **Table 8 – Total Project-Related GHG Emissions**, using all the emissions quantified above, the total GHG emissions generated from the Project is approximately 2,862.42 $MTCO_2E/yr$ which includes construction-related emissions amortized over a typical project life of 30 years.

Table 8 – Total Project-Related GHG Emissions

Source	Metric Tons per year (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2E
Amortized Construction	--	--	--	21.89
Area	3.57	0.00	0.00	3.65
Energy	615.64	0.01	0.00	617.23
Mobile	2,046.55	0.07	0.00	2,048.02
Solid Waste	7.12	0.42	0.00	15.97
Water	145.19	0.36	0.01	155.66
Total	**2,818.07**	**0.86**	**0.01**	**2,862.42**

Note: Emissions reported as zero are rounded and not necessarily equal to zero.

The total GHG emissions from the Project are below the SCAQMD recommended screening level of 3,000 $MTCO_2E/yr$ for non-industrial projects under Option 2. Therefore, the proposed Project will not exceed the draft GHG screening threshold provided by SCAQMD.

▪ Conclusion

The conclusion of this analysis indicates that construction and operation of the proposed Project will not exceed criteria pollutant thresholds established by SCAQMD on a regional or localized level. In addition, the Project will not create a CO hot spot. The Project will also not exceed the draft GHG screening threshold recommended by SCAQMD. Should you have any questions, please contact me at (951) 686-1070.

[14] CalRecycle, *Riverside Jurisdiction Diversion / Disposal Rate Detail*, 2006. Available at: http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversion.aspx, accessed May 27, 2015.

CALEEMOD OUTPUT FILES

Mission Lofts

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.53	Acre	1.53	66,646.80	0
Apartments Mid Rise	212.00	Dwelling Unit	3.16	212,000.00	606

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2016
Utility Company	Riverside Public Utilities				
CO2 Intensity (lb/MWhr)	1325.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - based on site plan; north parcel includes some parking; south parcel includes additional parking

Construction Phase - see table

Off-road Equipment - see table

Off-road Equipment - see table

Off-road Equipment - see table

Trips and VMT - water truck trips added

Vehicle Trips - weekday trip rate per traffic study

Woodstoves - no fireplaces or woodstoves

Construction Off-road Equipment Mitigation - water 3x daily for 61% reduction in PM

Mobile Land Use Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation - city waste diversion rate in 2006

Grading - import per plans

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	35.00
tblConstructionPhase	NumDays	8.00	22.00
tblConstructionPhase	NumDays	18.00	22.00
tblConstructionPhase	PhaseEndDate	11/4/2016	9/30/2016
tblConstructionPhase	PhaseEndDate	10/30/2015	10/31/2015
tblConstructionPhase	PhaseEndDate	11/1/2016	9/30/2016
tblConstructionPhase	PhaseStartDate	9/17/2016	8/15/2016
tblConstructionPhase	PhaseStartDate	10/1/2016	9/1/2016
tblFireplaces	NumberGas	180.20	0.00
tblFireplaces	NumberNoFireplace	21.20	212.00
tblFireplaces	NumberWood	10.60	0.00
tblGrading	AcresOfGrading	11.00	4.00
tblGrading	MaterialImported	0.00	3,600.00
tblLandUse	LotAcreage	5.58	3.16
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	WD_TR	6.59	6.65
tblWoodstoves	NumberCatalytic	10.60	0.00
tblWoodstoves	NumberNoncatalytic	10.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	4.9562	46.8526	34.6710	0.0601	6.7727	2.4548	9.2275	3.4800	2.2584	5.7384	0.0000	5,697.5144	5,697.5144	0.9528	0.0000	5,717.5230
2016	56.3327	59.9160	53.8951	0.0943	2.8756	3.7641	6.6397	0.7673	3.5248	4.2920	0.0000	8,901.5862	8,901.5862	1.5487	0.0000	8,934.1090
Total	**61.2889**	**106.7686**	**88.5660**	**0.1545**	**9.6483**	**6.2189**	**15.8672**	**4.2472**	**5.7832**	**10.0304**	**0.0000**	**14,599.1006**	**14,599.1006**	**2.5015**	**0.0000**	**14,651.6320**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	4.9562	46.8526	34.6710	0.0601	2.9689	2.4548	5.4237	1.4461	2.2584	3.7045	0.0000	5,697.5144	5,697.5144	0.9528	0.0000	5,717.5230
2016	56.3327	59.9160	53.8951	0.0943	2.8756	3.7641	6.6397	0.7673	3.5248	4.2920	0.0000	8,901.5862	8,901.5862	1.5487	0.0000	8,934.1090
Total	**61.2889**	**106.7686**	**88.5660**	**0.1545**	**5.8445**	**6.2189**	**12.0635**	**2.2134**	**5.7832**	**7.9965**	**0.0000**	**14,599.1006**	**14,599.1006**	**2.5015**	**0.0000**	**14,651.6320**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	39.42	0.00	23.97	47.89	0.00	20.28	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.5427	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957	0.0000	31.4934	31.4934	0.0321	0.0000	32.1674
Energy	0.0751	0.6420	0.2732	4.1000e-003		0.0519	0.0519		0.0519	0.0519		819.5568	819.5568	0.0157	0.0150	824.5445
Mobile	5.8800	18.5485	66.1894	0.1616	10.9894	0.2695	11.2589	2.9327	0.2478	3.1805		14,154.3995	14,154.3995	0.4598		14,164.0545
Total	**12.4978**	**19.3980**	**84.1967**	**0.1667**	**10.9894**	**0.4171**	**11.4065**	**2.9327**	**0.3954**	**3.3281**	**0.0000**	**15,005.4497**	**15,005.4497**	**0.5076**	**0.0150**	**15,020.7664**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.5427	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957	0.0000	31.4934	31.4934	0.0321	0.0000	32.1674
Energy	0.0591	0.5053	0.2150	3.2300e-003		0.0409	0.0409		0.0409	0.0409		645.0607	645.0607	0.0124	0.0118	648.9864
Mobile	5.8800	18.5485	66.1894	0.1616	10.9894	0.2695	11.2589	2.9327	0.2478	3.1805		14,154.3995	14,154.3995	0.4598		14,164.0545
Total	**12.4818**	**19.2613**	**84.1385**	**0.1658**	**10.9894**	**0.4060**	**11.3954**	**2.9327**	**0.3844**	**3.3170**	**0.0000**	**14,830.9536**	**14,830.9536**	**0.5042**	**0.0118**	**14,845.2083**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.13	0.70	0.07	0.52	0.00	2.65	0.10	0.00	2.80	0.33	0.00	1.16	1.16	0.66	21.29	1.17

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/1/2015	10/31/2015	5	22	
2	Building Construction	Building Construction	11/1/2015	9/16/2016	5	230	
3	Architectural Coating	Architectural Coating	8/15/2016	9/30/2016	5	35	
4	Paving	Paving	9/1/2016	9/30/2016	5	22	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 429,300; Residential Outdoor: 143,100; Non-Residential Indoor: 2,999; Non-Residential Outdoor: 1,000 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	2.00	450.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	181.00	34.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	36.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2356	0.0000	6.2356	3.3342	0.0000	3.3342			0.0000			0.0000
Off-Road	3.8327	40.4161	26.6731	0.0298		2.3284	2.3284		2.1421	2.1421		3,129.0158	3,129.0158	0.9341		3,148.6328
Total	**3.8327**	**40.4161**	**26.6731**	**0.0298**	**6.2356**	**2.3284**	**8.5640**	**3.3342**	**2.1421**	**5.4763**		**3,129.0158**	**3,129.0158**	**0.9341**		**3,148.6328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3470	6.1699	3.6844	0.0146	0.3568	0.1215	0.4783	0.0977	0.1118	0.2095		1,486.0808	1,486.0808	0.0105		1,486.3009
Vendor	0.0176	0.1909	0.1888	4.2000e-004	0.0126	3.8600e-003	0.0164	3.5900e-003	3.5500e-003	7.1400e-003		42.7537	42.7537	3.1000e-004		42.7602
Worker	0.0639	0.0758	0.9467	2.0100e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		172.7297	172.7297	7.8600e-003		172.8947
Total	**0.4284**	**6.4366**	**4.8199**	**0.0170**	**0.5370**	**0.1265**	**0.6635**	**0.1458**	**0.1163**	**0.2621**		**1,701.5642**	**1,701.5642**	**0.0187**		**1,701.9558**

3.2 Grading - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4319	0.0000	2.4319	1.3003	0.0000	1.3003			0.0000			0.0000
Off-Road	3.8327	40.4161	26.6731	0.0298		2.3284	2.3284		2.1421	2.1421	0.0000	3,129.0158	3,129.0158	0.9341		3,148.6328
Total	**3.8327**	**40.4161**	**26.6731**	**0.0298**	**2.4319**	**2.3284**	**4.7602**	**1.3003**	**2.1421**	**3.4424**	**0.0000**	**3,129.0158**	**3,129.0158**	**0.9341**		**3,148.6328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3470	6.1699	3.6844	0.0146	0.3568	0.1215	0.4783	0.0977	0.1118	0.2095		1,486.0808	1,486.0808	0.0105		1,486.3009
Vendor	0.0176	0.1909	0.1888	4.2000e-004	0.0126	3.8600e-003	0.0164	3.5900e-003	3.5500e-003	7.1400e-003		42.7537	42.7537	3.1000e-004		42.7602
Worker	0.0639	0.0758	0.9467	2.0100e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		172.7297	172.7297	7.8600e-003		172.8947
Total	**0.4284**	**6.4366**	**4.8199**	**0.0170**	**0.5370**	**0.1265**	**0.6635**	**0.1458**	**0.1163**	**0.2621**		**1,701.5642**	**1,701.5642**	**0.0187**		**1,701.9558**

3.3 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8870	32.4182	20.0375	0.0287		2.2678	2.2678		2.1293	2.1293		2,886.4292	2,886.4292	0.7336		2,901.8345
Total	**3.8870**	**32.4182**	**20.0375**	**0.0287**		**2.2678**	**2.2678**		**2.1293**	**2.1293**		**2,886.4292**	**2,886.4292**	**0.7336**		**2,901.8345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2984	3.2454	3.2103	7.1700e-003	0.2139	0.0656	0.2795	0.0611	0.0603	0.1214		726.8133	726.8133	5.2300e-003		726.9231
Worker	0.7708	0.9141	11.4231	0.0243	2.0232	0.0132	2.0364	0.5366	0.0121	0.5486		2,084.2719	2,084.2719	0.0948		2,086.2629
Total	**1.0692**	**4.1595**	**14.6334**	**0.0315**	**2.2371**	**0.0787**	**2.3158**	**0.5977**	**0.0724**	**0.6700**		**2,811.0852**	**2,811.0852**	**0.1000**		**2,813.1860**

3.3 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8870	32.4182	20.0375	0.0287		2.2678	2.2678		2.1293	2.1293	0.0000	2,886.4292	2,886.4292	0.7336		2,901.8345
Total	**3.8870**	**32.4182**	**20.0375**	**0.0287**		**2.2678**	**2.2678**		**2.1293**	**2.1293**	**0.0000**	**2,886.4292**	**2,886.4292**	**0.7336**		**2,901.8345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2984	3.2454	3.2103	7.1700e-003	0.2139	0.0656	0.2795	0.0611	0.0603	0.1214		726.8133	726.8133	5.2300e-003		726.9231
Worker	0.7708	0.9141	11.4231	0.0243	2.0232	0.0132	2.0364	0.5366	0.0121	0.5486		2,084.2719	2,084.2719	0.0948		2,086.2629
Total	**1.0692**	**4.1595**	**14.6334**	**0.0315**	**2.2371**	**0.0787**	**2.3158**	**0.5977**	**0.0724**	**0.6700**		**2,811.0852**	**2,811.0852**	**0.1000**		**2,813.1860**

3.3 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6240	30.7934	19.7845	0.0287		2.1098	2.1098		1.9794	1.9794		2,863.9447	2,863.9447	0.7208		2,879.0804
Total	**3.6240**	**30.7934**	**19.7845**	**0.0287**		**2.1098**	**2.1098**		**1.9794**	**1.9794**		**2,863.9447**	**2,863.9447**	**0.7208**		**2,879.0804**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2644	2.8531	2.9877	7.1500e-003	0.2139	0.0554	0.2693	0.0611	0.0509	0.1120		718.3526	718.3526	4.6700e-003		718.4508
Worker	0.6935	0.8189	10.2646	0.0243	2.0232	0.0127	2.0358	0.5366	0.0116	0.5482		2,008.3427	2,008.3427	0.0866		2,010.1618
Total	**0.9579**	**3.6721**	**13.2523**	**0.0314**	**2.2371**	**0.0680**	**2.3051**	**0.5977**	**0.0626**	**0.6602**		**2,726.6953**	**2,726.6953**	**0.0913**		**2,728.6126**

3.3 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6240	30.7934	19.7845	0.0287		2.1098	2.1098		1.9794	1.9794	0.0000	2,863.9447	2,863.9447	0.7208		2,879.0804
Total	**3.6240**	**30.7934**	**19.7845**	**0.0287**		**2.1098**	**2.1098**		**1.9794**	**1.9794**	**0.0000**	**2,863.9447**	**2,863.9447**	**0.7208**		**2,879.0804**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2644	2.8531	2.9877	7.1500e-003	0.2139	0.0554	0.2693	0.0611	0.0509	0.1120		718.3526	718.3526	4.6700e-003		718.4508
Worker	0.6935	0.8189	10.2646	0.0243	2.0232	0.0127	2.0358	0.5366	0.0116	0.5482		2,008.3427	2,008.3427	0.0866		2,010.1618
Total	**0.9579**	**3.6721**	**13.2523**	**0.0314**	**2.2371**	**0.0680**	**2.3051**	**0.5977**	**0.0626**	**0.6602**		**2,726.6953**	**2,726.6953**	**0.0913**		**2,728.6126**

3.4 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	48.7003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4913	3.1630	2.5119	3.9600e-003		0.2622	0.2622		0.2622	0.2622		375.2641	375.2641	0.0442		376.1932
Total	**49.1916**	**3.1630**	**2.5119**	**3.9600e-003**		**0.2622**	**0.2622**		**0.2622**	**0.2622**		**375.2641**	**375.2641**	**0.0442**		**376.1932**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1379	0.1629	2.0416	4.8300e-003	0.4024	2.5200e-003	0.4049	0.1067	2.3100e-003	0.1090		399.4494	399.4494	0.0172		399.8112
Total	**0.1379**	**0.1629**	**2.0416**	**4.8300e-003**	**0.4024**	**2.5200e-003**	**0.4049**	**0.1067**	**2.3100e-003**	**0.1090**		**399.4494**	**399.4494**	**0.0172**		**399.8112**

3.4 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	48.7003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4913	3.1630	2.5119	3.9600e-003		0.2622	0.2622		0.2622	0.2622	0.0000	375.2641	375.2641	0.0442		376.1932
Total	**49.1916**	**3.1630**	**2.5119**	**3.9600e-003**		**0.2622**	**0.2622**		**0.2622**	**0.2622**	**0.0000**	**375.2641**	**375.2641**	**0.0442**		**376.1932**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1379	0.1629	2.0416	4.8300e-003	0.4024	2.5200e-003	0.4049	0.1067	2.3100e-003	0.1090		399.4494	399.4494	0.0172		399.8112
Total	**0.1379**	**0.1629**	**2.0416**	**4.8300e-003**	**0.4024**	**2.5200e-003**	**0.4049**	**0.1067**	**2.3100e-003**	**0.1090**		**399.4494**	**399.4494**	**0.0172**		**399.8112**

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1469	21.8663	14.9949	0.0223		1.3170	1.3170		1.2140	1.2140		2,272.0603	2,272.0603	0.6654		2,286.0326
Paving	0.1822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3291**	**21.8663**	**14.9949**	**0.0223**		**1.3170**	**1.3170**		**1.2140**	**1.2140**		**2,272.0603**	**2,272.0603**	**0.6654**		**2,286.0326**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0156	0.1678	0.1758	4.2000e-004	0.0126	3.2600e-003	0.0158	3.5900e-003	3.0000e-003	6.5900e-003		42.2560	42.2560	2.7000e-004		42.2618
Worker	0.0766	0.0905	1.1342	2.6800e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		221.9163	221.9163	9.5700e-003		222.1173
Total	**0.0922**	**0.2583**	**1.3100**	**3.1000e-003**	**0.2361**	**4.6600e-003**	**0.2408**	**0.0629**	**4.2800e-003**	**0.0672**		**264.1724**	**264.1724**	**9.8400e-003**		**264.3791**

3.5 Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1469	21.8663	14.9949	0.0223		1.3170	1.3170		1.2140	1.2140	0.0000	2,272.0603	2,272.0603	0.6654		2,286.0326
Paving	0.1822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3291**	**21.8663**	**14.9949**	**0.0223**		**1.3170**	**1.3170**		**1.2140**	**1.2140**	**0.0000**	**2,272.0603**	**2,272.0603**	**0.6654**		**2,286.0326**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0156	0.1678	0.1758	4.2000e-004	0.0126	3.2600e-003	0.0158	3.5900e-003	3.0000e-003	6.5900e-003		42.2560	42.2560	2.7000e-004		42.2618
Worker	0.0766	0.0905	1.1342	2.6800e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		221.9163	221.9163	9.5700e-003		222.1173
Total	**0.0922**	**0.2583**	**1.3100**	**3.1000e-003**	**0.2361**	**4.6600e-003**	**0.2408**	**0.0629**	**4.2800e-003**	**0.0672**		**264.1724**	**264.1724**	**9.8400e-003**		**264.3791**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.8800	18.5485	66.1894	0.1616	10.9894	0.2695	11.2589	2.9327	0.2478	3.1805		14,154.3995	14,154.3995	0.4598		14,164.0545
Unmitigated	5.8800	18.5485	66.1894	0.1616	10.9894	0.2695	11.2589	2.9327	0.2478	3.1805		14,154.3995	14,154.3995	0.4598		14,164.0545

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,409.80	1,517.92	1286.84	4,810,256	4,810,256
Parking Lot	0.00	0.00	0.00		
Total	1,409.80	1,517.92	1,286.84	4,810,256	4,810,256

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.462438	0.069856	0.176572	0.170752	0.045136	0.007399	0.012745	0.042494	0.000970	0.001060	0.006446	0.000893	0.003237

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0591	0.5053	0.2150	3.2300e-003		0.0409	0.0409		0.0409	0.0409		645.0607	645.0607	0.0124	0.0118	648.9864
NaturalGas Unmitigated	0.0751	0.6420	0.2732	4.1000e-003		0.0519	0.0519		0.0519	0.0519		819.5568	819.5568	0.0157	0.0150	824.5445

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	6966.23	0.0751	0.6420	0.2732	4.1000e-003		0.0519	0.0519		0.0519	0.0519		819.5568	819.5568	0.0157	0.0150	824.5445
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0751**	**0.6420**	**0.2732**	**4.1000e-003**		**0.0519**	**0.0519**		**0.0519**	**0.0519**		**819.5568**	**819.5568**	**0.0157**	**0.0150**	**824.5445**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	5.48302	0.0591	0.5053	0.2150	3.2300e-003		0.0409	0.0409		0.0409	0.0409		645.0607	645.0607	0.0124	0.0118	648.9864
Total		**0.0591**	**0.5053**	**0.2150**	**3.2300e-003**		**0.0409**	**0.0409**		**0.0409**	**0.0409**		**645.0607**	**645.0607**	**0.0124**	**0.0118**	**648.9864**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.5427	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957	0.0000	31.4934	31.4934	0.0321	0.0000	32.1674
Unmitigated	6.5427	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957	0.0000	31.4934	31.4934	0.0321	0.0000	32.1674

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.5172					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5585	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957		31.4934	31.4934	0.0321		32.1674
Total	**6.5427**	**0.2075**	**17.7341**	**9.2000e-004**		**0.0957**	**0.0957**		**0.0957**	**0.0957**	**0.0000**	**31.4934**	**31.4934**	**0.0321**	**0.0000**	**32.1674**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.5172					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5585	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957		31.4934	31.4934	0.0321		32.1674
Total	**6.5427**	**0.2075**	**17.7341**	**9.2000e-004**		**0.0957**	**0.0957**		**0.0957**	**0.0957**	**0.0000**	**31.4934**	**31.4934**	**0.0321**	**0.0000**	**32.1674**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Mission Lofts

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.53	Acre	1.53	66,646.80	0
Apartments Mid Rise	212.00	Dwelling Unit	3.16	212,000.00	606

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2016
Utility Company	Riverside Public Utilities				
CO2 Intensity (lb/MWhr)	1325.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - based on site plan; north parcel includes some parking; south parcel includes additional parking

Construction Phase - see table

Off-road Equipment - see table

Off-road Equipment - see table

Off-road Equipment - see table

Trips and VMT - water truck trips added

Vehicle Trips - weekday trip rate per traffic study

Woodstoves - no fireplaces or woodstoves

Construction Off-road Equipment Mitigation - water 3x daily for 61% reduction in PM

Mobile Land Use Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation - city waste diversion rate in 2006

Grading - import per plans

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	35.00
tblConstructionPhase	NumDays	8.00	22.00
tblConstructionPhase	NumDays	18.00	22.00
tblConstructionPhase	PhaseEndDate	11/4/2016	9/30/2016
tblConstructionPhase	PhaseEndDate	10/30/2015	10/31/2015
tblConstructionPhase	PhaseEndDate	11/1/2016	9/30/2016
tblConstructionPhase	PhaseStartDate	9/17/2016	8/15/2016
tblConstructionPhase	PhaseStartDate	10/1/2016	9/1/2016
tblFireplaces	NumberGas	180.20	0.00
tblFireplaces	NumberNoFireplace	21.20	212.00
tblFireplaces	NumberWood	10.60	0.00
tblGrading	AcresOfGrading	11.00	4.00
tblGrading	MaterialImported	0.00	3,600.00
tblLandUse	LotAcreage	5.58	3.16
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	WD_TR	6.59	6.65
tblWoodstoves	NumberCatalytic	10.60	0.00
tblWoodstoves	NumberNoncatalytic	10.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	4.9420	47.0989	33.5215	0.0580	6.7727	2.4552	9.2279	3.4800	2.2588	5.7387	0.0000	5,511.8921	5,511.8921	0.9530	0.0000	5,531.9041
2016	56.3093	60.0618	52.4690	0.0915	2.8756	3.7647	6.6403	0.7673	3.5253	4.2925	0.0000	8,668.4441	8,668.4441	1.5489	0.0000	8,700.9705
Total	**61.2513**	**107.1607**	**85.9905**	**0.1496**	**9.6483**	**6.2199**	**15.8681**	**4.2472**	**5.7840**	**10.0313**	**0.0000**	**14,180.3362**	**14,180.3362**	**2.5018**	**0.0000**	**14,232.8746**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	4.9420	47.0989	33.5215	0.0580	2.9689	2.4552	5.4241	1.4461	2.2588	3.7049	0.0000	5,511.8921	5,511.8921	0.9530	0.0000	5,531.9041
2016	56.3093	60.0618	52.4690	0.0915	2.8756	3.7647	6.6403	0.7673	3.5253	4.2925	0.0000	8,668.4441	8,668.4441	1.5489	0.0000	8,700.9705
Total	**61.2513**	**107.1607**	**85.9905**	**0.1496**	**5.8445**	**6.2199**	**12.0644**	**2.2134**	**5.7840**	**7.9974**	**0.0000**	**14,180.3362**	**14,180.3362**	**2.5018**	**0.0000**	**14,232.8746**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	39.42	0.00	23.97	47.89	0.00	20.28	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.5427	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957	0.0000	31.4934	31.4934	0.0321	0.0000	32.1674
Energy	0.0751	0.6420	0.2732	4.1000e-003		0.0519	0.0519		0.0519	0.0519		819.5568	819.5568	0.0157	0.0150	824.5445
Mobile	5.7424	19.3422	61.5454	0.1507	10.9894	0.2706	11.2600	2.9327	0.2488	3.1815		13,243.3043	13,243.3043	0.4603		13,252.9700
Total	**12.3603**	**20.1917**	**79.5527**	**0.1558**	**10.9894**	**0.4182**	**11.4075**	**2.9327**	**0.3964**	**3.3291**	**0.0000**	**14,094.3545**	**14,094.3545**	**0.5081**	**0.0150**	**14,109.6819**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.5427	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957	0.0000	31.4934	31.4934	0.0321	0.0000	32.1674
Energy	0.0591	0.5053	0.2150	3.2300e-003		0.0409	0.0409		0.0409	0.0409		645.0607	645.0607	0.0124	0.0118	648.9864
Mobile	5.7424	19.3422	61.5454	0.1507	10.9894	0.2706	11.2600	2.9327	0.2488	3.1815		13,243.3043	13,243.3043	0.4603		13,252.9700
Total	**12.3443**	**20.0550**	**79.4945**	**0.1549**	**10.9894**	**0.4071**	**11.3965**	**2.9327**	**0.3853**	**3.3180**	**0.0000**	**13,919.8584**	**13,919.8584**	**0.5047**	**0.0118**	**13,934.1238**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.13	0.68	0.07	0.56	0.00	2.64	0.10	0.00	2.79	0.33	0.00	1.24	1.24	0.66	21.29	1.24

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/1/2015	10/31/2015	5	22	
2	Building Construction	Building Construction	11/1/2015	9/16/2016	5	230	
3	Architectural Coating	Architectural Coating	8/15/2016	9/30/2016	5	35	
4	Paving	Paving	9/1/2016	9/30/2016	5	22	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 429,300; Residential Outdoor: 143,100; Non-Residential Indoor: 2,999; Non-Residential Outdoor: 1,000 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	2.00	450.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	181.00	34.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	36.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2356	0.0000	6.2356	3.3342	0.0000	3.3342			0.0000			0.0000
Off-Road	3.8327	40.4161	26.6731	0.0298		2.3284	2.3284		2.1421	2.1421		3,129.0158	3,129.0158	0.9341		3,148.6328
Total	**3.8327**	**40.4161**	**26.6731**	**0.0298**	**6.2356**	**2.3284**	**8.5640**	**3.3342**	**2.1421**	**5.4763**		**3,129.0158**	**3,129.0158**	**0.9341**		**3,148.6328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3610	6.4061	4.0218	0.0146	0.3568	0.1219	0.4787	0.0977	0.1121	0.2098		1,482.4364	1,482.4364	0.0106		1,482.6597
Vendor	0.0187	0.1959	0.2127	4.2000e-004	0.0126	3.9000e-003	0.0165	3.5900e-003	3.5800e-003	7.1800e-003		42.3857	42.3857	3.2000e-004		42.3923
Worker	0.0611	0.0808	0.8178	1.8400e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8652	157.8652	7.8600e-003		158.0302
Total	**0.4408**	**6.6828**	**5.0523**	**0.0168**	**0.5370**	**0.1269**	**0.6639**	**0.1458**	**0.1167**	**0.2625**		**1,682.6872**	**1,682.6872**	**0.0188**		**1,683.0822**

3.2 Grading - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4319	0.0000	2.4319	1.3003	0.0000	1.3003			0.0000			0.0000
Off-Road	3.8327	40.4161	26.6731	0.0298		2.3284	2.3284		2.1421	2.1421	0.0000	3,129.0158	3,129.0158	0.9341		3,148.6328
Total	**3.8327**	**40.4161**	**26.6731**	**0.0298**	**2.4319**	**2.3284**	**4.7602**	**1.3003**	**2.1421**	**3.4424**	**0.0000**	**3,129.0158**	**3,129.0158**	**0.9341**		**3,148.6328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3610	6.4061	4.0218	0.0146	0.3568	0.1219	0.4787	0.0977	0.1121	0.2098		1,482.4364	1,482.4364	0.0106		1,482.6597
Vendor	0.0187	0.1959	0.2127	4.2000e-004	0.0126	3.9000e-003	0.0165	3.5900e-003	3.5800e-003	7.1800e-003		42.3857	42.3857	3.2000e-004		42.3923
Worker	0.0611	0.0808	0.8178	1.8400e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8652	157.8652	7.8600e-003		158.0302
Total	**0.4408**	**6.6828**	**5.0523**	**0.0168**	**0.5370**	**0.1269**	**0.6639**	**0.1458**	**0.1167**	**0.2625**		**1,682.6872**	**1,682.6872**	**0.0188**		**1,683.0822**

3.3 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8870	32.4182	20.0375	0.0287		2.2678	2.2678		2.1293	2.1293		2,886.4292	2,886.4292	0.7336		2,901.8345
Total	**3.8870**	**32.4182**	**20.0375**	**0.0287**		**2.2678**	**2.2678**		**2.1293**	**2.1293**		**2,886.4292**	**2,886.4292**	**0.7336**		**2,901.8345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3180	3.3300	3.6154	7.1100e-003	0.2139	0.0663	0.2802	0.0611	0.0609	0.1220		720.5562	720.5562	5.3900e-003		720.6694
Worker	0.7370	0.9746	9.8686	0.0222	2.0232	0.0132	2.0364	0.5366	0.0121	0.5486		1,904.9068	1,904.9068	0.0948		1,906.8977
Total	**1.0551**	**4.3046**	**13.4840**	**0.0293**	**2.2371**	**0.0795**	**2.3165**	**0.5977**	**0.0730**	**0.6707**		**2,625.4629**	**2,625.4629**	**0.1002**		**2,627.5672**

3.3 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8870	32.4182	20.0375	0.0287		2.2678	2.2678		2.1293	2.1293	0.0000	2,886.4292	2,886.4292	0.7336		2,901.8345
Total	**3.8870**	**32.4182**	**20.0375**	**0.0287**		**2.2678**	**2.2678**		**2.1293**	**2.1293**	**0.0000**	**2,886.4292**	**2,886.4292**	**0.7336**		**2,901.8345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3180	3.3300	3.6154	7.1100e-003	0.2139	0.0663	0.2802	0.0611	0.0609	0.1220		720.5562	720.5562	5.3900e-003		720.6694
Worker	0.7370	0.9746	9.8686	0.0222	2.0232	0.0132	2.0364	0.5366	0.0121	0.5486		1,904.9068	1,904.9068	0.0948		1,906.8977
Total	**1.0551**	**4.3046**	**13.4840**	**0.0293**	**2.2371**	**0.0795**	**2.3165**	**0.5977**	**0.0730**	**0.6707**		**2,625.4629**	**2,625.4629**	**0.1002**		**2,627.5672**

3.3 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6240	30.7934	19.7845	0.0287		2.1098	2.1098		1.9794	1.9794		2,863.9447	2,863.9447	0.7208		2,879.0804
Total	**3.6240**	**30.7934**	**19.7845**	**0.0287**		**2.1098**	**2.1098**		**1.9794**	**1.9794**		**2,863.9447**	**2,863.9447**	**0.7208**		**2,879.0804**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2818	2.9248	3.3970	7.1000e-003	0.2139	0.0559	0.2698	0.0611	0.0514	0.1125		712.1357	712.1357	4.8300e-003		712.2372
Worker	0.6616	0.8724	8.8445	0.0222	2.0232	0.0127	2.0358	0.5366	0.0116	0.5482		1,835.3163	1,835.3163	0.0866		1,837.1354
Total	**0.9434**	**3.7972**	**12.2415**	**0.0293**	**2.2371**	**0.0685**	**2.3056**	**0.5977**	**0.0630**	**0.6607**		**2,547.4520**	**2,547.4520**	**0.0915**		**2,549.3725**

3.3 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6240	30.7934	19.7845	0.0287		2.1098	2.1098		1.9794	1.9794	0.0000	2,863.9447	2,863.9447	0.7208		2,879.0804
Total	**3.6240**	**30.7934**	**19.7845**	**0.0287**		**2.1098**	**2.1098**		**1.9794**	**1.9794**	**0.0000**	**2,863.9447**	**2,863.9447**	**0.7208**		**2,879.0804**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2818	2.9248	3.3970	7.1000e-003	0.2139	0.0559	0.2698	0.0611	0.0514	0.1125		712.1357	712.1357	4.8300e-003		712.2372
Worker	0.6616	0.8724	8.8445	0.0222	2.0232	0.0127	2.0358	0.5366	0.0116	0.5482		1,835.3163	1,835.3163	0.0866		1,837.1354
Total	**0.9434**	**3.7972**	**12.2415**	**0.0293**	**2.2371**	**0.0685**	**2.3056**	**0.5977**	**0.0630**	**0.6607**		**2,547.4520**	**2,547.4520**	**0.0915**		**2,549.3725**

3.4 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	48.7003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4913	3.1630	2.5119	3.9600e-003		0.2622	0.2622		0.2622	0.2622		375.2641	375.2641	0.0442		376.1932
Total	**49.1916**	**3.1630**	**2.5119**	**3.9600e-003**		**0.2622**	**0.2622**		**0.2622**	**0.2622**		**375.2641**	**375.2641**	**0.0442**		**376.1932**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1316	0.1735	1.7591	4.4100e-003	0.4024	2.5200e-003	0.4049	0.1067	2.3100e-003	0.1090		365.0353	365.0353	0.0172		365.3971
Total	**0.1316**	**0.1735**	**1.7591**	**4.4100e-003**	**0.4024**	**2.5200e-003**	**0.4049**	**0.1067**	**2.3100e-003**	**0.1090**		**365.0353**	**365.0353**	**0.0172**		**365.3971**

3.4 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	48.7003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4913	3.1630	2.5119	3.9600e-003		0.2622	0.2622		0.2622	0.2622	0.0000	375.2641	375.2641	0.0442		376.1932
Total	**49.1916**	**3.1630**	**2.5119**	**3.9600e-003**		**0.2622**	**0.2622**		**0.2622**	**0.2622**	**0.0000**	**375.2641**	**375.2641**	**0.0442**		**376.1932**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1316	0.1735	1.7591	4.4100e-003	0.4024	2.5200e-003	0.4049	0.1067	2.3100e-003	0.1090		365.0353	365.0353	0.0172		365.3971
Total	**0.1316**	**0.1735**	**1.7591**	**4.4100e-003**	**0.4024**	**2.5200e-003**	**0.4049**	**0.1067**	**2.3100e-003**	**0.1090**		**365.0353**	**365.0353**	**0.0172**		**365.3971**

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1469	21.8663	14.9949	0.0223		1.3170	1.3170		1.2140	1.2140		2,272.0603	2,272.0603	0.6654		2,286.0326
Paving	0.1822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3291**	**21.8663**	**14.9949**	**0.0223**		**1.3170**	**1.3170**		**1.2140**	**1.2140**		**2,272.0603**	**2,272.0603**	**0.6654**		**2,286.0326**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0166	0.1721	0.1998	4.2000e-004	0.0126	3.2900e-003	0.0159	3.5900e-003	3.0200e-003	6.6200e-003		41.8903	41.8903	2.8000e-004		41.8963
Worker	0.0731	0.0964	0.9773	2.4500e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		202.7974	202.7974	9.5700e-003		202.9984
Total	**0.0897**	**0.2685**	**1.1771**	**2.8700e-003**	**0.2361**	**4.6900e-003**	**0.2408**	**0.0629**	**4.3000e-003**	**0.0672**		**244.6877**	**244.6877**	**9.8500e-003**		**244.8947**

3.5 Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1469	21.8663	14.9949	0.0223		1.3170	1.3170		1.2140	1.2140	0.0000	2,272.0603	2,272.0603	0.6654		2,286.0326
Paving	0.1822					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.3291**	**21.8663**	**14.9949**	**0.0223**		**1.3170**	**1.3170**		**1.2140**	**1.2140**	**0.0000**	**2,272.0603**	**2,272.0603**	**0.6654**		**2,286.0326**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0166	0.1721	0.1998	4.2000e-004	0.0126	3.2900e-003	0.0159	3.5900e-003	3.0200e-003	6.6200e-003		41.8903	41.8903	2.8000e-004		41.8963
Worker	0.0731	0.0964	0.9773	2.4500e-003	0.2236	1.4000e-003	0.2250	0.0593	1.2800e-003	0.0606		202.7974	202.7974	9.5700e-003		202.9984
Total	**0.0897**	**0.2685**	**1.1771**	**2.8700e-003**	**0.2361**	**4.6900e-003**	**0.2408**	**0.0629**	**4.3000e-003**	**0.0672**		**244.6877**	**244.6877**	**9.8500e-003**		**244.8947**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.7424	19.3422	61.5454	0.1507	10.9894	0.2706	11.2600	2.9327	0.2488	3.1815		13,243.3043	13,243.3043	0.4603		13,252.9700
Unmitigated	5.7424	19.3422	61.5454	0.1507	10.9894	0.2706	11.2600	2.9327	0.2488	3.1815		13,243.3043	13,243.3043	0.4603		13,252.9700

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,409.80	1,517.92	1286.84	4,810,256	4,810,256
Parking Lot	0.00	0.00	0.00		
Total	1,409.80	1,517.92	1,286.84	4,810,256	4,810,256

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.462438	0.069856	0.176572	0.170752	0.045136	0.007399	0.012745	0.042494	0.000970	0.001060	0.006446	0.000893	0.003237

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0591	0.5053	0.2150	3.2300e-003		0.0409	0.0409		0.0409	0.0409		645.0607	645.0607	0.0124	0.0118	648.9864
NaturalGas Unmitigated	0.0751	0.6420	0.2732	4.1000e-003		0.0519	0.0519		0.0519	0.0519		819.5568	819.5568	0.0157	0.0150	824.5445

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	6966.23	0.0751	0.6420	0.2732	4.1000e-003		0.0519	0.0519		0.0519	0.0519		819.5568	819.5568	0.0157	0.0150	824.5445
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0751**	**0.6420**	**0.2732**	**4.1000e-003**		**0.0519**	**0.0519**		**0.0519**	**0.0519**		**819.5568**	**819.5568**	**0.0157**	**0.0150**	**824.5445**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5.48302	0.0591	0.5053	0.2150	3.2300e-003		0.0409	0.0409		0.0409	0.0409		645.0607	645.0607	0.0124	0.0118	648.9864
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0591**	**0.5053**	**0.2150**	**3.2300e-003**		**0.0409**	**0.0409**		**0.0409**	**0.0409**		**645.0607**	**645.0607**	**0.0124**	**0.0118**	**648.9864**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.5427	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957	0.0000	31.4934	31.4934	0.0321	0.0000	32.1674
Unmitigated	6.5427	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957	0.0000	31.4934	31.4934	0.0321	0.0000	32.1674

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.5172					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5585	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957		31.4934	31.4934	0.0321		32.1674
Total	**6.5427**	**0.2075**	**17.7341**	**9.2000e-004**		**0.0957**	**0.0957**		**0.0957**	**0.0957**	**0.0000**	**31.4934**	**31.4934**	**0.0321**	**0.0000**	**32.1674**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.5172					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5585	0.2075	17.7341	9.2000e-004		0.0957	0.0957		0.0957	0.0957		31.4934	31.4934	0.0321		32.1674
Total	**6.5427**	**0.2075**	**17.7341**	**9.2000e-004**		**0.0957**	**0.0957**		**0.0957**	**0.0957**	**0.0000**	**31.4934**	**31.4934**	**0.0321**	**0.0000**	**32.1674**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Mission Lofts

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.53	Acre	1.53	66,646.80	0
Apartments Mid Rise	212.00	Dwelling Unit	3.16	212,000.00	606

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2016
Utility Company	Riverside Public Utilities				
CO2 Intensity (lb/MWhr)	1325.65	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - based on site plan; north parcel includes some parking; south parcel includes additional parking

Construction Phase - see table

Off-road Equipment - see table

Off-road Equipment - see table

Off-road Equipment - see table

Trips and VMT - water truck trips added

Vehicle Trips - weekday trip rate per traffic study

Woodstoves - no fireplaces or woodstoves

Construction Off-road Equipment Mitigation - water 3x daily for 61% reduction in PM

Mobile Land Use Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation - city waste diversion rate in 2006

Grading - import per plans

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	35.00
tblConstructionPhase	NumDays	8.00	22.00
tblConstructionPhase	NumDays	18.00	22.00
tblConstructionPhase	PhaseEndDate	11/4/2016	9/30/2016
tblConstructionPhase	PhaseEndDate	10/30/2015	10/31/2015
tblConstructionPhase	PhaseEndDate	11/1/2016	9/30/2016
tblConstructionPhase	PhaseStartDate	9/17/2016	8/15/2016
tblConstructionPhase	PhaseStartDate	10/1/2016	9/1/2016
tblFireplaces	NumberGas	180.20	0.00
tblFireplaces	NumberNoFireplace	21.20	212.00
tblFireplaces	NumberWood	10.60	0.00
tblGrading	AcresOfGrading	11.00	4.00
tblGrading	MaterialImported	0.00	3,600.00
tblLandUse	LotAcreage	5.58	3.16
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	WD_TR	6.59	6.65
tblWoodstoves	NumberCatalytic	10.60	0.00
tblWoodstoves	NumberNoncatalytic	10.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.1547	1.3295	1.0981	1.8000e-003	0.1228	0.0786	0.2015	0.0512	0.0733	0.1245	0.0000	158.6577	158.6577	0.0262	0.0000	159.2068
2016	1.3104	3.5278	3.2713	5.8500e-003	0.2141	0.2217	0.4358	0.0573	0.2080	0.2652	0.0000	495.9414	495.9414	0.0762	0.0000	497.5422
Total	**1.4651**	**4.8573**	**4.3694**	**7.6500e-003**	**0.3369**	**0.3004**	**0.6373**	**0.1085**	**0.2812**	**0.3897**	**0.0000**	**654.5991**	**654.5991**	**0.1024**	**0.0000**	**656.7490**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.1547	1.3295	1.0981	1.8000e-003	0.0810	0.0786	0.1596	0.0288	0.0733	0.1021	0.0000	158.6576	158.6576	0.0262	0.0000	159.2067
2016	1.3104	3.5278	3.2713	5.8500e-003	0.2141	0.2217	0.4358	0.0573	0.2080	0.2652	0.0000	495.9411	495.9411	0.0762	0.0000	497.5419
Total	**1.4651**	**4.8573**	**4.3694**	**7.6500e-003**	**0.2951**	**0.3004**	**0.5955**	**0.0861**	**0.2812**	**0.3673**	**0.0000**	**654.5987**	**654.5987**	**0.1024**	**0.0000**	**656.7486**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	12.42	0.00	6.57	20.62	0.00	5.74	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1619	0.0259	2.2168	1.2000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5713	3.5713	3.6400e-003	0.0000	3.6477
Energy	0.0137	0.1172	0.0499	7.5000e-004		9.4700e-003	9.4700e-003		9.4700e-003	9.4700e-003	0.0000	662.3548	662.3548	0.0141	4.8700e-003	664.1614
Mobile	0.9271	3.3359	10.7229	0.0257	1.8243	0.0455	1.8698	0.4875	0.0419	0.5294	0.0000	2,046.5451	2,046.5451	0.0704	0.0000	2,048.0223
Waste						0.0000	0.0000		0.0000	0.0000	19.7957	0.0000	19.7957	1.1699	0.0000	44.3634
Water						0.0000	0.0000		0.0000	0.0000	4.3821	166.3210	170.7031	0.4537	0.0114	183.7592
Total	**2.1027**	**3.4790**	**12.9895**	**0.0266**	**1.8243**	**0.0669**	**1.8913**	**0.4875**	**0.0633**	**0.5508**	**24.1778**	**2,878.7921**	**2,902.9699**	**1.7117**	**0.0163**	**2,943.9541**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1619	0.0259	2.2168	1.2000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5713	3.5713	3.6400e-003	0.0000	3.6477
Energy	0.0108	0.0922	0.0392	5.9000e-004		7.4600e-003	7.4600e-003		7.4600e-003	7.4600e-003	0.0000	615.6329	615.6329	0.0132	4.2600e-003	617.2305
Mobile	0.9271	3.3359	10.7229	0.0257	1.8243	0.0455	1.8698	0.4875	0.0419	0.5294	0.0000	2,046.5451	2,046.5451	0.0704	0.0000	2,048.0223
Waste						0.0000	0.0000		0.0000	0.0000	7.1264	0.0000	7.1264	0.4212	0.0000	15.9708
Water						0.0000	0.0000		0.0000	0.0000	3.5057	141.6886	145.1943	0.3632	9.1400e-003	155.6553
Total	**2.0998**	**3.4541**	**12.9789**	**0.0264**	**1.8243**	**0.0649**	**1.8893**	**0.4875**	**0.0613**	**0.5488**	**10.6321**	**2,807.4379**	**2,818.0700**	**0.8716**	**0.0134**	**2,840.5267**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.14	0.72	0.08	0.60	0.00	3.00	0.11	0.00	3.18	0.36	56.03	2.48	2.92	49.09	17.54	3.51

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/1/2015	10/31/2015	5	22	
2	Building Construction	Building Construction	11/1/2015	9/16/2016	5	230	
3	Architectural Coating	Architectural Coating	8/15/2016	9/30/2016	5	35	
4	Paving	Paving	9/1/2016	9/30/2016	5	22	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 429,300; Residential Outdoor: 143,100; Non-Residential Indoor: 2,999; Non-Residential Outdoor: 1,000 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	8.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	2.00	450.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	181.00	34.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	36.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0686	0.0000	0.0686	0.0367	0.0000	0.0367	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0422	0.4446	0.2934	3.3000e-004		0.0256	0.0256		0.0236	0.0236	0.0000	31.2246	31.2246	9.3200e-003	0.0000	31.4203
Total	**0.0422**	**0.4446**	**0.2934**	**3.3000e-004**	**0.0686**	**0.0256**	**0.0942**	**0.0367**	**0.0236**	**0.0602**	**0.0000**	**31.2246**	**31.2246**	**9.3200e-003**	**0.0000**	**31.4203**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.9600e-003	0.0716	0.0453	1.6000e-004	3.8700e-003	1.3400e-003	5.2100e-003	1.0600e-003	1.2300e-003	2.2900e-003	0.0000	14.8144	14.8144	1.1000e-004	0.0000	14.8166
Vendor	2.0000e-004	2.2000e-003	2.4000e-003	0.0000	1.4000e-004	4.0000e-005	1.8000e-004	4.0000e-005	4.0000e-005	8.0000e-005	0.0000	0.4251	0.4251	0.0000	0.0000	0.4252
Worker	6.3000e-004	9.3000e-004	9.3300e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5968	1.5968	8.0000e-005	0.0000	1.5984
Total	**4.7900e-003**	**0.0747**	**0.0570**	**1.8000e-004**	**5.8200e-003**	**1.3900e-003**	**7.2200e-003**	**1.5800e-003**	**1.2800e-003**	**2.8600e-003**	**0.0000**	**16.8363**	**16.8363**	**1.9000e-004**	**0.0000**	**16.8402**

3.2 Grading - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0268	0.0000	0.0268	0.0143	0.0000	0.0143	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0422	0.4446	0.2934	3.3000e-004		0.0256	0.0256		0.0236	0.0236	0.0000	31.2245	31.2245	9.3200e-003	0.0000	31.4203
Total	**0.0422**	**0.4446**	**0.2934**	**3.3000e-004**	**0.0268**	**0.0256**	**0.0524**	**0.0143**	**0.0236**	**0.0379**	**0.0000**	**31.2245**	**31.2245**	**9.3200e-003**	**0.0000**	**31.4203**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.9600e-003	0.0716	0.0453	1.6000e-004	3.8700e-003	1.3400e-003	5.2100e-003	1.0600e-003	1.2300e-003	2.2900e-003	0.0000	14.8144	14.8144	1.1000e-004	0.0000	14.8166
Vendor	2.0000e-004	2.2000e-003	2.4000e-003	0.0000	1.4000e-004	4.0000e-005	1.8000e-004	4.0000e-005	4.0000e-005	8.0000e-005	0.0000	0.4251	0.4251	0.0000	0.0000	0.4252
Worker	6.3000e-004	9.3000e-004	9.3300e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.5968	1.5968	8.0000e-005	0.0000	1.5984
Total	**4.7900e-003**	**0.0747**	**0.0570**	**1.8000e-004**	**5.8200e-003**	**1.3900e-003**	**7.2200e-003**	**1.5800e-003**	**1.2800e-003**	**2.8600e-003**	**0.0000**	**16.8363**	**16.8363**	**1.9000e-004**	**0.0000**	**16.8402**

3.3 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0855	0.7132	0.4408	6.3000e-004		0.0499	0.0499		0.0469	0.0469	0.0000	57.6075	57.6075	0.0146	0.0000	57.9150
Total	**0.0855**	**0.7132**	**0.4408**	**6.3000e-004**		**0.0499**	**0.0499**		**0.0469**	**0.0469**	**0.0000**	**57.6075**	**57.6075**	**0.0146**	**0.0000**	**57.9150**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9300e-003	0.0747	0.0817	1.6000e-004	4.6400e-003	1.4500e-003	6.0900e-003	1.3300e-003	1.3300e-003	2.6600e-003	0.0000	14.4533	14.4533	1.1000e-004	0.0000	14.4556
Worker	0.0153	0.0224	0.2251	4.9000e-004	0.0438	2.9000e-004	0.0441	0.0116	2.7000e-004	0.0119	0.0000	38.5360	38.5360	1.8900e-003	0.0000	38.5757
Total	**0.0222**	**0.0970**	**0.3068**	**6.5000e-004**	**0.0484**	**1.7400e-003**	**0.0502**	**0.0130**	**1.6000e-003**	**0.0146**	**0.0000**	**52.9893**	**52.9893**	**2.0000e-003**	**0.0000**	**53.0313**

3.3 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0855	0.7132	0.4408	6.3000e-004		0.0499	0.0499		0.0469	0.0469	0.0000	57.6075	57.6075	0.0146	0.0000	57.9149
Total	**0.0855**	**0.7132**	**0.4408**	**6.3000e-004**		**0.0499**	**0.0499**		**0.0469**	**0.0469**	**0.0000**	**57.6075**	**57.6075**	**0.0146**	**0.0000**	**57.9149**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9300e-003	0.0747	0.0817	1.6000e-004	4.6400e-003	1.4500e-003	6.0900e-003	1.3300e-003	1.3300e-003	2.6600e-003	0.0000	14.4533	14.4533	1.1000e-004	0.0000	14.4556
Worker	0.0153	0.0224	0.2251	4.9000e-004	0.0438	2.9000e-004	0.0441	0.0116	2.7000e-004	0.0119	0.0000	38.5360	38.5360	1.8900e-003	0.0000	38.5757
Total	**0.0222**	**0.0970**	**0.3068**	**6.5000e-004**	**0.0484**	**1.7400e-003**	**0.0502**	**0.0130**	**1.6000e-003**	**0.0146**	**0.0000**	**52.9893**	**52.9893**	**2.0000e-003**	**0.0000**	**53.0313**

3.3 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3370	2.8638	1.8400	2.6700e-003		0.1962	0.1962		0.1841	0.1841	0.0000	241.6258	241.6258	0.0608	0.0000	242.9028
Total	**0.3370**	**2.8638**	**1.8400**	**2.6700e-003**		**0.1962**	**0.1962**		**0.1841**	**0.1841**	**0.0000**	**241.6258**	**241.6258**	**0.0608**	**0.0000**	**242.9028**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0259	0.2773	0.3246	6.6000e-004	0.0196	5.1700e-003	0.0248	5.6100e-003	4.7500e-003	0.0104	0.0000	60.3858	60.3858	4.0000e-004	0.0000	60.3942
Worker	0.0579	0.0846	0.8526	2.0900e-003	0.1850	1.1800e-003	0.1862	0.0491	1.0800e-003	0.0502	0.0000	156.9536	156.9536	7.3100e-003	0.0000	157.1070
Total	**0.0838**	**0.3619**	**1.1772**	**2.7500e-003**	**0.2046**	**6.3500e-003**	**0.2110**	**0.0547**	**5.8300e-003**	**0.0606**	**0.0000**	**217.3394**	**217.3394**	**7.7100e-003**	**0.0000**	**217.5013**

3.3 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3370	2.8638	1.8400	2.6700e-003		0.1962	0.1962		0.1841	0.1841	0.0000	241.6255	241.6255	0.0608	0.0000	242.9025
Total	**0.3370**	**2.8638**	**1.8400**	**2.6700e-003**		**0.1962**	**0.1962**		**0.1841**	**0.1841**	**0.0000**	**241.6255**	**241.6255**	**0.0608**	**0.0000**	**242.9025**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0259	0.2773	0.3246	6.6000e-004	0.0196	5.1700e-003	0.0248	5.6100e-003	4.7500e-003	0.0104	0.0000	60.3858	60.3858	4.0000e-004	0.0000	60.3942
Worker	0.0579	0.0846	0.8526	2.0900e-003	0.1850	1.1800e-003	0.1862	0.0491	1.0800e-003	0.0502	0.0000	156.9536	156.9536	7.3100e-003	0.0000	157.1070
Total	**0.0838**	**0.3619**	**1.1772**	**2.7500e-003**	**0.2046**	**6.3500e-003**	**0.2110**	**0.0547**	**5.8300e-003**	**0.0606**	**0.0000**	**217.3394**	**217.3394**	**7.7100e-003**	**0.0000**	**217.5013**

3.4 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8523					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.6000e-003	0.0554	0.0440	7.0000e-005		4.5900e-003	4.5900e-003		4.5900e-003	4.5900e-003	0.0000	5.9576	5.9576	7.0000e-004	0.0000	5.9723
Total	**0.8609**	**0.0554**	**0.0440**	**7.0000e-005**		**4.5900e-003**	**4.5900e-003**		**4.5900e-003**	**4.5900e-003**	**0.0000**	**5.9576**	**5.9576**	**7.0000e-004**	**0.0000**	**5.9723**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1700e-003	3.1700e-003	0.0319	8.0000e-005	6.9200e-003	4.0000e-005	6.9700e-003	1.8400e-003	4.0000e-005	1.8800e-003	0.0000	5.8742	5.8742	2.7000e-004	0.0000	5.8800
Total	**2.1700e-003**	**3.1700e-003**	**0.0319**	**8.0000e-005**	**6.9200e-003**	**4.0000e-005**	**6.9700e-003**	**1.8400e-003**	**4.0000e-005**	**1.8800e-003**	**0.0000**	**5.8742**	**5.8742**	**2.7000e-004**	**0.0000**	**5.8800**

3.4 Architectural Coating - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.8523					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.6000e-003	0.0554	0.0440	7.0000e-005		4.5900e-003	4.5900e-003		4.5900e-003	4.5900e-003	0.0000	5.9576	5.9576	7.0000e-004	0.0000	5.9723
Total	**0.8609**	**0.0554**	**0.0440**	**7.0000e-005**		**4.5900e-003**	**4.5900e-003**		**4.5900e-003**	**4.5900e-003**	**0.0000**	**5.9576**	**5.9576**	**7.0000e-004**	**0.0000**	**5.9723**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1700e-003	3.1700e-003	0.0319	8.0000e-005	6.9200e-003	4.0000e-005	6.9700e-003	1.8400e-003	4.0000e-005	1.8800e-003	0.0000	5.8742	5.8742	2.7000e-004	0.0000	5.8800
Total	**2.1700e-003**	**3.1700e-003**	**0.0319**	**8.0000e-005**	**6.9200e-003**	**4.0000e-005**	**6.9700e-003**	**1.8400e-003**	**4.0000e-005**	**1.8800e-003**	**0.0000**	**5.8742**	**5.8742**	**2.7000e-004**	**0.0000**	**5.8800**

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0236	0.2405	0.1649	2.5000e-004		0.0145	0.0145		0.0134	0.0134	0.0000	22.6730	22.6730	6.6400e-003	0.0000	22.8124
Paving	2.0000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0256**	**0.2405**	**0.1649**	**2.5000e-004**		**0.0145**	**0.0145**		**0.0134**	**0.0134**	**0.0000**	**22.6730**	**22.6730**	**6.6400e-003**	**0.0000**	**22.8124**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-004	1.9300e-003	2.2600e-003	0.0000	1.4000e-004	4.0000e-005	1.7000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	0.4201	0.4201	0.0000	0.0000	0.4202
Worker	7.6000e-004	1.1100e-003	0.0111	3.0000e-005	2.4200e-003	2.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.6000e-004	0.0000	2.0513	2.0513	1.0000e-004	0.0000	2.0533
Total	**9.4000e-004**	**3.0400e-003**	**0.0134**	**3.0000e-005**	**2.5600e-003**	**6.0000e-005**	**2.6000e-003**	**6.8000e-004**	**4.0000e-005**	**7.3000e-004**	**0.0000**	**2.4715**	**2.4715**	**1.0000e-004**	**0.0000**	**2.4735**

3.5 Paving - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0236	0.2405	0.1649	2.5000e-004		0.0145	0.0145		0.0134	0.0134	0.0000	22.6729	22.6729	6.6400e-003	0.0000	22.8124
Paving	2.0000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0256**	**0.2405**	**0.1649**	**2.5000e-004**		**0.0145**	**0.0145**		**0.0134**	**0.0134**	**0.0000**	**22.6729**	**22.6729**	**6.6400e-003**	**0.0000**	**22.8124**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-004	1.9300e-003	2.2600e-003	0.0000	1.4000e-004	4.0000e-005	1.7000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	0.4201	0.4201	0.0000	0.0000	0.4202
Worker	7.6000e-004	1.1100e-003	0.0111	3.0000e-005	2.4200e-003	2.0000e-005	2.4300e-003	6.4000e-004	1.0000e-005	6.6000e-004	0.0000	2.0513	2.0513	1.0000e-004	0.0000	2.0533
Total	**9.4000e-004**	**3.0400e-003**	**0.0134**	**3.0000e-005**	**2.5600e-003**	**6.0000e-005**	**2.6000e-003**	**6.8000e-004**	**4.0000e-005**	**7.3000e-004**	**0.0000**	**2.4715**	**2.4715**	**1.0000e-004**	**0.0000**	**2.4735**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9271	3.3359	10.7229	0.0257	1.8243	0.0455	1.8698	0.4875	0.0419	0.5294	0.0000	2,046.5451	2,046.5451	0.0704	0.0000	2,048.0223
Unmitigated	0.9271	3.3359	10.7229	0.0257	1.8243	0.0455	1.8698	0.4875	0.0419	0.5294	0.0000	2,046.5451	2,046.5451	0.0704	0.0000	2,048.0223

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,409.80	1,517.92	1286.84	4,810,256	4,810,256
Parking Lot	0.00	0.00	0.00		
Total	1,409.80	1,517.92	1,286.84	4,810,256	4,810,256

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.462438	0.069856	0.176572	0.170752	0.045136	0.007399	0.012745	0.042494	0.000970	0.001060	0.006446	0.000893	0.003237

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	508.8359	508.8359	0.0111	2.3000e-003	509.7836
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	526.6679	526.6679	0.0115	2.3800e-003	527.6488
NaturalGas Mitigated	0.0108	0.0922	0.0392	5.9000e-004		7.4600e-003	7.4600e-003		7.4600e-003	7.4600e-003	0.0000	106.7970	106.7970	2.0500e-003	1.9600e-003	107.4470
NaturalGas Unmitigated	0.0137	0.1172	0.0499	7.5000e-004		9.4700e-003	9.4700e-003		9.4700e-003	9.4700e-003	0.0000	135.6868	135.6868	2.6000e-003	2.4900e-003	136.5126

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.54268e+006	0.0137	0.1172	0.0499	7.5000e-004		9.4700e-003	9.4700e-003		9.4700e-003	9.4700e-003	0.0000	135.6868	135.6868	2.6000e-003	2.4900e-003	136.5126
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0137**	**0.1172**	**0.0499**	**7.5000e-004**		**9.4700e-003**	**9.4700e-003**		**9.4700e-003**	**9.4700e-003**	**0.0000**	**135.6868**	**135.6868**	**2.6000e-003**	**2.4900e-003**	**136.5126**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Apartments Mid Rise	2.0013e+006	0.0108	0.0922	0.0392	5.9000e-004		7.4600e-003	7.4600e-003		7.4600e-003	7.4600e-003	0.0000	106.7970	106.7970	2.0500e-003	1.9600e-003	107.4470
Total		**0.0108**	**0.0922**	**0.0392**	**5.9000e-004**		**7.4600e-003**	**7.4600e-003**		**7.4600e-003**	**7.4600e-003**	**0.0000**	**106.7970**	**106.7970**	**2.0500e-003**	**1.9600e-003**	**107.4470**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	817226	491.4019	0.0108	2.2200e-003	492.3171
Parking Lot	58649.2	35.2660	7.7000e-004	1.6000e-004	35.3317
Total		**526.6679**	**0.0115**	**2.3800e-003**	**527.6488**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	787570	473.5698	0.0104	2.1400e-003	474.4519
Parking Lot	58649.2	35.2660	7.7000e-004	1.6000e-004	35.3317
Total		**508.8359**	**0.0111**	**2.3000e-003**	**509.7836**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1619	0.0259	2.2168	1.2000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5713	3.5713	3.6400e-003	0.0000	3.6477
Unmitigated	1.1619	0.0259	2.2168	1.2000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5713	3.5713	3.6400e-003	0.0000	3.6477

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0852					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0069					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0698	0.0259	2.2168	1.2000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5713	3.5713	3.6400e-003	0.0000	3.6477
Total	**1.1619**	**0.0259**	**2.2168**	**1.2000e-004**		**0.0120**	**0.0120**		**0.0120**	**0.0120**	**0.0000**	**3.5713**	**3.5713**	**3.6400e-003**	**0.0000**	**3.6477**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0852					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0069					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0698	0.0259	2.2168	1.2000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5713	3.5713	3.6400e-003	0.0000	3.6477
Total	**1.1619**	**0.0259**	**2.2168**	**1.2000e-004**		**0.0120**	**0.0120**		**0.0120**	**0.0120**	**0.0000**	**3.5713**	**3.5713**	**3.6400e-003**	**0.0000**	**3.6477**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	145.1943	0.3632	9.1400e-003	155.6553
Unmitigated	170.7031	0.4537	0.0114	183.7592

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	13.8127 / 8.70798	170.7031	0.4537	0.0114	183.7592
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**170.7031**	**0.4537**	**0.0114**	**183.7592**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	11.0501 / 8.70798	145.1943	0.3632	9.1400e-003	155.6553
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**145.1943**	**0.3632**	**9.1400e-003**	**155.6553**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.1264	0.4212	0.0000	15.9708
Unmitigated	19.7957	1.1699	0.0000	44.3634

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	97.52	19.7957	1.1699	0.0000	44.3634
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**19.7957**	**1.1699**	**0.0000**	**44.3634**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	35.1072	7.1264	0.4212	0.0000	15.9708
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**7.1264**	**0.4212**	**0.0000**	**15.9708**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Mission Lofts

Riverside-South Coast County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	2	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	1	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	1	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	1	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	7	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	8.60000E-003	5.53500E-002	4.39600E-002	7.00000E-005	4.59000E-003	4.59000E-003	0.00000E+000	5.95759E+000	5.95759E+000	7.00000E-004	0.00000E+000	5.97234E+000
Cement and Mortar Mixers	1.29000E-003	8.12000E-003	6.78000E-003	2.00000E-005	3.30000E-004	3.30000E-004	0.00000E+000	1.00821E+000	1.00821E+000	1.00000E-004	0.00000E+000	1.01041E+000
Cranes	8.32900E-002	9.87250E-001	3.45070E-001	6.50000E-004	4.48500E-002	4.12600E-002	0.00000E+000	6.12818E+001	6.12818E+001	1.84500E-002	0.00000E+000	6.16692E+001
Excavators	4.58000E-003	5.35100E-002	3.78300E-002	6.00000E-005	2.64000E-003	2.43000E-003	0.00000E+000	5.54390E+000	5.54390E+000	1.66000E-003	0.00000E+000	5.57866E+000
Forklifts	7.92400E-002	6.81740E-001	4.36570E-001	5.30000E-004	5.70600E-002	5.24900E-002	0.00000E+000	4.97751E+001	4.97751E+001	1.49800E-002	0.00000E+000	5.00897E+001
Generator Sets	7.51400E-002	5.64650E-001	4.38080E-001	7.60000E-004	3.98700E-002	3.98700E-002	0.00000E+000	6.49989E+001	6.49989E+001	6.08000E-003	0.00000E+000	6.51265E+001
Graders	1.16800E-002	1.19550E-001	5.47900E-002	7.00000E-005	6.72000E-003	6.18000E-003	0.00000E+000	6.55689E+000	6.55689E+000	1.96000E-003	0.00000E+000	6.59800E+000
Pavers	4.41000E-003	4.96400E-002	3.13700E-002	5.00000E-005	2.47000E-003	2.27000E-003	0.00000E+000	4.68043E+000	4.68043E+000	1.41000E-003	0.00000E+000	4.71008E+000
Paving Equipment	6.75000E-003	7.84800E-002	5.59500E-002	9.00000E-005	3.89000E-003	3.58000E-003	0.00000E+000	8.31620E+000	8.31620E+000	2.51000E-003	0.00000E+000	8.36888E+000
Rollers	7.41000E-003	6.84800E-002	4.43000E-002	6.00000E-005	5.04000E-003	4.64000E-003	0.00000E+000	5.43813E+000	5.43813E+000	1.64000E-003	0.00000E+000	5.47258E+000
Rubber Tired Dozers	1.40000E-002	1.58260E-001	1.20740E-001	1.00000E-004	7.38000E-003	6.79000E-003	0.00000E+000	9.31973E+000	9.31973E+000	2.78000E-003	0.00000E+000	9.37816E+000
Tractors/Loaders/ Backhoes	1.34440E-001	1.28375E+000	9.39800E-001	1.21000E-003	9.92700E-002	9.13300E-002	0.00000E+000	1.14566E+002	1.14566E+002	3.44700E-002	0.00000E+000	1.15290E+002
Welders	6.60600E-002	2.08660E-001	2.27850E-001	2.90000E-004	1.66600E-002	1.66600E-002	0.00000E+000	2.16454E+001	2.16454E+001	5.37000E-003	0.00000E+000	2.17582E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	8.60000E-003	5.53500E-002	4.39600E-002	7.00000E-005	4.59000E-003	4.59000E-003	0.00000E+000	5.95758E+000	5.95758E+000	7.00000E-004	0.00000E+000	5.97233E+000
Cement and Mortar Mixers	1.29000E-003	8.12000E-003	6.78000E-003	2.00000E-005	3.30000E-004	3.30000E-004	0.00000E+000	1.00821E+000	1.00821E+000	1.00000E-004	0.00000E+000	1.01041E+000
Cranes	8.32900E-002	9.87250E-001	3.45060E-001	6.50000E-004	4.48500E-002	4.12600E-002	0.00000E+000	6.12817E+001	6.12817E+001	1.84500E-002	0.00000E+000	6.16691E+001
Excavators	4.58000E-003	5.35100E-002	3.78300E-002	6.00000E-005	2.64000E-003	2.43000E-003	0.00000E+000	5.54390E+000	5.54390E+000	1.66000E-003	0.00000E+000	5.57865E+000
Forklifts	7.92400E-002	6.81740E-001	4.36570E-001	5.30000E-004	5.70600E-002	5.24900E-002	0.00000E+000	4.97750E+001	4.97750E+001	1.49800E-002	0.00000E+000	5.00897E+001
Generator Sets	7.51400E-002	5.64650E-001	4.38080E-001	7.60000E-004	3.98700E-002	3.98700E-002	0.00000E+000	6.49988E+001	6.49988E+001	6.08000E-003	0.00000E+000	6.51264E+001
Graders	1.16800E-002	1.19550E-001	5.47900E-002	7.00000E-005	6.72000E-003	6.18000E-003	0.00000E+000	6.55688E+000	6.55688E+000	1.96000E-003	0.00000E+000	6.59799E+000
Pavers	4.41000E-003	4.96400E-002	3.13700E-002	5.00000E-005	2.47000E-003	2.27000E-003	0.00000E+000	4.68042E+000	4.68042E+000	1.41000E-003	0.00000E+000	4.71007E+000
Paving Equipment	6.75000E-003	7.84800E-002	5.59500E-002	9.00000E-005	3.89000E-003	3.58000E-003	0.00000E+000	8.31619E+000	8.31619E+000	2.51000E-003	0.00000E+000	8.36887E+000
Rollers	7.41000E-003	6.84800E-002	4.43000E-002	6.00000E-005	5.04000E-003	4.64000E-003	0.00000E+000	5.43813E+000	5.43813E+000	1.64000E-003	0.00000E+000	5.47257E+000
Rubber Tired Dozers	1.40000E-002	1.58260E-001	1.20740E-001	1.00000E-004	7.38000E-003	6.79000E-003	0.00000E+000	9.31972E+000	9.31972E+000	2.78000E-003	0.00000E+000	9.37815E+000
Tractors/Loaders/Backhoes	1.34440E-001	1.28375E+000	9.39790E-001	1.21000E-003	9.92700E-002	9.13300E-002	0.00000E+000	1.14566E+002	1.14566E+002	3.44700E-002	0.00000E+000	1.15290E+002
Welders	6.60600E-002	2.08660E-001	2.27850E-001	2.90000E-004	1.66600E-002	1.66600E-002	0.00000E+000	2.16454E+001	2.16454E+001	5.37000E-003	0.00000E+000	2.17582E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.67853E-006	1.67853E-006	0.00000E+000	0.00000E+000	1.67439E-006
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	0.00000E+000	0.00000E+000	2.89796E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.30544E-006	1.30544E-006	0.00000E+000	0.00000E+000	1.29724E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.79255E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.00452E-006	1.00452E-006	0.00000E+000	0.00000E+000	1.19785E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.23079E-006	1.23079E-006	0.00000E+000	0.00000E+000	1.22838E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.52511E-006	1.52511E-006	0.00000E+000	0.00000E+000	1.51561E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.13656E-006	2.13656E-006	0.00000E+000	0.00000E+000	2.12311E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20247E-006	1.20247E-006	0.00000E+000	0.00000E+000	1.19490E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.82729E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.07299E-006	1.07299E-006	0.00000E+000	0.00000E+000	1.06631E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	1.06406E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.13471E-006	1.13471E-006	0.00000E+000	0.00000E+000	1.21433E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.38598E-006	1.38598E-006	0.00000E+000	0.00000E+000	1.37879E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input		
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00			
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00			
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00	

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
Yes	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.25	0.07	0.25	0.07	0.00	0.00
Grading	Fugitive Dust	0.07	0.04	0.03	0.01	0.61	0.61
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.39	3.39	3.39	3.36	3.39
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	21.30	21.29	21.30	21.33	21.22	21.22	0.00	21.29	21.29	21.15	21.29	21.29
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	14.81	14.94	19.96	19.68	15.29
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.06	0.24		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			

No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	100.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	25.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00

DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Apply Water Conservation on Strategy	20.00	0.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	64.00

Mission Lofts

AIR TOXIC AND CRITERIA POLLUTANT HEALTH RISK ASSESSMENT
CITY OF RIVERSIDE

PREPARED BY:

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MAY 26, 2015

TABLE OF CONTENTS

APPENDICES

APPENDIX 3.1: EMISSION RATE CALCULATION WORKSHEETS
APPENDIX 3.2: RISK CALCULATION WORKSHEETS
APPENDIX 3.3: AERMOD MODEL OUTPUT SUMMARY FILE
APPENDIX 3.4: AERMOD MODEL INPUT/OUTPUT FILES
(ELECTRONIC FORMAT, AVAILABLE ON REQUEST)

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
AADT	Annual Average Daily Traffic Volumes
ARB	Air Resources Board
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CPF	Cancer Potency Factor
EPA	Environmental Protection Agency
HRA	Health Risk Assessment
LDA	Light Duty Auto
LDT	Light Duty Truck
LHD	Light Heavy Duty
MCY	Motorcycle
MDV	Medium Duty Vehicle
NO2	Nitrogen Dioxide
OBUS	Other Bus
OLM	Ozone Limiting
PM10	Particulate Matter 10 microns in diameter or less
PM2.5	Particulate Matter 2.5 microns in diameter or less
PPM	Parts per Million
Project	Mission Lofts
PVMRM	Plume Volume Molar Ratio Methods
REL	Reference Exposure Level
RME	Reasonable Maximum Exposure
SBUS	School Bus
SCAQMD	South Coast Air Quality management District
TACs	Toxic Air Contaminants
UBUS	Urban Bus
URF	Unit Risk Factor
UTM	Universal Traverse Mercator

EXECUTIVE SUMMARY

In 2005, the California Air Resources Board (ARB) promulgated an advisory recommendation to avoid setting sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. The ARB indicates that due to traffic-generated pollutants, there is an estimated increased cancer risk incidence of 300 to 1,700 per million in within this domain. At some point however, the increased cancer risk incidence due the effects of freeway/roadway corridor pollutants become indistinguishable from the ambient air quality condition. In this regard, the effects of freeway/roadway-source pollutants that may impact the Project site are already acknowledged and accounted for within the ambient air quality discussions presented within this Section. More specifically, the MATES-IV Study data for the Project site comprehensively reflects increased TAC-source cancer risks affecting the City and Project site, inclusive of increased cancer risks due to freeway, roadway, and rail line pollutant sources. It is however recognized that the effects of freeway traffic and rail road pollutants on the Project site would likely be more acute and discernible in those areas nearer freeway/roadway and rail line corridors.

The Project proposes Multi-Family land uses that would be located approximately 875 feet / 265 meters east of the Route 91. Additionally, the Project is approximately 150 feet / 45 meters to the east of an existing rail line utilized by Riverside Amtrak and the Riverside Transit Agency Metrolink.

The 2005 ARB guidance noted previously, information made available through the MATES-IV Study, and configuration and design of the Project would suggest that further assessment of freeway-source pollutant impacts is not warranted. Notwithstanding, this Off-Site Freeway-Source Air Toxic and Criteria Pollutant Health Risk Assessment has been prepared for the Project and is intended to:

- Comply with and support CEQA Section 15003 (i) policies addressing adequacy, completeness, and a good-faith effort at full disclosure;
- Disaggregate potential freeway-source air pollutant health effects from other background conditions identified in the MATES IV Study; and
- Identify means to reduce the specific effects of freeway-source pollutants at the Project site.

Findings and conclusions of this Assessment are summarized below.

SUMMARY OF FINDINGS

For carcinogenic exposures resulting from exposure to toxics from the freeway and diesel particulates from the rail line, the summation of risk for the maximum exposed residential receptor totaled 7.6 in one million and will not exceed the SCAQMD significance threshold of 10 in one million.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for both the 30 year and 9 year exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore,

noncarcinogenic hazards are calculated to be within acceptable limits and a less than significant impact would occur.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM10 concentrations of 0.11 µg/m3 and 0.06 µg/m3 for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 µg/m3 and 1.0 µg/m3, respectively.

For PM2.5, a maximum 24-hour average concentration of 0.04 µg/m3 was predicted. This value also will not exceed the identified significance threshold of 2.5 µg/m3.

The maximum modeled 1-hour average concentration for CO of 0.06 parts per million (ppm) (68.98 µg/m3), when added to an existing background concentration of 2.4 ppm, would equal a total Project concentration of 2.46 ppm. This would not cause an exceedance of the California Ambient Air Quality Standards (CAAQS) of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 0.05 ppm (57.56 µg/m3), when added to an existing background level of 1.9 ppm, would equal a total Project concentration of 1.95 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO2, a maximum one hour concentration of 0.008 ppm (14.97 µg/m3) was predicted. This concentration, when added to a background concentration of 0.06 ppm, would equal a total Project concentration of 0.068 ppm. This would not cause an exceedance of the CAAQS of 0.18 ppm.

As noted, short duration (i.e., 1 and 8-hour) exposures associated with both toxic and criteria pollutants are within acceptable limits. As such, less than significant impacts are anticipated to residents who would access and utilize outdoor amenities.

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1 INTRODUCTION

In 2005, the California Air Resources Board (ARB) promulgated an advisory recommendation to avoid setting sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day or rural roads with 50,000 vehicles per day. According to the ARB, the increased cancer risk is 300 to 1,700 per million within this domain. The strongest association of traffic related emissions with adverse health outcomes was seen within 300 feet of roadways with high truck densities. Notwithstanding, the ARB notes that a site specific analysis would be required to determine the actual risk near a particular land use and should consider factors such as prevailing wind direction, local topography and climate. The Project proposes Multi-Family land uses that would be located approximately 875 feet / 265 meters east of the Route 91. Additionally, the Project is approximately 150 feet / 45 meters to the east of an existing rail line utilized by Riverside Amtrak and the Riverside Transit Agency Metrolink.

Additionally, the California Code of Regulations, Title 14, Section 15126.2(a) recommends that significant environmental effects of a project be assessed when a project brings development and people into an affected area (1). For the proposed project, adjoining freeway emissions and an existing railroad line are a potential concern and relevant thresholds and standards exist to determine the impact of vehicular and freight emissions on an exposed population. As such, a health risk assessment was prepared to assess the impact of these emissions on individuals residing at the proposed project site.

In consideration of the above referenced requirement, the assessment and dispersion modeling methodologies used in the preparation of this report were composed of all relevant and appropriate procedures presented by the U.S. Environmental Protection Agency, California Environmental Protection Agency and South Coast Air Quality Management District (SCAQMD). The methodologies and assumptions offered under this regulatory guidance were used to ensure that the assessment effectively quantified residential exposures associated with the generation of contaminant emissions from adjacent mobile source activity.

This report summarizes the protocol used to evaluate contaminant exposures and presents the results of the health risk assessment (HRA) prepared by Urban Crossroads, Inc., for the proposed Mission Lofts development (referred to as "Project).

1.1 SITE LOCATION

The proposed Mission Lofts development is located in downtown Riverside at the southeast corner of Commerce Street and Mission Inn Avenue in the City of Riverside.

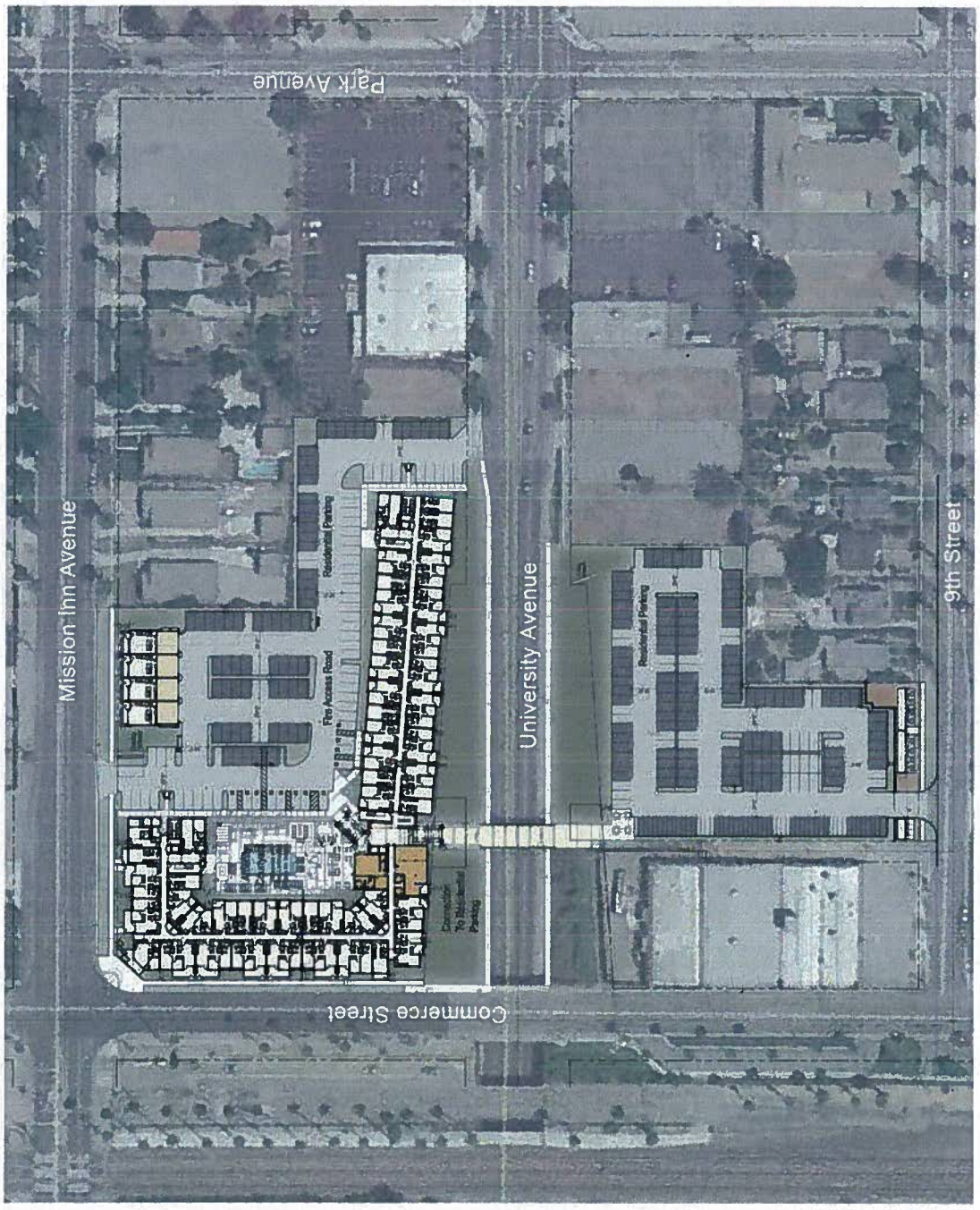
1.2 PROJECT DESCRIPTION

The Mission Lofts Project proposes a 212 dwelling unit Multi-Family residential development on 4.69 acres of land as shown on Exhibit 1-A. As part of the project design, the Project applicant has agreed to installing and maintaining air filtration systems with efficiencies equal to or exceeding a Minimum Efficiency Reporting Value (MERV) 16 as defined by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 52.2. (2)[1].

1 The use of MERV filtration systems to reduce DPM and particulates has been successfully implemented by several lead agencies, including, but not limited to: City of Los Angeles, City of Claremont, City of Irvine, City of Glendale, City of Berkley, City of Oakland, and the Los Angeles Unified School District (LAUSD).

The average particle size efficiency (PSE) removal based on ASHRAE Standard 52.2 for MERV 16 is approximately 95% for 0.3 to 1.0 $\mu g/m^3$(DPM) and 95% for 1.0 to 10 $\mu g/m^3$(PM_{10} and $PM_{2.5}$) (2).

EXHIBIT 1-A: PRELIMINARY SITE PLAN



Source: Mission Lofts Architectural Site Plan (KTGY Group, Inc. Architecture + Planning)

2 SOURCE IDENTIFICATION

The California Department of Transportation (Caltrans), Traffic and Vehicle Data Systems Unit collects and maintains traffic volume counts for vehicles traversing the California state highway system. Discrete data sets are available for main highway segments and adjoining freeway ramp volumes. Table 2-1 presents the annual average daily traffic volumes (AADT) for the roadway segments considered in the assessment. Data fir AADTs for the SR-91 Freeway mainline were derived from the Caltrans Performance Measurement System (PeMS). Data for AADTs for eastbound and westbound on/off ramps were obtained from Caltrans District 8 Ramp Volumes (2013).

TABLE 2-1 FREEWAY TRAFFIC VOLUMES

Roadway Segment	Postmile	Annual Average Daily Traffic (AADT)
SR-91Freeway	3.03	118,800
EB Off / 10th	020.270	11,000
WB On / 9th	020.289	11,000
WB Off / 7th	020.675	7,000
EB On / 7th	020.694	7,000

The United States Department of Transportation (U.S. DOT) provides crossing information for the Mission Inn Avenue crossing adjacent to the Project. Based on the latest available data from U.S. DOT, there are approximately 105 daily thru trains that traverse the rail line adjacent to the Project.

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3 SOURCE CHARACTERIZATION

In urban communities, vehicle emissions contribute significantly to localized concentrations of air contaminants. Typically, emissions generated from these sources are characterized by vehicle mix, the rate pollutants are generated during the course of travel and the number of vehicles traversing the roadway network.

Currently, emission factors are generated from a series of computer based programs to produce a composite emission rate for vehicles traveling at various speeds within a defined geographical area or along a discrete roadway segment. To account for the emission standards imposed on the California fleet, the ARB has developed the EMFAC2014 emission factor model. EMFAC2014 was utilized to identify pollutant emission rates for total organic gases (TOG), diesel particulates, particulates (PM10 and PM2.5), carbon monoxide (CO) and nitrogen oxide (NOx) compounds (3). To produce a representative vehicle fleet distribution, the assessment utilized ARB's Riverside County population estimates for the 2016 calendar year. This approach provides an estimate of vehicle mix associated with operational profiles at the link or intersection level. Table 3-1 lists the identified fleet mix considered in the assessment.

Based upon the freeway traffic volumes and population profiles noted above, discrete traffic counts were identified for each roadway segment. Diesel vehicles account for 5.01 percent of the total on-road mobile fleet. For chronic (long term) and acute (e.g., 1-hour) exposures, AADT values were averaged to produce representative hourly traffic volumes. Table 3-2 presents the hourly traffic volumes considered in the assessment.

For rail activity, emissions of diesel particulate matter (DPM) were estimated based on composite fleet characteristics for locomotives operating at throttle notch 6 arriving and departing the BNSF Railway San Bernardino Railyard. The hourly volume of trains was determined by dividing the total number of through trains by twenty-four hours. As such, the hourly trains were determined to be 4.375 (105 total daily thru trains ÷ 24 hours).

TABLE 3-1: VEHICLE FLEET MIX PROFILE

Vehicle class	Riverside County		
	Fuel	Population	Percent
LDA	Diesel	3,849	0.38
LDA	Gas	523,219	51.88
LDT1	Diesel	55	0.01
LDT1	Gas	50,756	5.03
LDT2	Diesel	180	0.02
LDT2	Gas	173,071	17.16
LHD1	Diesel	14,346	1.42
LHD1	Gas	16,157	1.60
LHD2	Diesel	4,970	0.49
LHD2	Gas	2,204	0.22
MCY	Gas	26,529	2.63
MDV	Diesel	1,103	0.11
MDV	Gas	157,248	15.59
MH	Diesel	1,744	0.17
MH	Gas	6,501	0.64
T6	Diesel	11,137	1.10
T6	Gas	1,159	0.11
T7	Diesel	11,934	1.18
T7	Gas	69	0.01
OBUS	Diesel	203	0.02
OBUS	Gas	571	0.06
SBUS	Diesel	815	0.08
SBUS	Gas	347	0.03
UBUS	Diesel	147	0.01
UBUS	Gas	184	0.02

Note: Vehicle category descriptions can be found on the California Air Resources Board website at http://www.arb.ca.gov/msei/modeling.htm.

TABLE 3-2: HOURLY FREEWAY TRAFFIC VOLUMES

Roadway Segment	Average Traffic Volume		
	All	Gas	Diesel
SR-91 Freeway Eastbound	3,235	3,073	162
SR-91 Freeway Westbound	1,715	1,629	86
EB Off / 10th	458	435	23
WB On / 9th	458	435	23
WB Off / 7th	292	277	15
EB On / 7th	292	277	15

Average observed route speeds from PeMS were assumed for vehicles traversing the main highway link (SR-91). Emissions associated with acceleration and deceleration (i.e., on/off ramps) were based upon vehicle speeds of 45 and 5 miles per hour, respectively. These values were subsequently adjusted utilizing the modal algorithms presented in the California Line Source Dispersion Model (4).

For particulates (PM10 and PM2.5), emissions were quantified through the reentrainment of paved roadway dust. The predictive emission equation developed by the U.S. Environmental Protection Agency (AP-42, Section 13.2.1) was utilized to generate particulate source strength (5). To account for the mass rate of emissions entrained from the roadway surface, the contribution from exhaust, break and tire wear were added to the AP-42 emission factor equation.

A list of compounds associated with mobile source emissions is presented in Table 3-3. Appendix 3.1 presents the on-road emission rate calculation worksheets for the freeway segments considered in the assessment.

TABLE 3-3: COMPOUNDS EMITTED FROM ON ROAD MOBILE SOURCE ACTIVITY

Source	Pollutant
State Route 91	Benzene Formaldehyde 1,3-Butadiene Acetaldehyde Acrolein Diesel Particulates Reentrained Particulates (PM10, PM2.5) Carbon Monoxide Nitrogen Dioxide
BNFS Rail Line	Diesel Particulates

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4 EXPOSURE QUANTIFICATION

In order to assess the impact of emitted compounds on individuals who reside at the proposed apartment complex, air quality modeling utilizing the AMS/EPA Regulatory Model AERMOD was performed to assess the downwind extent of mobile source emissions located within a ¼ mile radius of the project site. AERMOD's air dispersion algorithms are based upon a planetary boundary layer turbulence structure and scaling concepts, including the treatment of surface and elevated sources in simple and complex terrain.

The model offers additional flexibility by allowing the user to assign initial vertical and lateral dispersion parameters for sources representative of a localized mobile fleet. For this assessment, the volume source algorithm was utilized to model the emissions generated from on-road mobile source activity. Although the freeway and rail line are located predominantly below grade, the assessment followed guidance promulgated by the U.S. Environmental Protection Agency (U.S. EPA, 2009) whereby the model was programmed to assume flat, level terrain (6). This was done to avoid underestimating pollutant concentrations for conditions involving low-level, non-buoyant sources in up-sloping terrain. Notwithstanding, to account for the discrepancy in terrain elevation, vertical (sigma z) dispersion parameters were developed for each source location by approximating mixing zone residence time and quantifying the initial vertical term as performed in the California Line Source Dispersion Model Caline3 (4). The horizontal (sigma y) parameters were generated by dividing the source separation distance by a standard deviation of 2.15.

The model incorporates two methodologies to perform the NOx to NO2 conversion. In a recent clarification memorandum (U.S. EPA, 2011), the Office of Air Quality Planning and Standards provides guidance on the use and performance of the two algorithms referred to as the ozone limiting (OLM) and plume volume molar ratio (PVMRM) methods. Based upon this guidance, the OLM algorithm with the OLMGROUP ALL option was identified as the preferred method to perform the analysis (7).

Air dispersion models require additional input parameters including pollutant emission data and local meteorology. Due to the their sensitivity to individual meteorological parameters such as wind speed and direction, the U.S. Environmental Protection Agency recommends that meteorological data used as input into dispersion models be selected on the basis of relative spatial and temporal conditions that exist in the area of concern. In response to this recommendation, the nearest meteorological data available from the SCAQMD Riverside Meteorological Data Station (Source Receptor Area 23), which is located approximately 3 miles northwest of the project site, was used to represent local weather conditions and prevailing winds. Five years (2008-2012) of available AERMOD meteorological data was utilized in the modeling.

The modeling analysis also considered the spatial distribution of mobile source activity traversing the freeway in relation to the proposed site. To accommodate a Cartesian grid format, direction dependent calculations were obtained by identifying the universal transverse mercator (UTM) coordinates for each volume source location. On-site receptors were placed to

provide coverage across the identified project boundary. A ground level receptor height was assumed as a conservative measure. A graphical representation of the source-receptor grid network is presented in Exhibit 4-A.

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the OEHHA guidance document entitled Air Toxic Hot Spots Program Risk Assessment Guidelines, Part IV: Technical Support Document for Exposure Assessment and Stochastic Analysis (8) and guidance from SCAQMD. Table 2-3 summarizes the Exposure Parameters for Residents. Appendix "5.2" includes the detailed emissions and risk calculation outputs. (9)

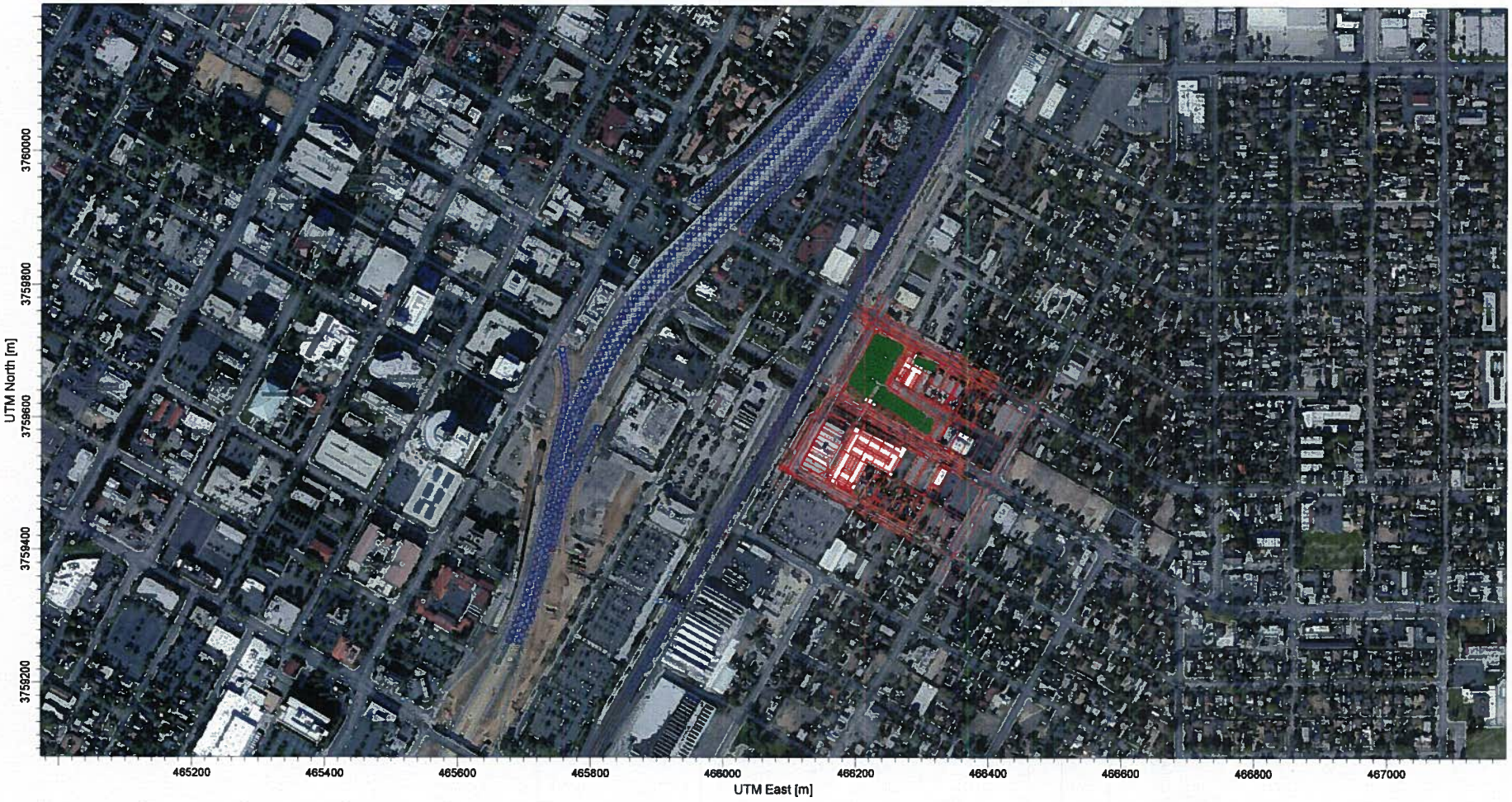
TABLE 2-3: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK

Exposure Parameter	Units	Residential
Exposure Frequency	days/year	350
Exposure Duration	years	70
Inhalation Rate [a]	L/kg-day	302
Exposure Duration	Years	70
Exposure Time	hours/day	24

[b] The residential breathing rate of 302 L/kg-day represents the 80th percentile breathing rate per ARB and consistent with SCAQMD Risk Assessment Procedures for Rules 1401 and 212, the worker breathing rate of 149 L/kg-day is also consistent with SCAQMD Risk Assessment Procedures for Rules 1401 and 212, the school child breathing rate of 581 L/kg-day represents the high end 95th percentile breathing rate.

A dispersion model input summary table is provided in Appendix 3.3. A complete listing of model input/output files are provided in electronic format in Appendix 3.4.

EXHIBIT 4-A: SOURCE RECEPTOR GRID NETWORK



5 RISK CHARACTERIZATION

5.1 CARCINOGENIC CHEMICAL RISK

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

Excess cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens over a specified exposure duration. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). A risk level of 1 in a million implies a likelihood that up to one person, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of toxic air contaminants over a specified duration of time. This risk would be an excess cancer risk that is in addition to any cancer risk borne by a person not exposed to these air toxics.

Guidance from CARB and the U.S. EPA recommends a refinement to the standard point estimate approach when alternate human body weights and breathing rates are utilized to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose. Once determined, contaminant dose is multiplied by the cancer potency factor (CPF) in units of inverse dose expressed in milligrams per kilogram per day (mg/kg/day)-1 to derive the cancer risk estimate. Therefore, to assess exposures, the following dose algorithm was utilized.

$$DOSEair = (Cair \times [BR/BW] \times A \times EF) \times (1 \times 10^{-6})$$

Where:

DOSEair	=	chronic daily intake (mg/kg/day)
Cair	=	concentration of contaminant in air (ug/m3)
[BR/BW]	=	daily breathing rate normalized to body weight (L/kg BW-day)
A	=	inhalation absorption factor
EF	=	exposure frequency (days/365 days)
BW	=	body weight (kg)
1×10^{-6}	=	conversion factors (ug to mg, L to m3)

RISKair = DOSEair x CPF x ED/AT

Where:

DOSEair	=	chronic daily intake (mg/kg/day)
CPF	=	cancer potency factor
ED	=	number of years within particular age group
AT	=	averaging time

5.2 NON-CARCINOGENIC EXPOSURES

An evaluation of the potential noncancerous effects of contaminant exposures was also conducted. Under the point estimate approach, adverse health effects are evaluated by comparing the concentration of each compound with the appropriate Reference Exposure Level (REL). Available REL's presented in the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values were considered in the assessment.*

To quantify noncarcinogenic impacts, the hazard index approach was used. The hazard index assumes that subthreshold exposures adversely affect a specific organ or organ system (i.e., toxicological endpoint). For each discrete pollutant exposure, target organs presented in regulatory guidance were utilized.

To calculate the hazard index, the pollutant concentration or dose is divided by the appropriate toxicity value. For compounds affecting the same toxicological endpoint, this ratio is summed. Where the total equals or exceeds one (i.e., unity), a health hazard is presumed to exist. For chronic exposures, REL's were converted to units expressed in mg/kg/day to accommodate the above referenced intake algorithm. To assess acute noncancer impacts, the maximum pollutant concentration is divided by the REL for the corresponding averaging time (e.g., 1-hour). No exposure adjustments are considered for short duration exposures.

Appendix 3.2, summarizes the REL's and corresponding reference dose values used in the evaluation of chronic noncarcinogenic and acute exposures. The noncancer hazard quotient for identified compounds generated from each source and a summation for each toxicological endpoint are presented on this table.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than the threshold of 1.0 for all exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed the threshold of 1.0. Therefore, acute and chronic non-carcinogenic hazards were predicted to be within acceptable limits and are less than significant.

2.6 POTENTIAL CANCER AND NON-CANCER RISKS[2]

For carcinogenic exposures the summation of risk for the maximum exposed residential receptor totaled 7.6 in one million, which does not exceed the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be less than 1.0 for all toxicological endpoints.

5.3 CRITERIA POLLUTANT EXPOSURES

The State of California has promulgated strict ambient air quality standards for various pollutants. These standards were established to safeguard the public's health and welfare with specific emphasis on protecting those individuals susceptible to respiratory distress, such as asthmatics, the young, the elderly and those with existing conditions which may be affected by increased pollutant concentrations. However, recent research has shown that unhealthful respiratory responses occur with exposures to pollutants at levels that only marginally exceed clean air standards. Table 5-1 presents the CAAQS for the criteria pollutants considered in the assessment.

Pollutant emissions are considered to have a significant effect on the environment if they result in concentrations that create either a violation of an ambient air quality standard, contribute to an existing air quality violation or expose sensitive receptors to substantive pollutant concentrations. Should ambient air quality already exceed existing standards, the SCAQMD has established significance criteria for selected compounds to account for the continued degradation of local air quality. Background concentrations are based upon the highest observed value for the most recent three year period.

For PM_{10} emissions, background concentrations representative of the project area exceed the CAAQS for the 24-hour and annual averaging times. As a result, a significant impact is achieved when pollutant concentrations produce a measurable change over existing background levels. Although background concentrations exceed the CAAQS annual averaging time for fine particulates, no measurable change criteria currently exists. As a result, the SCAQMD significance threshold of 2.5 $\mu g/m^3$ for the 24-hour averaging time is used to assess $PM_{2.5}$ impacts.

For the CO 1 and 8-hour averaging times and NO_2 1-hour averaging time, background concentrations are below the current air quality standards. As such, significance is achieved when pollutant concentrations add to existing levels and create an exceedance of the CAAQS. Table 5-2 shows the pollutant concentrations collected at the nearest available monitoring site to the Project for the last three years of available data. Table 5-3 outlines the relevant significance thresholds considered to affect local air quality.

2 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

TABLE 5-1: CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Standard	Health Effects
Particulates (PM10)	>50 µg/m3 (24 hr avg.) >20 µg/m3 (Annual)	1) Excess deaths from short-term exposures and the exacerbation of symptoms in sensitive individuals with respiratory disease. 2) Excess seasonal declines in pulmonary function especially in children.
Particulates (PM2.5)	>12 µg/m3 (Annual)	1) Excess deaths and illness from long-term exposures and the exacerbation of symptoms in sensitive individuals with respiratory and cardio pulmonary disease.
Carbon Monoxide (CO)	>9.0 ppm (8 hr avg.) >20.0 ppm (1 hr avg.)	1) Aggravation of angina pectoris and other aspects of coronary heart disease. 2) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease. 3) Impairment of central nervous system functions. 4) Possible increased risk to fetuses.
Nitrogen Dioxide (NO2)	>0.18 ppm (1 hr avg.)	1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups. 2) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes.

Abbreviations: ppm: parts per million; µg/m3: micrograms per cubic meter.
Source: California Code of Regulations, Title 17, Section 70200.

TABLE 5-2: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2012-2014[3]

Pollutant/ Averaging Time	Year			
	2012	2013	2014	Maximum
Particulates (PM_{10}) 24-Hour	67	135	100	135
Particulates ($PM_{2.5}$) 24-Hour	38.5	60.3	48.9	60.3
Carbon Monoxide (CO) 1-Hour 8-Hour	2.1 1.6	2.5 2.0	2.4 1.9	2.5 2.0
Nitrogen Dioxide (NO_2) 1-Hour	0.062	0.060	0.060	0.062

Note: PM_{10} concentrations are expressed in micrograms per cubic meter ($\mu g/m^3$). All others are expressed in parts per million (ppm).
Source: U.S. Environmental Protection Agency http://www.epa.gov/airdata/ad_rep_mon.html

[3] PM10, PM2.5, CO, and NO2 data obtained from the Metropolitan Riverside County 1 (SRA 23) monitoring station.

TABLE 5-3: SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Averaging Time	Pollutant Concentration
Particulates (PM10) Particulates (PM2.5)	24-Hours	2.5 µg/m3 (operation)
Particulates (PM10)	Annual	1.0 µg/m3
Carbon Monoxide (CO)	1/8-Hours	SCAQMD is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standards 20 ppm (1-hour) and 9 ppm (8-hour).
Nitrogen Dioxide (NO2)	1-Hour	SCAQMD is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standard 0.18 ppm.

Abbreviations: ppm: parts per million; µg/m3: micrograms per cubic meter
Source: South Coast Air Quality Management District.

Results of the analysis predicted freeway emissions will produce PM10 concentrations of 0.11 µg/m3 and 0.06 µg/m3 for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 µg/m3 and 1.0 µg/m3, respectively.

For PM2.5, a maximum 24-hour average concentration of 0.04 µg/m3 was predicted. This value also will not exceed the identified significance threshold of 2.5 µg/m3.

The maximum modeled 1-hour average concentration for CO of 0.06 parts per million (ppm) (68.98 µg/m3), when added to an existing background concentration of 2.4 ppm, would equal a total Project concentration of 2.46 ppm. This would not cause an exceedance of the California Ambient Air Quality Standards (CAAQS) of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 0.05 ppm (57.56 µg/m3), when added to an existing background level of 1.9 ppm, would equal a total Project concentration of 1.95 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO2, a maximum one hour concentration of 0.008 ppm (14.97 µg/m3) was predicted. This concentration, when added to a background concentration of 0.06 ppm, would equal a total Project concentration of 0.068 ppm. This would not cause an exceedance of the CAAQS of 0.18 ppm.

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6 FINDINGS & CONCLUSIONS

For carcinogenic exposures resulting from exposure to toxics from the freeway and diesel particulates from the rail line, the summation of risk for the maximum exposed residential receptor totaled 7.6 in one million and will not exceed the SCAQMD significance threshold of 10 in one million.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for both the 30 year and 9 year exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore, noncarcinogenic hazards are calculated to be within acceptable limits and a less than significant impact would occur.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM10 concentrations of 0.11 µg/m3 and 0.06 µg/m3 for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 µg/m3 and 1.0 µg/m3, respectively.

For PM2.5, a maximum 24-hour average concentration of 0.04 µg/m3 was predicted. This value also will not exceed the identified significance threshold of 2.5 µg/m3.

The maximum modeled 1-hour average concentration for CO of 0.06 parts per million (ppm) (68.98 µg/m3), when added to an existing background concentration of 2.4 ppm, would equal a total Project concentration of 2.46 ppm. This would not cause an exceedance of the California Ambient Air Quality Standards (CAAQS) of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 0.05 ppm (57.56 µg/m3), when added to an existing background level of 1.9 ppm, would equal a total Project concentration of 1.95 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO2, a maximum one hour concentration of 0.008 ppm (14.97 µg/m3) was predicted. This concentration, when added to a background concentration of 0.06 ppm, would equal a total Project concentration of 0.068 ppm. This would not cause an exceedance of the CAAQS of 0.18 ppm.

As noted, short duration (i.e., 1 and 8-hour) exposures associated with both toxic and criteria pollutants are within acceptable limits. As such, less than significant impacts are anticipated to residents who would access and utilize outdoor amenities.

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7 REFERENCES

1. **California Natural Resources Agency.** California Code of Regulations, Title 14, Section 15126.2 (a). *Consideration and Discussion of Significant Environmental Impacts.* [Online] http://resources.ca.gov/ceqa/docs/FINAL_Text_of_Proposed_Amendemts.pdf.
2. **American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.** *Method of Testing General Ventilation Air Cleaning Devices for Removal by Particle Size.* 1999. ANSI/ASHRAE Standard 52.2.
3. **California Department of Transportation.** EMFAC Software. [Online] http://www.dot.ca.gov/hq/env/air/pages/emfac.htm.
4. —. *Caline3 - A Versatile Dispersion Model for Predicting Air Pollutant Levels Near Highways and Arterial Streets.* s.l. : Office of Transportation Laboratory, 1979.
5. **U.S. Environmental Protection Agency.** 13.2.1 Paved Roads. [Online] http://www.epa.gov/ttnchie1/ap42/ch13/final/c13s0201.pdf.
6. **United States Environmental Protection Agency.** *AERMOD Implementation Guide.* s.l. : Office of Air Quality Planning and Standards, 2009.
7. —. *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO2 National Ambient Air Quallity Standard.* s.l. : Office of Air Quality Planning and Standards, 2011.
8. **Office of Environmental Health Hazard Assessmen.** IR TOXICS HOT SPOTS PROGRAM RISK ASSESSMENT GUIDELINES. [Online] September 2000. http://www.oehha.org/air/hot_spots/pdf/Stoch4f.pdf.
9. **South Coast Air Quality Management District.** *Final Localized Significance Threshold Methodology.* 2003.
10. **South Coast Air Quality Managment District.** Mobile Source Toxics Analysis. [Online] 2003. http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html.

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8 CERTIFICATION

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Mission Lofts Project. The information contained in this health risk assessment is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 660-1994 ext. 217.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May, 2010

Bachelor of Arts in Environmental Analysis and Design
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PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013
Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August, 2007
AB2588 Regulatory Standards – Trinity Consultants • November, 2006
Air Dispersion Modeling – Lakes Environmental • June, 2006

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APPENDIX 3.1:

EMISSION RATE CALCULATION WORKSHEETS

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APPENDIX 3.2:

RISK CALCULATION WORKSHEETS

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APPENDIX 3.3:

AERMOD MODEL OUTPUT SUMMARY FILE

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APPENDIX 3.4:

AERMOD MODEL INPUT/OUTPUT FILES
(ELECTRONIC FORMAT, AVAILABLE ON REQUEST)

CULTURAL RESOURCES SURVEY

MISSION LOFTS

Riverside, Riverside County, California

Graphic Credit: KTGY Group, Inc.

Research & Consulting

CULTURAL RESOURCES SURVEY

MISSION LOFTS

Riverside, Riverside County, California

Planning Cases: P14-0045, P14-0046, P14-0047, P14-0048, & P14-0049

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USGS Quadrangle: 7.5-minute *Riverside East, California*, 1980
Por. Sections 23 & 24, Township 2 South, Range 5 West, San Bernardino Base and Meridian

June 2015

MANAGEMENT SUMMARY

JM Research & Consulting (JMRC) is under contract to Albert A. WEBB Associates to complete a Cultural Resources Survey for the proposed Mission Lofts project in the City of Riverside, Riverside County, California. The Project Area straddles University Avenue and is bounded by Mission Inn Avenue on the north, Ninth Street on the south, and Commerce Street on the west in the Eastside area of Riverside, Sections 23 & 24, Township 2 South, Range 5 West, San Bernardino Base and Meridian as depicted on the U.S. Geological Survey (USGS) *Riverside East, California* 7.5-minute quadrangle (1980; Figure 1). The City of Riverside Community Development Department, Planning Division requested the study as part of their environmental review process in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.)

The survey, which included a cultural resources record search, field study, and extensive additional research, was intended to identify, document, and evaluate potential cultural resources, analyze potential project impacts, and recommend mitigation measures, if applicable. Potential resources were recorded on State of California Department of Recreation (DPR) forms and evaluated according to designation criteria established for listing in the National Register of Historic Places (NR), the California Register of Historical Resources (CR) and for local designation under the City's recently revised Cultural Resources Ordinance (Title 20; Ord. 7108 §1, 2010). This work has been completed pursuant to the California Environmental Quality Act (CEQA; PRC §21000, et seq.), the City's Cultural Resources Ordinance, Title 20 of the Municipal Code (Title 20; Ord. 6263 (1996), as amended), and in full compliance with the City of Riverside Consultant Requirements.

Development in the Project Area began in the late-19th century and continued throughout the first half of the 20th century with the construction of the nearby Riverside Freeway (1957) and the grade separation project (1960) that lowered University Avenue below crossing streets, three railroad company tracks, and the Riverside Upper Canal. Development once included houses, auto sales, a warehouse, a citrus packing house, a Southern Pacific Railroad (SPRR) freight house, and multiple railroad tracks, none of which is still extant. Two potential historic resources - a SPRR concrete loading platform and an abandoned, steel SPRR railroad bridge - remain within the Project Area, as well as multiple concrete pads and some construction debris; no potential or previously recorded archaeological resources were identified. The Project Area is immediately adjacent to the Ninth Street Potential Neighborhood Conservation Area (NCA), and portions of the Project Area are within the boundaries of the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District.

JMRC found that the loading platform (ca. 1930-1947) and bridge (1960) are later remnant components of a larger, more extensive, and no longer extant SPRR property that lack the level of architectural distinction, strength of historic association, and sufficient integrity to merit individual listing in the NR, CR, or for local designation. While currently within the boundaries of the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District, neither falls within the period of significance nor contributes to the significance of these districts and should be considered non-contributors. Therefore, JMRC recommends that the SPRR loading platform and SPRR bridge are each assigned a CHR Status Code of ***6L – Determined ineligible for local listing or designation through local government review process; may warrant special consideration in local planning.***

No previously recorded or potential archaeological resources were revealed; therefore, no impacts to archaeological resources are anticipated. As the loading platform and railroad bridge appear ineligible for designation, they are not considered "historical resources" under CEQA. However, a portion of the Project Area is within the locally designated Seventh Street East Historic District and the locally eligible Citrus Thematic Industrial Potential Historic District, and is immediately adjacent to the locally eligible Ninth Street Potential NCA, which are "historical resources" under CEQA. JMRC evaluated the proposed project according to CEQA and CEQA Guidelines for potential impacts to these historic resources and found them to be less that significant (see Project Review, Impact Analysis, and Recommendations).

Recommendations

As potential project impacts have been thoroughly analyzed and, at their greatest, are less than significant under CEQA, **JMRC recommends that no further investigation or treatment under CEQA is required** unless the proposed project is redesigned to include additional construction or areas not subject to this study or unless project activities reveal the presence of cultural materials.

Although as designed, the proposed project does not cause a substantial adverse effect and mitigation is not required in order to reduce impacts to less than significant, JMRC recommends the following measures to further enhance compatibility of design with existing historic resources and surroundings, most notably the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District, and incorporate greater historic character and appeal:

- Utilize smooth-faced rather than split-faced concrete block.
- Retain, protect during construction activity, and reincorporate the one (1) remaining historic palm street tree, located near the Commerce Street bridge, into the new proposed line of palm street trees on Commerce Street, the species and planting distance of which should seek to match those extant historic palms on the westerly side of Commerce Street, and the height of which should be maximized (approximately 20' trunk).
- Replace just one (1) of the lighter gray shades proposed (Body 3, 4, or 5) with a gray/tan color like Frazee KNAPWEED CL 2893M, or similar, to incorporate greater warmth and variation in the color palette and achieve compatibility with not only the Citrus Industrial Thematic Potential Historic District but also the residential quality of the Seventh Street East Historic District.
- Consider the merits and possibility with City staff, and implement if feasible, the repainting of the concrete SPRR bridge abutment in the red and gray colors of the proposed color palette in order to more fully visually associate it with its north-south historic alignment and the northerly and southerly portions of the Project Area rather than with the street and railroad bridges to the west.
- Investigate the onsite reuse potential of the cut pieces of steel railroad rails framing the loading platform or in use as upright posts in the Project Area. If feasible, repurpose as part of a design feature or amenity such a pedestrian entry, the "M" structure at the main corner entry, a rail system for poolside furniture, planter, bike rack, hand rail, or signage. If not feasible, donate for reconditioning or salvage, as practicable.
- Design and display a brief commemorative history and significance of the project site for both public pedestrian and resident viewing in up to three locations, including near the main entry at Mission Inn Avenue and Commerce Street, the resident courtyard, and near the Ninth Street amenities structures.

Archaeological Considerations

Ground-disturbing activities in native soils have the potential to reveal buried deposits. As a result of tribal consultations under AB 52 and the fact that the project site has a significant amount of undocumented fill according to the applicant, the project is not expected to impact any prehistoric resources within native soils. However, the identification of a historic period clay pipe indicates a slight possibility that unanticipated historic period resources may be encountered. Although not required as a mitigation measure based on the analysis and findings of this report, the City should include a standard condition with procedures in the event that unanticipated historic period resources are encountered:

"Prior to the initiation of ground-disturbing activities, construction personnel should be alerted to the possibility of buried historic-period cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register of Historical Resources or the National Register of Historic Places, plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC."

TABLE OF CONTENTS

FIGURES

APPENDICES

INTRODUCTION

JM Research & Consulting (JMRC) is under contract to Albert A. WEBB Associates to complete a Cultural Resources Survey for the proposed Mission Lofts project in the City of Riverside, Riverside County, California. The proposed project includes a General Plan Amendment (P14-0045), Specific Plan Amendment (P14-0046), Zoning Code Amendment (P14-0047), Design Review (P14-0048), and Site Plan Review (P14-0049). The study has been completed pursuant to the California Environmental Quality Act (CEQA; PRC §21000, et seq.), the City's Cultural Resources Ordinance, Title 20 of the Municipal Code (Title 20; Ord. 6263 (1996), as amended), and in full compliance with the City of Riverside Consultant Requirements.

Project Area and Description

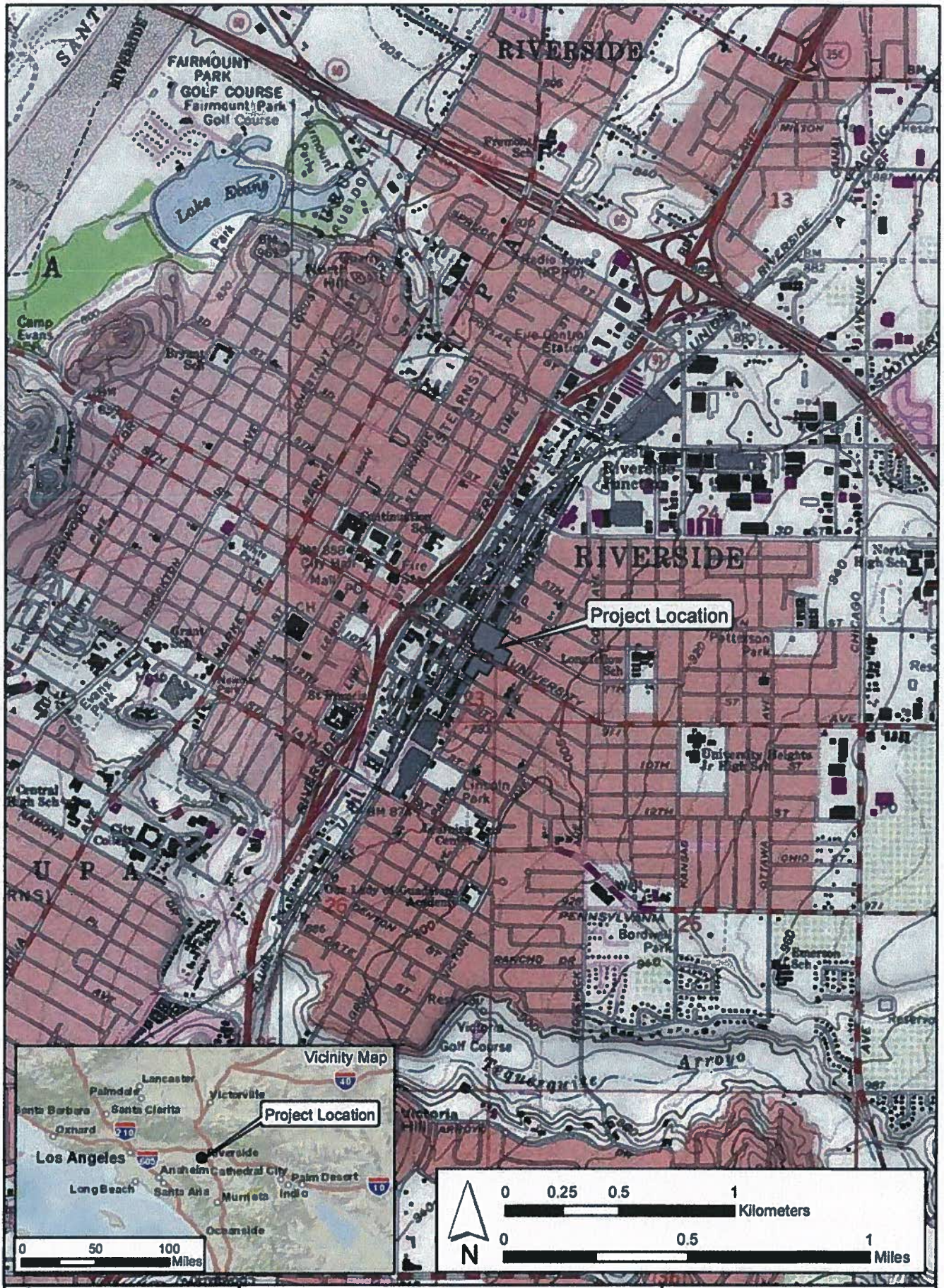
The Project Area includes multiple vacant parcels on 4.69 gross acres in the Eastside area of Riverside, bounded by Mission Inn Avenue (north), Ninth Street (south), and Commerce Street (west), Sections 23 & 24, Township 2 South, Range 5 West, San Bernardino Base and Meridian as depicted on U.S. Geological Survey (USGS) *Riverside East, California* 7.5-minute quadrangle (1980; Figure 1). The Project Area is bisected by University Avenue but connected by an existing vacated Southern Pacific Railroad (SPRR) railroad bridge. Primary access will be provided from Mission Inn and University Avenues with secondary access from Ninth Street. Immediately adjacent to the Ninth Street Potential Neighborhood Conservation Area (NCA), a portion of the Project Area is within the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District.

The multi-family residential development proposes demolition of a loading platform and several concrete pads north of University Avenue, the pedestrian reuse of the railroad bridge, and the construction of one 2-story and one 4-story building totaling 212 studios, one-, and two-bedroom apartment units along with 320 surface parking spaces in 191 covered and 129 open stalls. The approximately 3.11-net acre area north of University Avenue (211-121-002, -020, -024, -032, -033) will support the apartment units and approximately 46% of the on-site parking while the 1.50-net acre area south of University Avenue (211-122-004, -022, -023, and -024) will provide remaining parking and amenity structures. The project also includes approximately 1.20 acres of common open space and other amenities, including a courtyard with pool and spa, cabanas, and dining terrace.

Personnel

Jennifer Mermilliod, M.A., Historian/Architectural Historian, JM Research & Consulting (JMRC), who meets the Secretary of the Interior's Standards for Professional Qualifications, acted as Principal Investigator and managed and completed the cultural resources survey. Ms. Mermilliod conducted the field survey, completed research, evaluated the property for eligibility, prepared Department of Recreation (DPR) forms, analyzed potential impacts, provided mitigation and recommendations, and compiled the technical report (Appendix C).

David Brunzell, M.A., RPA, BCR Consulting, who meets the Secretary of the Interior's Standards for Professional Qualifications, acted as Principal Archaeologist for the project. Mr. Brunzell performed the records search and field survey, and contributed to archaeology-related report sections (Appendix C).



BCR CONSULTING LLC

Project Location Site
Mission Lofts Project

Figure 1

JM Research and Consulting
5110 Magnolia Avenue
Riverside, California 92506

NATURAL SETTING

Approximately 50 miles east, southeast of Los Angeles, the City of Riverside lies on a plain that is interrupted by the Santa Ana River to the west, crossed by an east-west arroyo system, and partially defined by a series of foothills known as Rubidoux Mountain, Box Springs Mountain, Jurupa Mountains, Pedley Hills, Pachappa Hill, and Victoria Hill. The Project Area is situated in the Upper Sonoran Life Zone, which is locally present between approximately 500 and 5,000 feet AMSL. The site is heavily disturbed due to previous development and contains a limited amount of seasonal grasses and palm trees.

Geology

The elevation of the Project Area is approximately 870 feet above mean sea level (AMSL). It is located in the Peninsular Range geologic province of California that encompasses western Riverside County. It occupies a portion of the Perris Block (Kenney 1999), which is bounded on the east by the San Jacinto Fault and on the west by the Elsinore Fault (Morton 1972, 1977). Locally crystalline rocks in the vicinity include late Jurassic and Cretaceous granitic rocks of the southern California Batholith. These resistant rocks weather to form gray- or tan-colored, boulder-covered conical buttes and hills. When exposed on the surface, many of these rocks have been locally utilized as milling slicks for prehistoric seed processing.

Hydrology

Local rainfall ranges from 5 to 15 inches annually (Jaeger and Smith 1971: 36-37). The project site is currently flat, and local runoff is conveyed via channelized drainages in a southerly direction. Historically, water was naturally conveyed from east to west towards the Tequesquite Arroyo approximately one mile to the west (United States Geological Survey 1980).

CULTURAL SETTING

Prehistoric Context

Two primary regional syntheses are commonly utilized in the archaeological literature for southern California. Wallace defined the first of these syntheses in 1955, comprising four successive cultural horizons: Early Man, Milling Stone, Intermediate, and Late Prehistoric. In 1986 Warren devised a new synthesis containing five culturally-defined periods, which represented the region's first attempt at an ecologically based and comprehensive approach. These include the Lake Mojave, Pinto, Gypsum, Saratoga Springs, and Protohistoric Periods. Environmental shifts defined their parameters, and Warren viewed changes in settlement patterns and subsistence focus as cultural adaptations to these shifts. The most obvious indications of the changing environment are derived from paleo-ecological data which revealed the following trends: warming during the late Pleistocene, drying of desert lakes and subsequent (and brief) return to pluvial conditions during the Holocene and middle Holocene, and a general warming and drying trend (with occasional reversals) that continue into the modern era (Warren 1986).

Ethnography

The Project Area is located within the traditional boundaries of the Cahuilla (Bean and Smith 1978; Kroeber 1925). The territory of the Cahuilla ranges from the area near the Salton Sea up into the San Bernardino Mountains and San Gorgonio Pass (Bean and Smith 1978; Kroeber 1925). The Cahuilla are generally divided into three groups: Desert Cahuilla, Mountain Cahuilla, and Western (or Pass) Cahuilla (Kroeber 1925). Cahuilla territory lies within the geographic center of Southern California and the Cocopa-Maricopa Trail, a major prehistoric trade route, ran through it. The Cahuilla share a common tradition with Gabrileno, Serrano, and Luiseño, with whom they shared tribal boundaries to the west, north, and southwest respectively (Bean and Smith 1978:575). Like their neighbors, the Cahuilla situated their villages in close proximity to reliable water sources (ibid.).

History

In California, the historic era is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present). Exploration of the Riverside County area began in 1772 when Lieutenant Pedro Fages (Military Governor of San Diego) crossed the San Jacinto Valley.

HISTORIC CONTEXT

Located just beyond the eastern edge of the original Mile Square townsite and current downtown Riverside, the Project Area is situated east of Commerce Street (formerly Pachappa Avenue) and straddles University Avenue in an area characterized by late-19th century railroad and citrus industrial development within the western edge of Riverside's Eastside neighborhood (Figure 2).

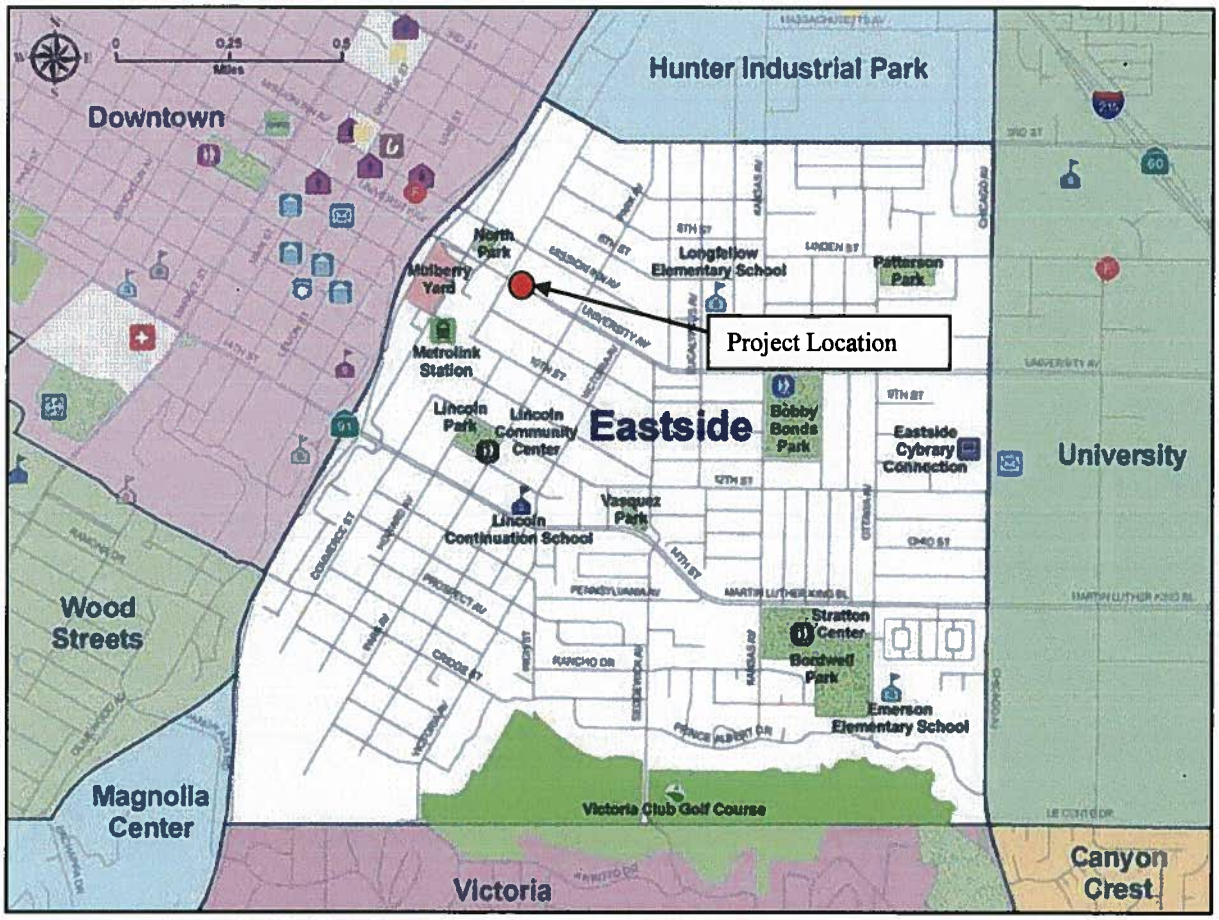


Figure 2. The Eastside within the City of Riverside, courtesy City of Riverside

SETTLEMENT & DEVELOPMENT OF RIVERSIDE, 1870-1960

Founded in 1870 by John W. North's Southern California Colony Association, the Mile Square was carved from a portion of Juan Bandini's 1838 Jurupa Rancho. Soon after, the Village of Arlington was independently born to the southwest in 1874 as the New England Colony under investors, Sayward and Evans (Gunther 1984:30-31). Similarly platted but separately irrigated, Arlington was centered at the intersection of Magnolia Avenue and Van Buren Boulevard. Between the two colony settlements remained a much-reduced, mile-wide strip of land known as the Government Tract, where streets were laid out on a strict north-south grid and intersect at odd angels with Magnolia Avenue,

the main 1876 tree-lined arterial that strung the three areas together and continues as Market Street through downtown, the northern gateway to the City. Tremendous early growth inspired by the proximity of the railroad and the development of citrus led to early expansion into the Eastside.

Amid a land boom that swept through southern California during the 1870s and 1880s, the town of Riverside incorporated in 1883 and included Arlington, the Government Tract, and the Eastside, which was soon eyed for town lot development beyond the Mile Square. The much enlarged, budding City of Riverside grew rapidly, launched in large part by the local success of the navel orange through canal irrigation and the introduction of rail transportation into the region and the City (McWilliams 1973: 113-122). Riverside soon became a thriving, irrigated cooperative that specialized in citriculture.

Canal Irrigation

By the end of 1870, civil engineers Goldsworthy and Higbie had platted the holdings of the Southern California Colony Association on an orthogonal plan with 10-acre parcels to the north and south of a one-mile square townsite known as the "Mile Square," from 1st to 14th Street and Olive to Pine Streets. At the same time, using techniques borrowed from hydraulic mining, Goldsworthy and Higbie began construction on Riverside's irrigation system to serve the Mile Square, soon known as the Upper Canal, which tapped the Santa Ana River as a water source. Chinese laborers who were familiar with mining techniques and possibly Cahuilla Indians (Lawton 1989:10) constructed much of the canal, which "marked the beginning of modern water distribution techniques in the region" (Phillips 1995:3).

From the headgates, the mainline of the canal followed a curvilinear, southwest path and crossed the Mile Square entangled amid the AT&SF tracks along the edge of the Eastside between Olive and Commerce Streets. Water was conveyed to the highest point of each 10-acre lot by a network of pipelines and cement and earthen ditches (Lippencott 1902a:67). From there, individual water users dug smaller-scaled lateral ditches and flumes to feed their grooves and fields (Riverside Water Company n.d.).

By 1875, the tax on the river supply was already becoming insufficient for the growing community and did not serve Arlington to the south. In that year, Evans and Sayward began construction of another canal, known as the Lower Canal, which began diversion downriver from and ran parallel to the Upper Canal before traversing the Mile Square on its way to Arlington. Both canals soon became known collectively as the Riverside Canal (CA-RIV-4495H), and the Gage Canal was constructed in the 1880s, which would bring water to the Eastside. The upper end of the main canal system was reconstructed in 1886, which added the Warm Creek Canal to the head of the Upper Canal at a higher intake and necessitated the construction of the Highgrove Drop, now a City Landmark, which redirected water flow and supplied hydroelectric power to Colton and Riverside. Constant increase in demand for water prompted the lining of the dirt ditch in concrete to avoid the loss of water through seepage, but by 1902, increased usage and a nine-year drought had diminished the water level of the Santa Ana River and compromised the usability of the canal (Lippencott 1902b:113). In 1914, the original canal headgates were abandoned due to maintenance costs, and portions of the system were modified to accommodate storm water drainage. In 1938, the City of Riverside rebuilt much of the Upper Canal, but decreases in the dependency on citrus as the supporting economy curtailed the need for canal irrigation.

Figure 3. A portion of the Riverside Upper Canal located outside the Project Area

Diversion from the river was replaced by downtown well water in 1959 (EDAW 2001). Canal segments and associated bridges and culverts in the vicinity of the Project Area have experienced extensive alteration in the accommodation of street and rail improvements over time. The nearest segment to the Project Area is aligned between the AT&SF tracks and has been covered with concrete and enclosed in 1960 within a concrete beam to travel over University Avenues as part of one of the AT&SF railroad bridge (Figure 3). The canal system was condemned in 1961. Today, parts of the Riverside Canal system are still used for irrigation and for storm water run-off. Much has deteriorated and portions of the Lower Canal are tied to the privately owned parcels on which its segments are situated (City of Riverside 2003). An asphalt-lined, brow drainage ditch with concrete culverts (1960) is found at the top of the slope on both the northern and southern sides of University Avenue within the Project Area, but is distinct from and unassociated with the canal system (Figure 4).

Figure 4. Brow Drainage Ditch (ca. 1960) in the Project Area

Early Settlement on the Eastside

The construction of the 20-mile Gage Canal (1882-87) brought water to the eastern Riverside plain, a 2.25 square mile area that is now roughly bounded by Third Street on the north, the Tequesquite Arroyo and Victoria Club golf course on the south, State Route 91 on the west, and Chicago Avenue on the east (City of Riverside 2009:16; Figure 3). In March 1882, Matthew Gage filed a claim for one square mile of once barren land beyond the Eastside under the Desert Irrigation Act, which allowed him full title if he brought adequate irrigation to the area within three (Patterson 1996:94). With the promise of water assured, new tracts were surveyed and officially recorded on the Eastside, readying these lands for real estate speculation (JMRC 2003). The irrigation of the Eastside made possible the first town-lot expansions of the Mile Square, beginning with White's Addition (1886) and followed quickly by other subdivisions, including Cox's Addition (1886), Castleman's Addition (1886), Garfield Place (1887), Madison Square (1887), Hall's Additions (1888-1890), and the H.P. Kyes Tract (1889) (City of Riverside 1886-1889; PCR 2001:17). These tracks carved tree-lined streets from hundreds of acres of former federal land.

White's Addition, a triangular subdivision from Pachappa Avenue, the original western boundary of the Eastside (now Commerce Street), between Third and Tenth Streets recorded by Albert S. White in May 1886, launched the subdivision of the area to the east (City of Riverside 1886-1889:MB 6/48SB). This oldest part of the Eastside neighborhood was purchased from the land holdings of John W. North by Albert S. White, a prominent local horticulturist, county supervisor, and city trustee (Bynon 1893-4; Figure 5).

Figure 5. White's Addition (City of Riverside 2009:17)

With the new subdivision, Eighth Street (now University Avenue) was given the identifier "East" and address numbering was restarted at "100." This distinction for streets running west-east beyond Pachappa Avenue was discarded with the 1930 city-wide renumbering plan. White's Addition continued the orthogonal alignment of streets begun in the Mile Square, which were oriented on a northeast-southwest axis along the Jurupa Rancho boundary line. Water was piped from the Gage Canal to every lot in the tract, although canal remnants were not identified within the Project Area, and the streets were improved with sidewalks and planted with street trees in parkway strips. These privately-funded amenities were in advance of an official policy on the planting and care of street trees later adopted by the City in 1907 (Patterson 1996:352). With the exception of the approximately 25 x 100' lots on Pachappa Avenue, lot frontages within White's Addition ranged from 50-60 feet, and extended a depth of 131-150 feet (City of Riverside 1870-1956:1886).

Further subdivision marched east along the axis of its main arterial, Eighth Street, a 99-foot-wide road that bisected the Mile Square and continued through the Eastside. Eighth Street was improved piecemeal over time, with surfacing, sidewalks, curbs and gutters added sporadically as part of private tract development or City projects. A sewer system was installed along Eighth Street from Sedgewick Street to Kansas Avenue in 1902, and the thoroughfare was paved by 1915 when a lighting system was installed from Pachappa to Chicago Avenues (City of Riverside 1902-1915). Other streets, like Seventh Street (now Mission Inn Avenue), were similarly improved. Some features like curb, gutter,

and sidewalk, were never extant in portions of the Project Area due to railroad track construction or are no longer extant due to later alterations to Eighth Street. Several historic and modern remnants related to infrastructure construction were found in the Project Area, including a broken *in situ* piece of clay sewer pipe (Figure 6) and a railroad spike of unknown age were found perpendicular to Mission Inn Avenue near a billboard sign (1971), and a later standard cast iron manhole cover (ca. 1950s-1960s) was found above the north side of University Avenue. Several wood creosote utility poles (one tagged 1935 and 1949) were also found in the Project Area, which may have been part of the 9.55-mile telegraph line noted under the ownership pf the AT&SF but without specific location in the Riverside School District (Riverside County 1907-1936).

Figure 6. Broken Clay Sewer Pipe within Project Area

Settlement on the Eastside coincided with the boom years of the 1880s when the completion of the transcontinental railroad and extension of regional lines as well as the success of the Washington navel orange launched Southern California and Riverside into a period of tremendous growth (PCR 2011:20). While much of the Mile Square was sold as whole blocks and developed first as orchards with large grove homes before eventual reduction to smaller town lots, development on the now-irrigated Eastside moved directly to small subdivided lots and was related to the provision of workforce housing for Riverside's booming citrus industry, which was served by many African-Americans and Mexican-Americans (City of Riverside 2009:17).

Historic Sanborn maps show that, in general, development coalesced along Eighth Street, with modest one- and one-and-a-half-story houses while single-family residences were scattered to the north and denser, two-story, middle-class dwellings were found to the south. Five dwellings, a barber

shop and meat market storefront with a baker and oven in rear, and a blacksmith were constructed in the Project Area along Eighth Street, but no remnants are extant (Sanborn 1895:8, 1908:18, 30).

Railroad Development

Though often overshadowed by the pivotal role that canal irrigation played in the early prosperity and enduring stability of Riverside, the success of citriculture, local tourism, and settlement through the introduction of rail transportation into the region and the City cannot be overstated. The railroad more than threaded the two original colony settlements and the Government Tract together; it offered a connection to the southern California region and far beyond and allowed Riverside to quickly lead the nation's citrus industry and participate in the real estate boom of the late 1880s that was felt throughout southern California.

With the decision to construct a transcontinental railroad in the 1860s and generous government loans and land grants for railway construction, a new era in the settlement of the west began that was characterized by the strategic location of townsites based on the actual or anticipated path of the western rail network. Many temporary and surprisingly moveable end-of-track towns sprang up as the rail lines of the Union Pacific, Burlington, Kansas Pacific, Atchison, Topeka, & Santa Fe (AT&SF), Northern Pacific, and Great Northern railroads were extended west of the Mississippi River, across the plains and into the Pacific Northwest, the Southwest, and California (Reps 1981:80-86). Hundreds of western towns were born by the railroads while as many fell victim to the poor urban planning inherent in boom-to-bust townsite promotion. Some established cities, like Omaha, Nebraska (1868) and Las Vegas, New Mexico (1882), were boosted by the arrival of the railroad, while others suffered when bypassed in favor of nearby locations, like Phoenix, which resorted to building its own rail line in 1887 when skirted by the Southern Pacific. Some railroad companies demanded subsidies to enter existing towns or easily resisted control by running lines outside of town limits or otherwise manipulating settlement (Reps 1981:89-91).

With the completion of the transcontinental railroad in 1869, through the joining of the Central Pacific from the west with the Union Pacific from the east at Promontory, Utah, tourists, boomers and boosters flowed into California at an estimated rate of 70,000 per year, a stream that was soon diffused into the southern region (McWilliams 1973:115). Railroad-related town planning and promotion in the greater Los Angeles area began in earnest with the connection of Los Angeles to San Francisco in 1876 (Reps 1981:89, 95). The initial boom soon waned in the brief national depression of the late 1870s, in which the region experienced a period of quiet but substantial growth, with improvements in water supply and agricultural production, particularly grapes and citrus, that would critically broaden the focus of urban development efforts after the depression to include not only the proximity of the railroad, but also the accessibility of water (McWilliams 1973:117).

The arrival of the Santa Fe line into California in 1886 rejuvenated earlier expectations and marked the beginning of a real estate explosion. Competition between the Santa Fe and Southern Pacific railroads, which shortly reduced the passenger rate from Missouri Valley to southern California to $1, facilitated unprecedented migration from the East and Midwest. The Santa Fe delivered several passenger trains a day, and the Southern Pacific reported transporting 120,000 people to Los Angeles in 1887. Among serious investors, veteran townsite "sharks" of the Midwest descended upon southern California in what became a short-lived frenzy of speculation. At the height of the railroad town boom between 1887 and 1889, more than 60 new towns totaling 79,350 acres were laid out in southern California (McWilliams 1973: 113-122). Thirteen of these were platted along the Santa Fe

line in the three short months of spring 1887, and by the end of the year, 25 cities and towns had sprung up in the 36 miles between Los Angeles and San Bernardino County. Along the line of the Southern Pacific, eight more had been surveyed, and between the two rights-of-way, three other towns were platted (Reps 1981:100-101). Most of these towns were more populated by empty subdivided lots than by residents and vanished when the boom collapsed by 1889, but in general, the 1880s contributed a considerable increase in wealth and approximately 137,000 tourists-turned-residents to the region (JMRC 2010).

By the time Riverside incorporated as a city, the first rail line had just arrived in the young town. The California Southern, part of the AT&SF system after 1884, expanded its Box Springs, East Riverside/Highgrove line (1882-3) west in 1885-86 with the assistance of local communities and citizens who donated right-of-way land, adding a branch line through Riverside and a station on the eastern edge of the Mile Square, just outside the Project Area. The new AT&SF line through downtown was Riverside's first direct rail link to Los Angeles via Corona (Figure 7; Hammond 1995:5 and Patterson 1996:161, 184).

Figure 7. Palm-lined AT&SF Rail Line and Depot (1885-86) just outside Project Area

In 1888, the Southern California Motor Road (1886) extended their San-Bernardino-Colton line into Riverside, which was soon purchased by the competitive Southern Pacific Company (SPRR; (Patterson 1996:167). The line came in from the northeast and branched in two different directions – south to run parallel with the AT&SF line along the citrus packinghouses on Pachappa Avenue (Commerce Street; Figure 8), and west across Main Street. Over Main Street, the line split again, with two bridges, one heading north and the other curving south from First Street down the middle of Market Street, where it was used by the Pacific Electric Railway (Sanborn Map 1895, 1908, 1931) and continued south of downtown along the prominent Magnolia Avenue, through the Government Tract, to Arlington, providing trolley car access and facilitating development and connectivity between the settlements.

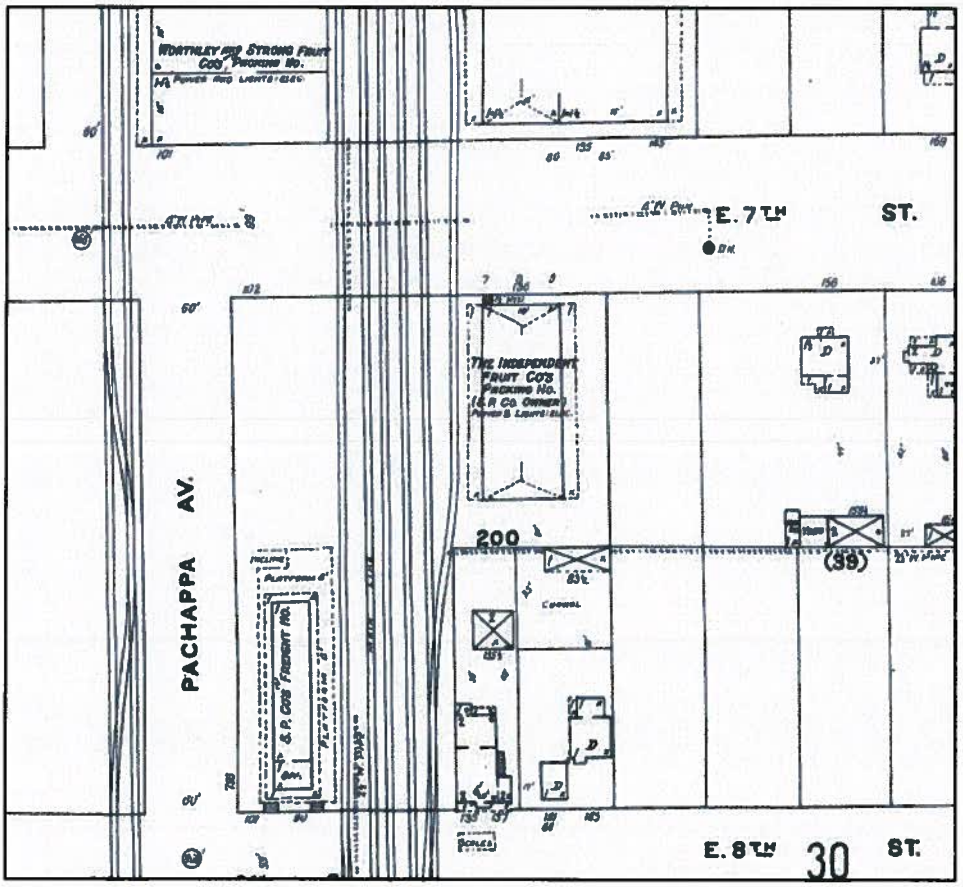


Figure 8. SPRR Freight House (1896-1967) and Five Rail Lines across Project Area (Sanborn 1908:18)

The Southern Pacific had been founded in 1865 by Timothy Phelps and a group of businessmen (American Public University 2014), but was purchased by the Central Pacific in 1868. The two railroads merged in 1870, and while legally known as the Pacific Improvement Company (Riverside County 1892-1899), the rail giant retained the Southern Pacific name and essential business plan, and soon spread tracks across Southern California and the country. Unlike other railroads, the company employed increasingly elaborate, settlement-oriented marketing and community investment, like their involvement in Riverside's local citriculture, which masked a focused, aggressive strategy. From

simple flyers to detailed brochures and maps, the SP encouraged the development of small family farms on its lands, promoted settlement and development, and contributed to the establishment of local hotels, hospitals, churches, schools, parks, and more, thereby playing a comprehensive role in the settlement and development of numerous communities, like Riverside, along its routes (Orsi 2005:109, 111; Tibbet 2011:19).

Figure 9. Riverside SPRR Freight Station with Extended Loading Platform in 1947 (SPHTS 2014)

The alignment of this southern branch of the SPRR right-of-way crossed the Project Area and became a critical center of local freight shipping in the late-19th century. In 1896, the company constructed a freight station edged by a 4' platform (Figure 9; demolished 1967) and main line track, and by 1908, the line had increased to five sets of tracks (Figure 8; most removed in 1960, final removal ca. 2000), from which it served the varied shipping needs of the young town, particularly the perishable goods and other industrial exports from the nearby citrus packing houses and other industrial plants and warehouses within the corridor that had emerged on this western edge of the Eastside.

Shipping to eastern markets came second to a heightened role during WWI, but like other railroads, the SP began the task of recovery in 1920 after 26 long months of government control and operation. Thus, as part of a comprehensive long-range program of acquisition, rehabilitation, and development, the 1920s launched the purchase of many millions of dollars of new equipment and the major repair of existing equipment, continued the heavier loading and swift unloading policies established during the war, and refined cooperation with shippers. From 1922-1930, the SP expended an unprecedented $387,000,000 for the construction of stations, repair shops, yards, bridges, and miles of mainline track additions, extensions, and improvements giving the SP additional transcontinental and regional access. In conjunction with rail, the SP began to offer water ferry transport for vehicles and motor coach transportation for passengers under a newly formed Southern Pacific Motor Transport Company in 1927, which would ultimately become part of the Pacific Greyhound Corporation (1936; Heath 1945).

The all-time high revenues of the last years of the 1920s suddenly reversed as the depression era swept the nation with freight hitting bottom in 1932 and passenger travel at its lowest point in 1933. To survive the lean years, the company instituted comprehensive changes, including restricting construction and acquisition expenditures to strategic operational and safety necessities, consolidating operating divisions and accounting activities, abandoning and removing some branch lines, reducing unprofitable services, discontinuing dividend payments to investors, and laying off over half of its employees, from a total of 89,304 in 1929 to 41,863 by March 1933. But these drastic cuts allowed the SP to pioneer a new era in modernized equipment, discount and economy services as well as enhancements such as the introduction of air-conditioning to the travelling public, and creative ways of meeting competition (Heath 1945).

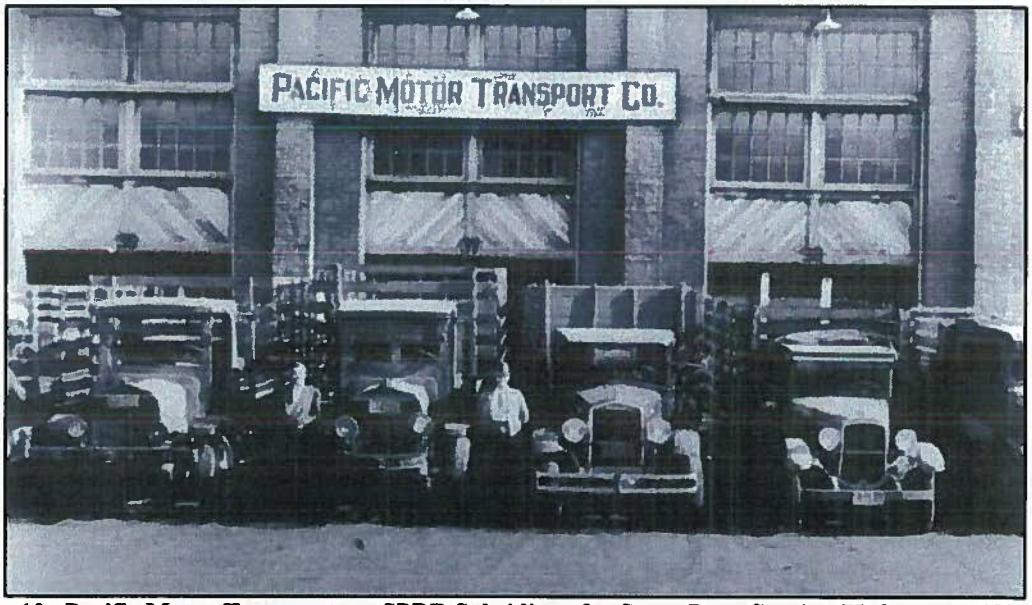


Figure 10. Pacific Motor Transport, an SPRR Subsidiary for Store-Door Service (Hofsommer 1986:131)

It was during the 1930s that the SP firmly established a motor truck "store-door" service, which met the competition of highway truckers by employing motor trucks in conjunction with freight trains in the delivery of less than a carload of freight from shipper to receiver. A contract local drayman picked up the freight packages from the shippers, took them to the freight station for train haul to a destination station where the freight was retrieved by another local drayman for delivery to the receiver. Begun as an experimental service in 1929 with the SP's electric line subsidiary, the Pacific Electric, between Los Angeles and twenty stations in southern California, the immediate popularity of the store-door service prompted its expansion first over Pacific Electric lines and then into further territory on SP lines by February 1930. The service was formalized with the establishment of the Pacific Motor Transport (PMT) Company (Figure 10), based out of San Francisco by the following April, and soon spread across California and Oregon (Heath 1945). The Riverside freight station became an early store-door destination station, with the PMT providing local truck delivery, and the Arlington area was soon added to the areas served in the vicinity (RDP 1929a).

The service developed rapidly, soon offering overnight delivery to metropolitan distributing centers to reach the most outlying towns and keep fully-loaded freight trains moving swiftly past smaller towns.

By June 1931, the SP linked passenger train service with direct overnight merchandise freight delivery between San Francisco, Los Angeles and other southern California points, which increased more than 43% and was made available to most California communities by 1932 and other SP lines in Texas and Louisiana. Finally, the SP introduced the "Overnight," the first exclusive merchandise train operating on a fast passenger train schedule, which made its debut on October 22, 1935 in a dusk-to-dawn run over the 470-miles between San Francisco and Los Angeles, which led to similar speedy merchandise trains that would later provide modernized overnight freight deliveries to principal SP metropolitan distributing centers. "Break-bulk" points were established at strategically located stations for the swift transfer of freight to line-haul trucks, which then delivered to regular stations for pick up and local store-door deliveries. Freight was loaded and unloaded with cranes and forklifts by the pallet or by the item into and out of general purpose boxcars onto platforms or directly into trucks. By the end of 1939, over 7,745 highway miles were coordinated with rail freight service and reached 12,491 miles by the end of 1944 (Heath 1945).

The outbreak of war in Europe in September 1939 and the looming threat of American involvement, the SP shifted focus to meet the all-encompassing transportation needs of a nation at war again, which were particularly acute on the west coast where 290 military and naval establishments were located, compared with only 15 before Pearl Harbor, as well as about half of the nation's wartime aircraft and cargo ships were produced. In a massive and unprecedented home front transportation of America's men and materials of war and industry, railroad companies across the country, combined, also handled approximately 97% of all organized troop movements and about 90% of all Army and Navy freight and express, moving ever-mounting volumes of traffic through a variety of established and newly formed railroad and governmental organizations. These defense activities poured a ceaseless flow of traffic into plants and ports, especially the Army's busy Ports of Embarkation in Los Angeles and San Francisco Bay, which sent major support to the entire Pacific offensive (Heath 1945).

Increased defense era earnings were funneled back into improvements, funding terminal yard and roundhouse expansions, facilities improvements, main line siding extensions, trackage to serve new military and industrial establishments, about 650 miles of new heavier rail, improvements to shops, communication lines and other facilities throughout the system, and an extensive repair and reconditioning program for every piece of serviceable equipment. The increased length of freight trains required the extension of yard trackage and numerous main line sidings at several terminals. In addition, the SP took a leading part in the national wartime scrap drive, collecting scrap for reuse in the war effort and reclaiming millions of pounds of second hand rail and like tonnage of other track materials for reuse in track layouts at military and naval establishments (Heath 1945).

Figure 11. SPRR Loading Platform Framed with Scrap Railroad Track

The extant, ramped loading platform (Figure 11), which is now a free-standing structure, also evidences an effort at recycling and repurposing rail. Approximately 138 feet long, 18 feet wide, and 4 feet high, the loading platform is framed and trimmed by cut and welded steel railroad rails likely removed from the site or nearby. Rails are marked with several different labels, including three most complete and visible: "T.C.I. Co. 901 OPEN HEARTH 608 D53049," "COLORADO S.E.C. 90 ARA-A IIIIII 1924 O.H," and "BSCO MARYLAND O.H. IIIIIII 1926." These markings provide information on the steel mill, rail type, and location and date they were rolled (AREA 1917:1190-91), which when coupled with historic aerial and photographic evidence as well as the history of the Southern Pacific Company, assist in dating the construction of the loading platform to ca. 1930-1947. Although detailed Sanborn Maps fail to show this structure, it is visible in historic photos (Figure 9) and faintly visible on a 1949 aerial photograph, although the realignment of Pachappa Avenue between Seventh and Eighth Streets to the west in 1927 (Riverside County 1926-32, 1954-58; Sanborn Map 1952) may erroneously cause it to appear more deeply set back from bordering streets than the earlier freight house and surrounding platform (Figure 12).

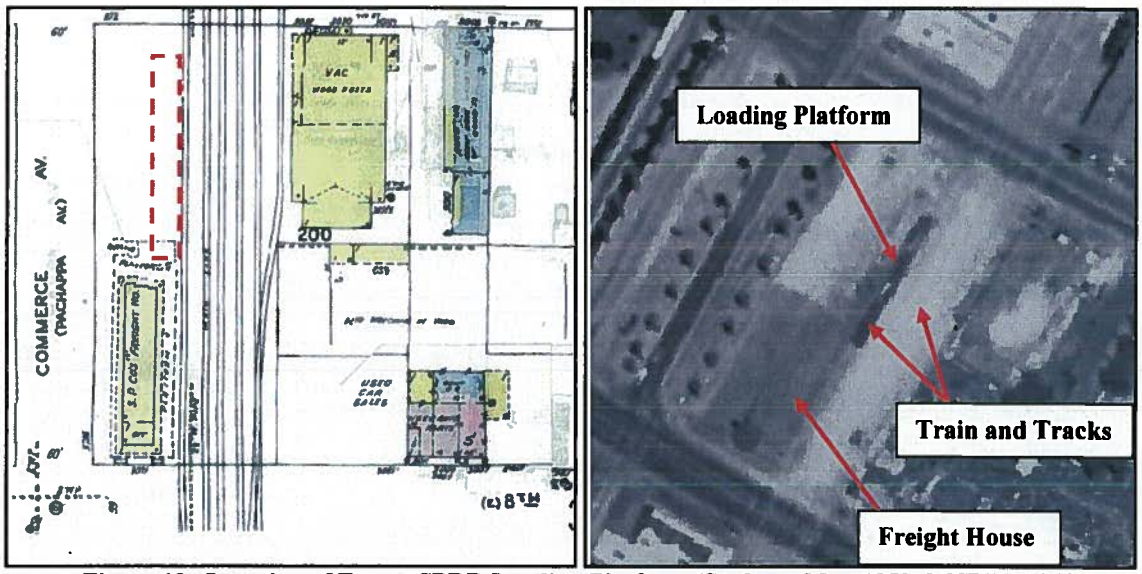


Figure 12. Location of Extant SPRR Loading Platform (Sanborn Map 1952 & NETR 1949)

Thus, this platform addition to the original freight station (demolished 1967) was constructed either during the store-door service era in the depressed 1930s to facilitate the platform loading and unloading of freight to and from motor trucks that could drive directly on top of the platform from the ramp, or during the 1940s to accommodate longer trains and the motor transfer of greater quantities of military-related freight during the material-shortage war years. This was the case with the nearby Food Machinery Corporation (FMC), which constructed a concrete loading ramp in 1942 beside a Santa Fe spur track along Pachappa Avenue near Twelfth Street in order to transfer the war equipment it built onto trains (RDP 1942). The FMC ramp was to be removed after the war.

Figure 13. South End of SPRR Loading Platform Showing Former Adjacent Construction

The southerly end of the loading platform shows the imprint of adjacent construction where it was poured against the northerly edge of the former freight station platform (Figure 13). Clay (date unknown) and concrete (ca. 2000) roof tiles were found in a small debris pile adjacent (south) to the loading platform during the first field visit, but were missing upon return to the field; however, these cannot be clearly associated with the former freight house. Cut rail segments are also in use on the property as upright, painted bollards embedded in concrete near Commerce Street (Figure 14).

Figure 14. Former SPRR Track in Use as Bollard Posts

The retention of the concrete loading platform as a freestanding structure after the demolition of most of the track in 1960 and the former freight house in 1967 supported the continued, but reduced, movement of rail freight in a forever changed local industrial economy and the diminished role of the Southern Pacific and other railroad companies, which began a slow decline in the face of the rising dominance of automobile and air transportation for both passengers and freight in the latter half of the 20th century.

Late-19th to Early-20th Century Citrus Industrial Development

The development of transcontinental and local rail systems served to greatly advance Riverside's agro-economy, and by 1895, Riverside was a thriving, irrigated cooperative that specialized in citriculture. Development in the Mile Square had begun immediately, concurrently, with the support of canal-irrigated agriculture, which soon became the supporting economy of young Riverside, supporting the growth of vegetables, melons, raisin grapes, berries, walnuts, honey, beans, grain, and hay, and livestock ranches and dairy farms were also found in Riverside. While agriculture in general supported Riverside, no crop was as pursued or as successful as citrus. Few in southern California had been engaged in the production of citrus before the late 1870s when "Orange Fever" erupted due to the introduction of the navel orange and the potential for large profits, and new communities from Pasadena to Redlands were founded on orange agriculture. Before 1862, there had been only about 25,000 orange trees in the state, but by 1882, there were approximately 500,000 orange trees in California – half of them growing in Riverside (Lawton 1989:9).

Along with agriculture and citrus production, the growing town saw the increase in commercial and residential development, which moved apace on a reciprocal ascent, and many more residents than not were employed in activities unassociated with the land. By the early 1890s, when Riverside finally felt the effects of the general regional recession that had come on the heels of the 1887-88 recession, the commercial core of the town had expanded within the Mile Square and was already well established, offering a huge variety of goods and services from wallpaper supplies to printing services, as well as community gathering places such as banquet, society, and billiards halls and lawn tennis recreation facilities. Residential development necessarily surrounded this core and supplied much of its labor and patronage. Homes for the approximately 6,000 residents dotted the landscape, largely scattered among the many orange groves, as well as small- or large-scale urban dwellings.

In addition to success in the growth of citrus, early Riversiders made great and innovative advances in all areas associated witth getting their product to market, including picking, handling, packing, shipping, and even technological and organizational achievements. The Wright Brothers, pioneers J. Harrison and Benjamin Bakewell, were well-known English-born Arlington horticulturists and inventors (Barry 1965:117; Patterson 1984) who became widely known for their patented fruit washing machines, which were manufactured at El Adobe, J. Harrison's famous Victorian-era adobe grove home (no longer extant), and used by approximately two-thirds of all packinghouses in Riverside and shipped overseas (Klotz 1989:3; Halsted 1961; Wright Brothers ca. 1899:n.p.). S.H. Herrick and Herrick and A.J. Twogood, both early pioners who had organized the East Riverside Land Company, which commissioned the construction of the Gage Canal and owned most of the Eastside, became some of the most prosperous citrus growers and packers in the area. Herrick, who became one of the founders and first president of Citizen's National Trust and Savings Bank, and Twogood, a nurseryman and dealer in orange and lemon trees, were among the founding members of the Southern California Fruit Growers Association that formed in 1893 among attempts to organize the market for the benefit of the growers, which quickly became standard practice (1903; Patterson 1996:176-77).

Although the Eastside was developed for its residential potential, the early foothold of the railroads prompted citrus industrial development here, and a corridor along its western edge coalesced to become Riverside's leading packing and shipping center. With the Southern Pacific a presence on the Pachappa Avenue edge of Block 10 of White's Addition and other rail lines to the west, packing houses, storage warehouses, feed mills, and more stretched out to the north and south. At corner of Eighth Street and Pachappa Avenue, in the southerly portion of the Project Area, R.B. Devine, one of the largest packers and shippers in Riverside, maintained a commission and storage warehouse as well as a raisin and orange packing house, which was used as a feed mill and for wood and coal storage after the turn of the century. Other vacant warehouses filled these lots facing Pachappa Avenue, and at the corner of Ninth Street, was W.V. Wiley's Wood, Hay, and Coal Yard as well as a warehouse for baled hay and guano, which became an orange crate box nailing warehouse owned by H.K. Small and Sons (Sanborn Map 1895:8, 1908:18, 30). The Riverside Heights Orange Growers Association Packing House and the Blue Goose Growers Fruit Packing House with box nailing and storage just south of Ninth Street are no longer extant.

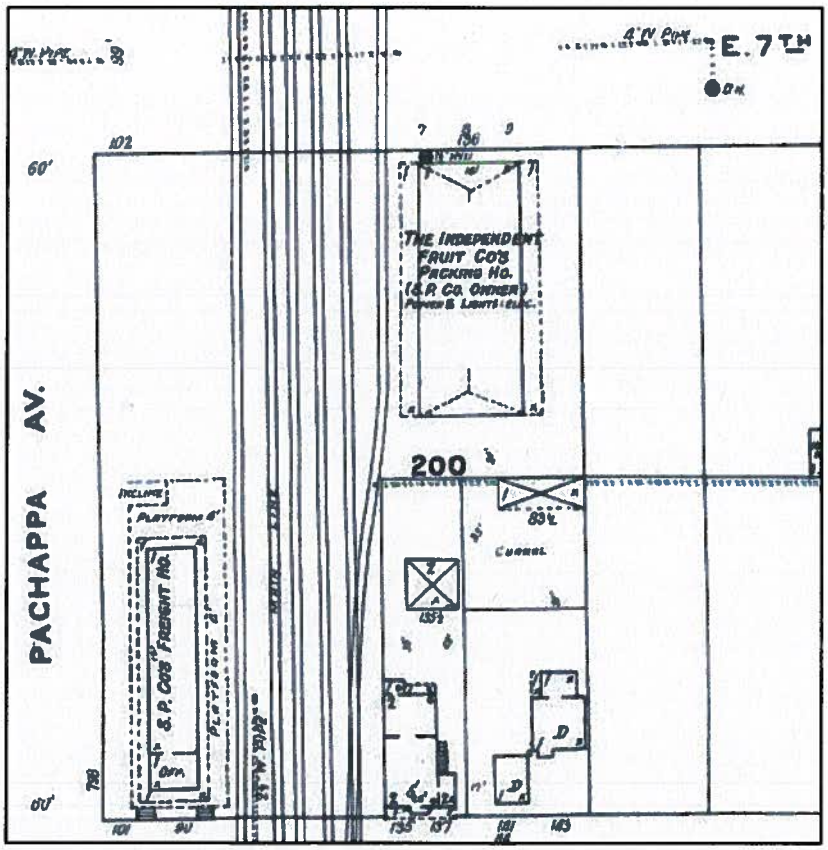


Figure 15. The Independent Fruit Company Packing House (1898) in the Project Area

True to the Southern Pacific's tendency to invest in local development, the SP participated more deeply in the local citrus market. A small number of privately owned cars whisked the relatively small tonnage of perishables to eastern markets before the Southern Pacific and Union Pacific railroads jointly organized the Pacific Fruit Express Company (PFE) in 1906 to provide refrigerator cars for the swift movement of fresh fruits and vegetables. The PFE began operations with 6,000 refrigerator cars and by 1944 became the largest refrigerator car line in the world, offering over 36,000 cold cars across United States and Mexico. In addition, unlike other citrus-related or other industrial developments in the corridor, the Independent Fruit Company was owned by the SP (Figure 15). The Independent Fruit Company Packing House (1898) once faced Mission Inn Avenue on the other side of the railroad tracks from Lot 4 of White's Addition within the Project Area (Riverside County 1896-1899; Sanborn Map 1908:18). No remains of this earlier citrus industrial-related development are now evident in the Project Area.

Decline of Citrus in the Changing 20th Century

Amid the post-WWI population-driven demand for housing in the second decade of the 20th century, Riverside's economic landscape was also changing. While grove and agricultural lands, particularly to the south, were converted to tree-lined streets of single-family dwellings, scattered lots and strips of property on the edges of the original townsite were the target of infill residential construction, and vacant lots, particularly along the arterials in the downtown core, were eyed for commercial

development. Thus, population increases and the resultant suburban development, which both increased the number of local workers and effectively decreased the view of citriculture as a panoramic staple, both visually and perceptually, were aided by the earlier devastating four-night 1913 freeze in shifting the local economic position toward one of diversification in the early-20th century.

While economic interests became broader, commercial and industrial enterprise seemed to consolidate geographically as some areas became increasingly associated with these uses, and emerging strips of concentrated commercial zones appeared such as Magnolia Center to the south, Eighth Street (University Avenue) on the Eastside, the Magnolia Avenue/Van Buren Business District, and the expanding Main Street Industrial Corridor. This geographic concentration of commercial enterprise in Riverside was linear as it was associated with major arterials or highways and generally focused first on the streetcar, and later motoring, patron in addition to the neighborhood pedestrian, and eventually use shifted to mainly auto- or travel-related uses like auto courts, motels, service stations or related auto services, and roadside eateries.

The suburbanization of areas more distant from downtowns and streetcar lines was made possible by a nation on the move. With nine million cars on American roads by 1920, attention was given to the improvement of transportation infrastructure. The use of automobiles by working class Americans rose steadily throughout the first half of the 20th century. Not just an important local arterial, Eighth Street became part of the California highway system in the 1930s and was signed Highway 19. In the Project Area, a 1925 false front warehouse and garage was added facing Mission Inn Avenue, which was later converted to an auto trim store, and a spray booth was added to the rear in 1947 (City of Riverside 2015). Concrete pads are all that remain of this no longer extant property (Appendix D). Two auto-related commercial storefronts were added to the Project Area north of University Avenue by 1952 with a used car sales lot to the west and an auto wrecking yard to the rear, and later concrete pads dating to the 1970s are found in the vicinity of the auto sales lot (Appendix D). By the mid-20th century, while many buildings remained in the industrial corridor on the western edge of the Eastside, fewer were dedicated to citrus-packing and shipping or had become vacant, like the Independent Fruit Company's Packing House in the Project Area (Sanborn Map 1952:18, 30).

The close of WWII marked the beginning of lasting change on many levels. Advances in land use and planning coupled with the rising importance of the automobile forever altered the urban landscape. In Riverside, the economic shift and population growth reflected regional trends. Characteristically, post-war development vied for proximity to growing suburban commercial centers. By the early 1950s, Eighth Street functioned as a vital regional transportation link. Increased traffic along the corridor prompted the conversion from residential to roadside commercial uses that catered to the needs of travelers and also served the residents of the neighborhoods to the north and south. In addition, the completion of the University of California, Riverside in the mid-1950s caused a dramatic increase in traffic patterns on Eighth Street (renamed University Avenue in 1966) and the Eastside.

In response to yet more population-driven demands for housing, subdivision reached record heights as did traffic congestion, prompting the professionalization of city planning and the building of the Riverside Freeway (1957) and the Pomona Freeway (1960-63) through Riverside. These freeways supplanted the local corridors as regional arterials, and forever altered a wide swath of adjacent streets and lots. The loss of direct contact with motorists began to be evinced on the local economy,

and the financial decline continued through the 1970s, and '80s. The City's agricultural economy slowly gave way to the rising force of industry as well-known industrial giants, such as Rohr Corporation, Bourns Incorporated, and the Lily-Tulip Cup Corporation arrived in Riverside, and the increasing diversification of Riverside's economic livelihood saw the destruction of much of Riverside's once vast citrus and agricultural acreage.

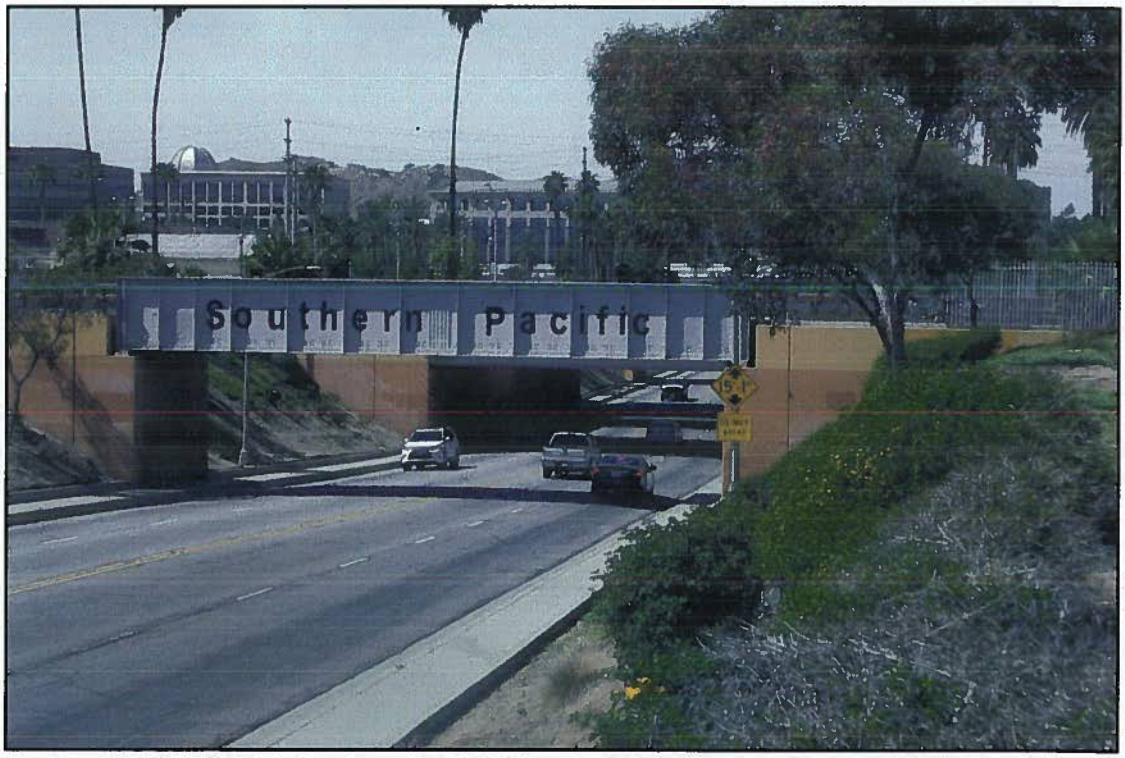


Figure 16. Southern Pacific Railroad Bridge (1960) in the Project Area

Thus, it was the construction of the Riverside Freeway, State Route 91 on the eastern edge of downtown that prompted the grade separation of University Avenue and the subsequent construction of numerous bridges to accommodate the through path of Commerce Street, Santa Fe Avenue, the Riverside Canal, and the Union Pacific, AT&SF, and Southern Pacific tracks across the arterial street (Figure 16). The construction of the SPRR bridge, which was completed in 1960, prompted the removal of most of the track, including the original main line. The last lines were removed ca. 2000, and a curved vehicular asphalt drive was constructed from Commerce Street to the abandoned railroad bridge. State Route 91 was widened in 2008, further segregating the Eastside. The redevelopment of the downtown area and the expansion of the University of California, Riverside campus have provided impetus for the revitalization of University Avenue. And in recent years, the Marketplace corridor has been identified for strategic revitalization and redevelopment to establish a visual and functional identity and experience that embraces its heritage and redefines a relationship with both the downtown and the Eastside.

PROJECT METHODOLOGY

The cultural resources survey was intended to identify and document previously recorded, new, or potential future cultural resources, including prehistoric, historic archaeological, and historic resources through intensive-level study of the Project Area. A cultural resources records search, field survey, and research were included as part of the survey. According to communication with Associate Planner Brian Norton, as the City of Riverside has already initiated Native American consultation under Senate Bill 18 for the proposed project, further contact or consultation was not included the scope of this Cultural Resources Survey.

In order to structure the survey process, guide fieldwork, and establish a framework for evaluating the significance of potential cultural resources, research on historic land uses, railroad development, and citrus economy was conducted. Research materials, including historic maps, previous surveys, and published local and regional historical accounts were collected and reviewed. Intensive property ownership and construction history was researched. Based on these efforts, a focused historic context was developed.

This work was completed pursuant to the California Environmental Quality Act (CEQA; PRC §21000, et seq.), the City of Riverside Cultural Resources Ordinance, recently revised Title 20 of the Municipal Code (Title 20; Ord. 7108 §1, 2010), and in full compliance with the City of Riverside's Consultant Requirements.

Research

Records Search. Prior to fieldwork, a records search was conducted at the Eastern Information Center (EIC), the local clearinghouse for cultural resource records located at the University of California, Riverside (UCR). This archival research reviewed the status of all recorded historic and prehistoric cultural resources, and survey and excavation reports completed within one mile of the project site. Additional resources reviewed included the National Register of Historic Places, the California Register of Historical Resources, and documents and inventories published by the California Office of Historic Preservation. These include the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

Additional Research. Extensive additional research was also conducted in March and April 2015. Historic maps and aerial images online and Sanborn Maps in the JMRC professional collection were examined for evidence of historic period activities within and in the vicinity of the Project Area. Intensive research through newspaper sources at the Riverside Public Library main branch and online provided information on historic development and use. Additional land use history, previous surveys, permits, and planning case information were collected from research conducted at the City of Riverside Community Development Department, Planning Division. The Riverside County Robert J. Fitch Archive was accessed for Assessor's record research which provided historic land use, ownership, and use information, and Kevin Halloran, Archivist for the Riverside Metropolitan Museum was contacted for assistance with archival material and historic photographs. As ownership, occupancy, and use history for the extant resources within the Project Area were made clear by other sources, city directories were not examined.

Field Survey

An intensive-level, historical and archaeological survey of the subject property was conducted on March 16, 2015, and a return visit was made in early June. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across 100 percent of the Project Area. The site and soil exposures were carefully inspected for evidence of historic resources or archaeological activities. Current condition and architectural features were noted in the field and architectural quality and integrity were assessed. Potential cultural resources were recorded in the field using detailed note taking for documentation on DPR Forms (Appendix A), and digital photography was taken for contextual overviews and detail images architectural features (Appendix D).

RESULTS

Research

Records Search. Research completed through the EIC revealed that 29 cultural resource studies have taken place resulting in the recording of 25 cultural resources within one mile of the project site. None of the 29 listed previous studies has assessed the project site, although one unlisted study did assess a portion of the project site resulting in the recording of P-33-11902 (Curl and Flippen 1980). A summary of the records search is included below.

USGS	Archaeological Sites	Built Environment Resources	Reports
Riverside East, CA (1980) 7.5 Minute USGS Quadrangle	P-33-4495H, 4791H, 6238H, 6239H, 6646H, 7616H, 7631, 10128	P-33-8163, 8164, 9272, 9546, 9690, 10973, 11521, 11624, 11784, 11879, 11902*, 12186, 12190, 12191, 12195, 21086, 23958	RI-1657, 3605, 4048, 4212, 4215, 4404, 4412, 4487, 4799, 5376, 5748, 5893, 5996, 5997, 6284, 6423, 6597, 6832, 6838, 7062, 7169, 7924, 7925, 8412, 8545, 8598, 8959, 9118, 9126

P-33-11902 includes P-33-11903 through P-33-11990, and was recorded as "Eastside Historic District." This appears to have been partially recognized by the City of Riverside as the Ninth Street Potential NCA (1980), a local designation which ultimately excluded the Project Area (Figure 17). Associated reports for P-33-4495H, the Riverside Upper Canal, included a map that indicated the canal may be aligned immediately adjacent to the Project Area, however further investigation with the Riverside Metropolitan Museum clarified that this canal segment is located further west within the AT&SF railroad tracks.

Additional Research. Focused research at the City of Riverside Community Development Department, Planning Division and on the City's webpage identified previous survey efforts, designations, and information pertaining to the citrus packing and shipping industry in the vicinity. Shelved Cultural Heritage Board (CHB) Resolution records and planning materials identified that portions of the Project Area are within the geographic boundaries of the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District, and the southern portion of the Project Area is adjacent to the Ninth Street Potential Neighborhood Conservation Area (Figure 17).

Few building permits were on file, but research confirmed the construction of a 1925 warehouse (no longer extant) for Hoagland & Son at 3008 Seventh Street and the later 1947 addition of a rear spray booth for the California Metal Awning Company as well as the construction of a 30'-high Foster & Kleister vertical sign in 1971 on the adjacent (west) parcel (211-121-024; 3030 or 3032 Mission Inn Avenue). Building permits further identified a 1988 industrial building (no longer extant) constructed for Royal Citrus on parcel 211-122-023; 3025 Ninth Street) in the southerly portion of the Project Area.

Aerial images and historic maps, including Sanborn Maps, contributed to an understanding of construction and development over time, including the evolution of railroad development, alignment, and related features. A recent aerial photograph on the City of Riverside website showed the remains of four sets of rails stretching from the former railroad right-of-way across Mission Inn Avenue, which are no longer extant.

Assessor's research revealed that the Project Area is located within Blocks 10 and 12 of White's Addition (1886), an unevenly bound and early subdivision that stretched from 3rd to 10th Streets and spread into Riverside's Eastside from Colton Avenue almost to Comer Avenue. Records and maps in Assessor's Eastside Book 3 identified land use, improvements, and long time or important owners from 1892-1970 and showed lot adjustments, the renaming and relocation of streets, early residences that are no longer extant, citrus-related development, and location and evolution of rail lines over time within and adjacent (west) to the Project Area, including Southern Pacific Railroad and California Southern Railroad (later Atchison Topeka & Santa Fe Railroad). Assessor's research also identified the construction of the 91 Freeway in the late-1950s and the extent of related grade and lot line alteration. Most notably, Assessor's records revealed the dominance of the Southern Pacific Company with the loading platform and bridge and their ownership of a no longer extant citrus packing house in the northern portion of the Project Area.

Previous survey work in Riverside by JMRC had identified White's Addition as the first town lot addition after the original Mile Square as well as Riverside's railroad history and the course and nature of development, including citrus, on the Eastside. This understanding was further augmented by the Marketplace Specific Plan Context Statement (Gudis 2012), which identified and developed the historic theme, Commercial Industrial Developments, 1870s-1970s.

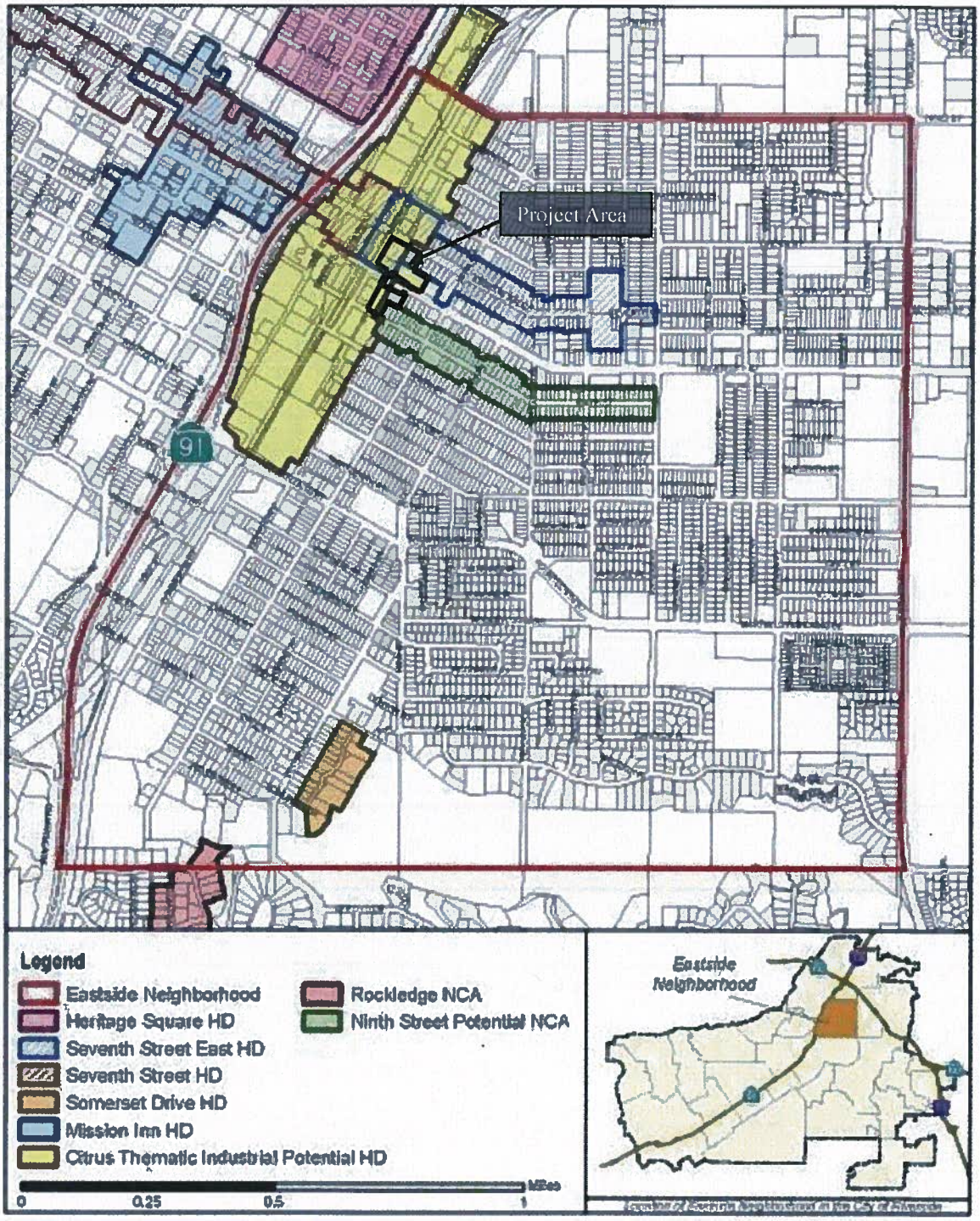


Figure 17. Historic Districts and NCAs in the Eastside (City of Riverside 2009:27)

Field Survey

During the field survey, it was noted that the Project Area is currently vacant, although it appears to be used by area transients. Adjacent to rail commerce, industrial, and residential development, abandoned rails are extant in the center of Commerce Street, beyond which active rails are lined with palm trees. A few trees form a line near Mission Inn Avenue, including two small orange trees, and a cluster of palms are found north of University Avenue. The ground is partially covered with gravel, asphalt, concrete, debris, and vegetation. Rock and concrete driveways without curb and gutter, similar to adjacent residential curb & gutter, are found along Mission Inn Avenue, and chain link fences with rolling gates surround the entire property and separate some parcels. An asphalt- and concrete-lined storm drainage channels line the top of slope and railed concrete steps access the lots from both sides of lowered University Avenue, where a mid-century cobra light may indicate the date of approximate late-1950s date of the grade separation project.

Jennifer Mermilliod carefully inspected the Project Area and identified two potential cultural resources, a long, rectangular concrete loading platform framed by steel railroad rails near the corner of Mission Inn Avenue and Commerce Street and an abandoned railroad bridge over University Avenue. Several historic and modern remnants and features of limited diagnostic value were also found within the project boundaries, including concrete pads of various age (1925 and 1970s), various broken, clay (date unknown) and concrete (ca. 2000) roof tiles in a small debris pile adjacent (south) to the loading platform (missing upon return field visit), a curved vehicular asphalt drive (ca. 2000) from Commerce Street to the abandoned railroad bridge, asphalt brow ditches (ca. 1960) above University Avenue, several wood creosote utility poles (one tagged by 1935), a billboard pole sign (1971), a broken, *in situ* piece of clay sewer pipe of unknown date perpendicular to Mission Inn Avenue and a standard cast iron manhole cover (ca. 1950s-1960s) above the north side of University Avenue, a green glass bottle fragment (ca. 1983), and two out of context railroad spikes of unknown date near the sewer pipe and by the northern brow ditch. It appears that rather than buried, all railroad tracks have been removed (1960 and ca. 2000) or cut and reused in the construction of the loading platform and as upright posts within the Project Area. No remains of earlier citrus industrial-related or residential construction were evident (Appendix D).

David Brunzell inspected the project site and identified no archaeological resources within its boundaries. Ground disturbances were severe and resulted from a variety of natural and artificial factors, including grading related to historic-period and modern development of the project site and vegetation growth. Sediments within the project site included sandy silts and imported gravels affording approximately 60 percent surface visibility. Vegetation consisted of seasonal grasses and palm trees.

Surveyed Properties

The project Area was formally surveyed, and the two identified potential cultural resources are described below.

SPRR Loading Platform. This reinforced concrete loading platform (ca. 1930-1947) is located at the southeasterly corner of Mission Inn Avenue and Commerce Street on Riverside's Eastside. Rectangular in shape, the platform is approximately 138 feet long, 18 feet wide, and 4 feet high and is framed and trimmed by cut and welded steel railroad rails likely recycled from the site. Rails are marked with several different labels, including "T.C.I. Co. 901 OPEN HEARTH 608 D53049,"

"BSCO MARYLAND O.H. IIIIIII 1926," and "COLORADO S.E.C. 90 ARA-A IIIIII 1924 O.H." The long sides are finished with a thin layer of cement plaster, and the platform is accessed by the tapered north end ramp. The south end shows the imprint of adjacent construction (freight station and platform to south demolished ca. 1967). The concrete is in poor condition, a large crack crosses the width of the platform, which may indicate two-phase construction, and the base of a creosote utility pole is embedded in the southerly portion. The otherwise vacant lot is partially covered with weeds and surrounded with chain link fencing.

SPRR Bridge. This functionally obsolete Southern Pacific Railroad Bridge 56C0059 (1960) is located approximately 0.25 mile east of Route 91 Freeway, easterly of Commerce Street and extends 65 feet across and 15.1 feet above University Avenue, a four-lane, below-grade arterial street on Riverside's Eastside. The single-span, steel girder-and-floor beam system is 70.9 feet in total length with a 19.4-foot-wide steel plate deck and bituminous surface supported by conventional precast concrete, seat-type tall abutments and railed with a low, rectangular metal barrier and taller, wrought iron fencing. Signed "SOUTHERN PACIFIC" in black letters on the east side only, the bridge once carried a single mainline freight track, which has been removed and the deck covered with asphalt (ca. 2000). The abandoned bridge is now accessed for transient pedestrian use and is in good condition.

FINDINGS

In accordance with the Scope of Work, potentially significant cultural resources within the Project Area were evaluated for eligibility for listing in the NR, the CR, and under Riverside's Cultural Resources Ordinance, Title 20 of the Riverside Municipal Code (Ord. 7108 §1, 2010).

Criteria for Significance

The following criteria were used to determine eligibility at each level.

National Register of Historic Places

Eligibility for inclusion in the NRHP is determined by applying the criteria established by the National Park Service under the National Historic Preservation Act (NHPA), as follows:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
(b) that are associated with the lives of significant persons in or past; or
(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
(d) that have yielded or may be likely to yield, information important in history or prehistory (36 CFR 60.4).

California Register of Historical Resources

Eligibility for inclusion in the CRHR is determined by applying the following criteria:

(1) it is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
(2) it is associated with the lives of persons important in California's past;
(3) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
(4) it has yielded or is likely to yield information important in prehistory or history. The Register includes properties which are listed or have been formally determined to be eligible for listing in the National Register, State Historical Landmarks, and eligible Points of Historical Interest (PRC §5024.1(c)).

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

City of Riverside Local Ordinance and Designation Program

The City of Riverside's Cultural Resources Ordinance (Title 20; Ord. 7108 §1, 2010) provides two categories of designation criteria for the evaluation of individual resources (Landmark; Structure or Resource of Merit).

An individual resource may be locally designated as a Landmark if it is an exceptional example of a historical, archaeological, cultural, architectural, community, aesthetic, or artistic heritage of the City, retains a high degree of integrity, and meets one or more of the following criteria:

1. exemplifies or reflects special elements of the City's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history;
2. is identified with persons or events significant in local, state, or national history;
3. embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship;
4. represents the work of a notable builder, designer, or architect, or important creative individual;
5. embodies elements that possess high artistic values or represents a significant structural or architectural achievement or innovation;
6. reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning, or cultural landscape;
7. is one of the last remaining examples in the City, region, State, or nation possessing distinguishing characteristics of an architectural or historical type or specimen; or
8. has yielded, or may be likely to yield, information important in history or prehistory (RMC §20.50.010(U)).

An individual resource may be locally designated as a Structure or Resource of Merit if it contributes to the broader understanding of the historical, archaeological, cultural, architectural, community, aesthetic, or artistic heritage of the City, retains sufficient integrity, and meets one of the following criteria:

1. has a unique location or singular physical characteristics or is a view or vista representing an established and familiar visual feature of a neighborhood, community or of the City;
2. is an example of a type of building which was once common but is now rare in its neighborhood, community or area;
3. is connected with a business or use which was once common but is now rare;
4. A Cultural Resource that could be eligible under Landmark Criteria no longer exhibiting a high level of integrity, however, retaining sufficient integrity to convey significance under one or more of the Landmark Criteria;
5. Has yielded, or may be likely to yield, information important in history or prehistory; or
6. An Improvement or resource that no longer exhibits the high degree of integrity sufficient for Landmark designation, yet still retains sufficient integrity under one or more Landmark criteria to convey cultural resource significance as a Structure or Resource of Merit (RMC §20.50.010(EE)).

Survey Findings & Assignment of Status Codes

In accordance with local and state historic preservation guidelines, a lesser threshold for integrity was applied in determining eligibility at the local and state level. In general, CR and local individual resources possess a lower degree of architectural distinction than merits listing in the NR and/or are found in comparable quantity and quality within contemporaneous areas of the city, state, or region.

Historic period remnants and features noted during the field survey, including concrete pads, utility poles, broken clay sewer pipe and manhole cover, broken clay roof tile, drainage brow ditches, and railroad spikes were examined, partially researched, and ultimately not considered potential cultural resources; these were not documented on DPR Forms. The SPRR Loading Platform and Bridge properties were documented on DPR Forms (Appendix A) and each assigned a California Historical Resources (CHR) Status Code, which reflect eligibility according to the above criteria and the findings of this current Intensive-level Survey for CEQA compliance, which also serves to update any previous survey findings.

SPRR Loading Platform and SPRR Bridge. The loading platform (ca. 1930-1947) and bridge (1960) are associated with the Southern Pacific Railroad Company, a giant in the transcontinental and local rail era of western town settlement that played an active role in the settlement and development of Riverside and the early success of its citrus driven agro-economy. The loading platform and bridge are later remnant components of a larger, more extensive, and no longer extant SPRR property that lack the level of architectural distinction, strength of historic association, and sufficient integrity to merit individual listing in the NR, CR, or for local designation. While currently within the boundaries of the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District, neither falls within the period of significance nor contributes to the significance of these districts and should be considered non-contributors. Therefore, JMRC recommends that the SPRR loading platform and SPRR bridge are each assigned a CHR Status Code of ***6L – Determined***

ineligible for local listing or designation through local government review process; may warrant special consideration in local planning.

PROJECT EFFECTS, IMPACT ANALYSIS & RECOMMENDATIONS

The Mission Lofts project proposes the demolition of the SPRR loading platform, pedestrian reuse of the existing vacated SPRR bridge over University Avenue, and the construction of one 2-story and one 4-story building totaling 212 studios, one- and two-bedroom apartment units as well as 320 surface parking spaces in 191 covered and 129 open stalls. The Project also includes approximately 1.20 acres of common open space and other amenities, including an indoor fitness room and a courtyard with pool, spa, cabanas, showers, sunning beds, fire pit, barbecue area, and dining terrace.

CEQA Analysis

CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1), and the California Public Resources Code further defines substantial adverse change as "demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired" (PRC §5020.1(q)).

The records search and field survey of the project site did not reveal the presence of any previously recorded or potential archaeological resources. Therefore, no impacts to archaeological resources are anticipated. As the loading platform and railroad bridge appear ineligible for designation at any level, they are not considered "historical resources" under CEQA. However, a large portion of the Project Area is within the boundaries of the locally designated Seventh Street East Historic District and the locally eligible Citrus Thematic Industrial Potential Historic District, and the Project Area is immediately adjacent to the locally eligible Ninth Street Potential NCA, which are considered "historical resources" under CEQA. JMRC evaluated the proposed project according to CEQA and CEQA Guidelines for potential impacts to these historic resources.

Ninth Street Potential NCA

Characterized by residential architecture (1895-1929), this deteriorating potential NCA represents the historic heart of Riverside's black community where black pioneers settled and where income and segregation kept them for decades on the Eastside. The edge of this NCA, which is currently lined with an existing block wall, has always been clearly demarcated. Although the lots within the Project Area that lie to the rear of the potential NCA once supported similar housing stock, the parcels adjacent to the west were never developed or functioned as part of the adjacent historic residential neighborhood along Ninth Street. The large parcel across Ninth Street once supported a citrus packing house, and is now a parking lot. The Mission Lofts project proposes to construct surface parking in this southerly portion of the Project Area as well as add small-scale amenities structures fronting Ninth Street. Proposed plans show the use of railroad freight shipping containers which may support retail shops or cafes open to residents and the public. The pedestrian-friendly size and scale of these proposed improvements, which will blend with the neighboring residences, are appropriate as is the use of railroad-related features as functional design elements, which is a familiar historic neighbor to the Ninth Street properties. **Therefore, as currently proposed, the Mission Lofts project constitutes a less than significant impact to the adjacent residential Ninth Street Potential NCA.**

Seventh Street East Historic District

The Seventh Street East Historic District includes both White's and Castlemans' Additions to the city and reflects a diverse collection of architectural styles in residences (1880-1945) compatible in scale, age and tone that reflect the lives of average citizens. While a portion of the Project Area is within the district, it never supported housing stock and contains no contributing features. The potential for project-related impacts exists near Building B at the northeasterly project boundary, which is closest to the historic neighborhood development. However, the three residences adjacent to this project boundary are modern, non-contributing compatible infill of slightly larger size and it appears slightly less setback than the 25-foot setback of earlier historic construction further east and are separated from the Project Area by an existing block wall. This infill buffer is further enhanced by several proposed design components, including the reduction of Building B to two stories in height, the use of 5-foot patios for Building B to soften the effect of a more shallow, 11'2" front setback from the back of sidewalk to the building elevation, the approximately 20-foot open space side setback, which will be planted with a specimen tree, and the placement of rear carports and surface parking, which maximizes the distance between the modest-scale historic neighborhood and the four-story Building A. **Therefore, as currently proposed, the Mission Lofts project constitutes a less than significant impact to the residential Seventh Street East Historic District.**

Citrus Thematic Industrial Potential Historic District

The Citrus Thematic Industrial Potential Historic District is located at the west end of the Eastside adjacent to residential neighborhoods and is characterized by the combination of rail transportation, water infrastructure, citrus industrial, and light industrial development that together formed the basis of Riverside's early economy and catalyst for prosperity in the late-19th and early-20th centuries. Historic development is scattered throughout this wide corridor, including rail stations, tracks, loading platforms, packing houses, warehouses, mills, and canal segments.

Design components of the proposed Mission Lofts project evidence an intent to integrate historic rail and citrus industrial uses in the Project Area and the historic character of the Citrus Thematic Industrial Potential Historic District into the new design. In keeping with the industrial uses of the area, the proposed project incorporates large, functional, full-height continuous masses that appear segmented or linked by articulated columns of perforated metal balconies reminiscent of railway gangways or couplings between passenger and freight cars. Although the four-story height of the main Building A is higher than any other historic period industrial or current development in the area, the size and scale of citrus packinghouses, warehouses, and mills were larger, more imposing buildings compared to their contemporary property types with high, open raftered ceiling space for added storage. Thus, the size and scale of the proposed improvements may be viewed as acceptable, particularly as they are distant from other construction and historic buildings such as the AT&SF train station across Commerce Street and the AT&SF right-of-way, and packing house and warehouse industrial buildings across Mission Inn Avenue and the lowered University Avenue.

The proposed development utilizes railroad-related features as functional design elements, which mimic the historic use and look of this SPRR right-of-way area and is a familiar and longtime neighbor in this location. The cutaway corner at Mission Inn Avenue and Commerce Street makes focal a corner freight-inspired cantilever that is clad in corrugated metal siding painted red and signed with bold, block letters. The metal square arch entry to the interior leasing office suggests a railroad signal bridge. The project proposes the use of corrugated metal siding as well as stucco, cementitous plaster, exterior metal systems, and concrete block, which both incorporates and modernizes

functional, historic industrial materials. While brick is not proposed, the color scheme includes deep red and various shades of gray, which invokes brick and metal. Although utilized as part of the project, the SPRR bridge, which will be cleaned of graffiti and repaved for ADA compliance, will remain as visible as it is currently to the motoring public on University Avenue and Commerce Street.

A tree planting scheme will further screen the Ninth Street surface parking above the slope on the south side of University Avenue. A street tree planting scheme would add palms along Mission Inn Avenue and replace palms along Commerce Street, which were once extant and matched those across Commerce Street along the AT&SF right-of-way. The site, building, and architectural design components proposed for this large, nearly vacant Project Area have the potential to visually improve internal cohesion, and strengthen the existing boundary, of the Citrus Thematic Industrial Potential Historic District. **Therefore, as currently proposed, the Mission Lofts project constitutes a less than significant impact to the Citrus Thematic Industrial Potential Historic District.**

Design Quality

The proposed project incorporates design guidance from City planning and development staff and the community, which has been communicated over the course of two years, since April 2013. Design intent and effort toward compatibility with the historic use and character of the area are apparent in proposed plans, and select elements are critical to maintaining potential impacts to less than significant under CEQA:

- Site planning that works with existing buffers (block wall and three modern, non-contributing compatible infill residences) to soften the Mission Inn Avenue transition from Mission Lofts to the residential character of the Seventh Street East Historic District, including the 20-foot open space side setback with specimen tree; two-story height reduction, 11.2" setback to façade, and 5-foot residential patios for Building B; and rear placement of carports and surface parking, which maximizes the distance between the modest-scale historic neighborhood and four-story Building A.
- Design of large, functional, full-height continuous masses that appear segmented or linked by articulated columns of perforated metal balconies, which are reminiscent of railway gangways or couplings between passenger and freight cars.
- Addition of railroad freight shipping containers on Ninth Street as functional design elements, which are aesthetically appropriate, pedestrian friendly, and a familiar historic neighbor to the Ninth Street properties.
- Inclusion of railroad inspired features as functional design elements, which mimic the historic use and look of this SPRR right-of-way area, such as the freight car-inspired corner cantilever at height of main entry, signed with bold, block letters and the metal square arch entry to the interior leasing office, which suggests a railroad signal bridge.
- Selective use of corrugated metal siding as well as stucco, cementitous plaster, exterior metal systems, and concrete block, which both incorporate and modernize functional, historic industrial materials.
- A color palette that includes deep red and various shades of gray, which invoke former historic and industrial materials on the project site and in the Citrus Industrial Thematic Potential Historic District such as brick, clay roof tile, and metal.
- Retention of the SPRR bridge, which will remain as visible as it is currently to the motoring and pedestrian public on University Avenue and Commerce Street.

- Replacement of palms as the street tree along Commerce Street, which were once extant and matched those across Commerce Street along the AT&SF right-of-way.

Recommendations

As potential project impacts have been thoroughly analyzed and, at their greatest, are less than significant under CEQA, **JMRC recommends that no further investigation or treatment under CEQA is required** unless the proposed project is redesigned to include additional construction or areas not subject to this study or unless project activities reveal the presence of cultural materials.

Although as designed, the proposed project does not cause a substantial adverse effect and mitigation is not required in order to reduce impacts to less than significant, JMRC recommends the following measures to further enhance compatibility of design with existing historic resources and surroundings, most notably the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District, and incorporate greater historic character and appeal:

- Utilize smooth-faced rather than split-faced concrete block.
- Retain, protect during construction activity, and reincorporate the one (1) remaining historic palm street tree, located near the Commerce Street bridge, into the new proposed line of palm street trees on Commerce Street, the species and planting distance of which should seek to match those extant historic palms on the westerly side of Commerce Street, and the height of which should be maximized (approximately 20' trunk).
- Replace just one (1) of the lighter gray shades proposed (Body 3, 4, or 5) with a gray/tan color like Frazee KNAPWEED CL 2893M, or similar, to incorporate greater warmth and variation in the color palette and achieve compatibility with not only the Citrus Industrial Thematic Potential Historic District but also the residential quality of the Seventh Street East Historic District.
- Consider the merits and possibility with City staff, and implement if feasible, the repainting of the concrete SPRR bridge abutment in the red and gray colors of the proposed color palette in order to more fully visually associate it with its north-south historic alignment and the northerly and southerly portions of the Project Area rather than with the street and railroad bridges to the west.
- Investigate the onsite reuse potential of the cut pieces of steel railroad rails framing the loading platform or in use as upright posts in the Project Area. If feasible, repurpose as part of a design feature or amenity such a pedestrian entry, the "M" structure at the main corner entry, a rail system for poolside furniture, planter, bike rack, hand rail, or signage. If not feasible, donate for reconditioning or salvage, as practicable.
- Design and display a brief commemorative history and significance of the project site for both public pedestrian and resident viewing in up to three locations, including near the main entry at Mission Inn Avenue and Commerce Street, the resident courtyard, and near the Ninth Street amenities structures.

Archaeological Considerations

Ground-disturbing activities in native soils have the potential to reveal buried deposits. As a result of tribal consultations under AB 52 and the fact that the project site has a significant amount of undocumented fill according to the applicant, the project is not expected to impact any prehistoric resources within native soils. However, the identification of a historic period clay pipe indicates a slight possibility that unanticipated historic period resources may be encountered. Although not

required as a mitigation measure based on the analysis and findings of this report, the City should include a standard condition with procedures in the event that unanticipated historic period resources are encountered:

"Prior to the initiation of ground-disturbing activities, construction personnel should be alerted to the possibility of buried historic-period cultural deposits. In the event that field personnel encounter buried cultural materials, work in the immediate vicinity of the find should cease and a qualified archaeologist should be retained to assess the significance of the find. The qualified archaeologist shall have the authority to stop or divert construction excavation as necessary. If the qualified archaeologist finds that any cultural resources present meet eligibility requirements for listing on the California Register of Historical Resources or the National Register of Historic Places, plans for the treatment, evaluation, and mitigation of impacts to the find will need to be developed. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC."

REFERENCES

American Public University. 2014. Southern Pacific Railroad. Accessed online in January 2014 at: http://www.u-s-history.com/pages/h1817.html.

AREA (American Railway Engineering Association). 1917. Proceedings of the Eighteenth Annual Convention of the American Railway Engineering Association, Volume 18. American Railway Engineering Association: Chicago, IL.

ATTC (Atlantic Track and Turnout Company), no date. *The Source Book: Rail, Trackwork, Accessories*. Atlantic Track and Turnout Company: Bloomfield, New Jersey.

Barry, David Jr. 1965. The J. Harrison Wright Palm Collection. Principes: The Journal of the Palm Society 9:117-120. Housed in the Riverside Metropolitan Museum, Local History File (L.H. RivCity-Bio-Wright Family).

Bean, Lowell John, and Charles R. Smith. 1978. Cahuilla. In *California*, edited by R.F. Heizer, pp.566-570. Handbook of North American Indians, vol. 8, Smithsonian Institute, Washington, D.C.

Bynon, A.A. 1893-4 (reprinted 1992). History and Directory of Riverside County 1893-4. Historical Commission Press, Riverside California.

Census 1890-2001. Census records for the City of Riverside. On file, Development Department, City of Riverside.

Curl, Alan and John Flippen. 1980. Historic Resources Inventory form for P-33-11902, The Eastside District, comprising 33-11903 to 11990.

EDAW. 2001. P33-4495, CA-RIV-4495H: Riverside Upper and Lower Canal. DPR Forms on file with the Eastern Information Center.

Gudis, Catherine. 2012. *Reconnaissance Survey and Context Statement for the Marketplace Specific Plan.*

Gunther, Jane Davies. 1984. *Riverside County, California, Place Names – Their Origins and their Stories*. Rubidoux Printing Company, Riverside, California.

Halsted, Samuel T. 1961, December 2 & 9. Letters to Tom Patterson. Riverside Metropolitan Museum, Tom Patterson Collection, "Wright Family" folder.

Hammond, Stephen. 1995. Historical Property Survey Report for the Widening of Interstate State Route 60 and Interstate Route 215 between Valley Way and University Avenue Riverside County, California. Section 106 review on file with the City of Riverside Planning Department.

Heath, Erle. 1945. *Seventy-Five Years of Progress: An Historical Sketch of the Southern Pacific, 1869-1944.* Southern Pacific Bureau of News: San Francisco, CA. Accessed online at http://www.cprr.org/Museum/SP_1869-1944/.

Hofsommer, Don L. 1986. *The Southern Pacific, 1901-1985.*

Jaeger, Edmund C., and Arthur C. Smith. 1971. *Introduction to the Natural History of Southern California.* California Natural History Guides: 13. Los Angeles: University of California Press.

JMRC. 2003. Arlington Historic Context Statement *in* Tang, Bai "Tom," Jennifer A. Mermilliod, and Casey Tibbet, Historic Resources Survey of the Arlington Neighborhood, City of Riverside, County of Riverside, California. Prepared by CRM Tech for the City of Riverside Planning Department.

JMRC. 2010. National Register Nomination: Grand Boulevard, Corona, Riverside County, California. On file with OHP.

Kenney, M.D. 1999. *Introduction to the Natural History of Southern California.* California Natural History Guides: 13. Los Angeles: University of California Press.

Kroeber, Alfred L. 1925. *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin no. 78. Washington D.C.: Smithsonian Institute. Reprinted in 1976, New York: Dover Pub.

Lawton, Harry W. 1989. "A Brief History of Citrus in Southern California." Pages 6-13 *in*: Klotz, Esther, Harry W. Lawton, and Joan H. Hall (eds.). 1989. *A History of Citrus in the Riverside Area.* Revised edition funded by the Riverside Municipal Museum. Riverside Museum Press, Riverside, California.

Lippincott, Joseph Barlow. 1902a. Water-Supply and Irrigation Papers of the United States Geological Survey No. 59: development and application of water near San Bernardino, Colton, and Riverside, California, Part I. Government Printing Office, Washington.

Lippincott, Joseph Barlow. 1902b. Water-Supply and Irrigation Papers of the United States Geological Survey No. 60: development and application of water near San Bernardino, Colton, and Riverside, California, Part II. Government Printing Office, Washington.

McWilliams, Carey. 1973. *Southern California: An Island on the Land.* Gibbs Smith Publisher, Salt Lake City, Utah.

Morton, D.M. 1972. Geology of the Lakeview-Perris Quadrangles, Riverside County, California, CDMG, Map Sheet 19, Scale 1:24,000.

Morton, D.M. 1977. Surface Deformation in Part of the San Jacinto Valley, Southern California, in *Journal of Research,* U.S. Geological Survey, Vol. 5, No. 1, Jan-Feb. 1977, pp. 117-124.

NETR (Nationwide National Environmental Title Research). 1942-1984. Topographical Maps of Project Area, Riverside, California. Website: http://www.historicaerials.com/, accessed March-April 2015.

NETR (Nationwide National Environmental Title Research). 1948-2012. Aerial Photographs of Project Area, Riverside, California. Website: http://www.historicaerials.com/, accessed March-April 2015.

Orsi, Richard J. 2005. *Sunset Limited*, University of California Press: Berkeley.

Patterson, Tom. 1996. *A Colony for California: Riverside's First Hundred Years*. Second edition. The Museum Press of the Museum Associates, Riverside, California.

Phillips, Francine. 1995. "Riverside Public Utilities 1895-1995: 100 Years of Service." An annual report produced by the Riverside Public Utilities Department.

PCR Services Corporation (PCR). 2001. Cultural Resources Survey Report. Historic Resources Survey, Inventory, and Evaluation: Casa Blanca and Eastside Communities. Prepared for the City of Riverside. On file, City of Riverside, Planning Department.

RDP (*Riverside Daily Press*)

1928 "PE to Operate Own Motor Trucks: will pick shipments up at owner's door and deliver to consignee." 15 October, p. 3.
1929a "Transport Service of P.E. to be Extended." 28 May, p. 5.
1929b "Trucks Save Railroad Money: use of motor trucks makes big savings to eastern road." 21 September, p. 8.
1929c "Change in Express Service." 16 November, p. 5.
1931a "Big Motor Freight Concern had Beginning in Riverside District." 14 January, p. 2
1931b "Would Control Building Work: Contractors' Convention Approves Project for 'Balance Wheel.'" 27 January, p. 1.
1938 "S.P. Company Absorbs Operations of P.M.T." 2 August, p. 6.
1942 "Santa Fe to Build Ramp on Pachappa." 15 July, p. 5.

Reps, John William. 1981. *The Forgotten Frontier: urban planning in the American West before 1890*. University of Missouri Press: Columbia.

Riverside, City of. 1886-1889. Plat Maps.
White's Addition, MB 6/48SB

Riverside, City of. 1902-1915. Various street plans housed with the City of Riverside, Public Works Department.

Riverside, City of. 2003. Cultural Heritage Board Historic Landmark Designation Case - Highgrove Drop and associated portion of the Riverside Upper Canal. Case Number P03-0361. Housed at the City of Riverside Community Development Department, Planning Division.

Riverside, City of. 2009. Eastside Neighborhood Plan (Appendix D of the General Plan 2025).

Riverside, City of. 2010. Cultural Resources Ordinance. Title 20 of the Riverside Municipal Code.

Riverside, City of. 2015.
Building Permits. Website: http://aquarius.riversideca.gov/permits/Browse.aspx?dbid=0
Historic Resources Inventory Database. Website: http://olmsted.riversideca.gov/historic
Vertical Files. Housed in the Community Development Department, Planning Division.

Riverside, County of. 1892-1970. Historic Assessor's Records on microfiche. Housed at the Riverside County Robert J. Fitch Archive.

Riverside Water Company. n.d. Archived records of the Riverside Water Company, including maps, housed at the Riverside Metropolitan Museum.

Sanborn Map (Sanborn Fire Insurance Company). 1895, 1908, 1908, updated 1931, 1908, rev. 1951, 1908, republished 1952. Housed at the Riverside Public Library and also accessed from JMRC professional collection.

SPHTS (Southern Pacific Historical & Technical Society). 2014. "The John L. 'Jack' Whitmeyer Collection. Accessed online at: http://www.snowcrest.net/photobob/collectionindex.html.

Tibbet, Casey (LSA Associates, Inc.). 2011. HRER for the Colton Crossing Rail-to-Rail Grade Separation Project, on file with the City of Colton Development Services Department, Planning Division.

USGS (United States Geological Survey). 1980. *Riverside East, California* 7.5-minute topographic quadrangle map.

Wallace, William J. 1955. A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214-230.

Warren, Claude N. 1986. *Fort Irwin Historic Preservation Plan, Volume 2*: The Research Overview. Coyote Press, Salinas, California.

Wright Brothers, ca. 1899. *Tangent Fruit Brushers. Patented March 8, 1898 and April 11, 1899.* Riverside Metropolitan Museum, Tom Patterson Collection, "Wright Family" folder.

Appendix A
Historic Resources Inventory Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI#
Trinomial
CHR Status Code 6L
Other Listings
Review Code Reviewer Date

*Resource Name or # (Assigned by recorder) Southern Pacific Railroad Loading Platform

P1. Other Identifier:

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Riverside

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Riverside East Date 1980 T 2S ; R 5W ; ¼ of ¼ of Sec 23,24 ; S.B. B.M.

c. Address City Riverside Zip Code

d. UTM: (give more than one for large and/or linear resources) Zone ; mE/ mN/

e. Other Locational Data: (e.g., parcel#, directions to resource, elevation, etc. as appropriate) APN: 211-121-032

Southeasterly corner of Mission Inn Avenue and Commerce Street

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This reinforced concrete loading platform (ca. 1930-1947) is located at the southeasterly corner of Mission Inn Avenue and Commerce Street on Riverside's Eastside. Rectangular in shape, the dock is approximately 138 feet long, 18 feet wide, and 4 feet high and is framed and trimmed by cut and welded steel railroad rails likely recycled from the site. These rails are marked with several different labels, including "T.C.I. Co. 901 OPEN HEARTH 608 D53049," "BSCO MARYLAND O.H. IIIIIIII 1926," and "COLORADO S.E.C. 90 ARA-A IIIIII 1924 O.H,"." The long sides are finished with a thin layer of cement plaster, and the dock is accessed by the tapered north end. The south end shows the imprint of adjacent construction (freight station and platform to south demolished ca. 1967). The concrete is in poor condition, a large crack crosses the width of the dock, which may indicate two-phase construction, and the base of a creosote utility pole is embedded in the southerly portion. The otherwise vacant lot is partially covered with annual grasses and surrounded with chain link fencing.

P3b. Resource Attributes: (List attributes and codes) HP11 Engineering Structure – Railroad loading platform

P4. Resources Present: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (view, date, Acession #) View to southwest
Photo taken on March 16, 2015

*P6. Date Constructed / Age and Sources:
☒ Historic ☐ Prehistoric ☐ Both
ca. 1930-1947 (historic photos & aerials, rail markings)

*P7. Owner and Address:
Mission Lofts LLC
1201 Dove Street, Suite 250
Newport Beach, CA 92660

*P8. Recorded by: (Name, org., and addr.)
Jennifer Mermilliod
JM Research & Consulting (JMRC)
5110 Magnolia Avenue
Riverside, CA 92506

*P9. Date Recorded: March 16, 2015

*P10. Survey Type
Intensive-Level for CEQA Compliance

*P11 – Report Citation (Cite survey report and other sources, or enter "none.") Mermilliod, Jennifer (JMRC). 2015. Cultural Resources Survey: Mission Lofts (P14-0045; -046; -047; -048; -049), Riverside, Riverside County, CA.

Attachments: ☐ None ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other Other (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 8

*CHR Satus Code 6L

*Resource Name or # (Assigned by recorder) Southern Pacific Railroad Loading Plaform

B1. Historic Name:

B2. Common Name:

B3. Original Use: Loading platform

B4. Present Use: Functionally obsolete/abandoned

*B5. Architectural Style: N/A

*B6. Construction History: (Construction date, alterations and date of alterations)

ca. 1967 - original construction

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: Original Location:

*B8. Related Features:

Railroad bridge

B9a. Architect: None

B9b. Builder: Southern Pacific Railroad

*B10. Significance: Theme Settlement & Railroad Development Area City of Riverside/Eastside

Period of Significance 1896-1957 Property Type Loading Platform Applicable Criteria N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

See Continuation Sheet.

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References:

See Ccontinuation Sheet.

B13. Remarks:

*B14. Evaluator: Jennifer Mermilliod

*Date of Evaluation: April 30, 2015

***B10. Significance:**

Located just beyond the eastern edge of the original Mile Square townsite and current downtown Riverside, the SPRR loading platform is situated on parcel 211-121-032 on the originally consolidated lots 1, 2, 25-35 owned by the Southern Pacific Railroad Company (1896) within Block 10 of White's Addition, on the southeast corner of Commerce Street (formerly Pachappa Avenue) and Mission Inn Avenue (formerly Seventh Street) in an area characterized by late-19th century railroad and citrus industrial development within the western edge of Riverside's Eastside neighborhood.

Founded in 1870 by John W. North's Southern California Colony Association, the Mile Square was carved from a portion of Juan Bandini's 1838 Jurupa Rancho. By the end of 1870, civil engineers Goldsworthy and Higbie had platted the holdings of the Southern California Colony Association on an orthogonal plan had begun construction on Riverside's irrigation system to serve the Mile Square, soon known as the Upper Canal, which tapped the Santa Ana River as a water source and "marked the beginning of modern water distribution techniques in the region" (Phillips 1995:3). By 1875, the tax on the river supply was already becoming insufficient for the growing community and did not serve Arlington to the south. In that year, Evans and Sayward began construction of another canal, known as the Lower Canal, which began diversion downriver from and ran parallel to the Upper Canal before traversing the Mile Square on its way to Arlington. Both canals soon became known collectively as the Riverside Canal (CA-RIV-4495H),

Amid a land boom that swept through southern California during the 1870s and 1880s, the town of Riverside incorporated in 1883 to include Arlington and the Government Tract to the south as well as lands to the east, which were soon eyed for town lot development beyond the Mile Square. The much enlarged, budding City of Riverside grew rapidly, launched in large part by the local success of the navel orange through canal irrigation and the introduction of rail transportation into the region and the City (McWilliams 1973: 113-122). Tremendous early growth inspired by the proximity of the railroad and the development of canal-irrigated citrus led to early expansion into the Eastside. The construction of the 20-mile Gage Canal (1882-87) brought water to the eastern Riverside plain, a 2.25 square mile area that is now roughly bounded by Third Street on the north, the Tequesquite Arroyo and Victoria Club golf course on the south, State Route 91 on the west, and Chicago Avenue on the east (City of Riverside 2009:16). With the promise of water assured, new tracts were surveyed and officially recorded on the Eastside, readying these lands for real estate speculation (JMRC 2003). The irrigation of the Eastside made possible the first town-lot expansions of the Mile Square, beginning with White's Addition (1886) and followed quickly by other subdivisions, including Cox's Addition (1886), Castleman's Addition (1886), Garfield Place (1887), Madison Square (1887), Hall's Additions (1888-1890), and the H.P. Kyes Tract (1889) (City of Riverside 1886-1889; PCR 2001:17). These tracks carved tree-lined streets from hundreds of acres of former federal land.

White's Addition, a triangular subdivision from Pachappa Avenue, the original western boundary of the Eastside (now Commerce Street), between Third and Tenth Streets recorded by Albert S. White in May 1886, launched the subdivision of the area to the east (City of Riverside 1886-1889:MB 6/48SB). This oldest part of the Eastside neighborhood was purchased from the land holdings of John W. North by Albert S. White, a prominent local horticulturist, county supervisor, and city trustee (Bynon 1893-4). With the new subdivision, Eighth Street (now University Avenue) was given the identifier "East" and address numbering was restarted at "100." White's Addition continued the orthogonal alignment of streets begun in the Mile Square, which were oriented on a northeast-southwest axis along the Jurupa Rancho boundary line. Water was piped from the Gage Canal to every lot in the tract, and the streets were improved with sidewalks and planted with street trees in parkway strips.

Though often overshadowed by the pivotal role that canal irrigation played in the early prosperity and enduring stability of Riverside, the success of citriculture, local tourism, and settlement through the introduction of rail transportation into the region and the City cannot be overstated. The railroad more than threaded the two original colony settlements and the Government Tract together; it offered a connection to the southern California region and far beyond and allowed Riverside to quickly lead the nation's citrus industry and participate in the real estate boom of the late 1880s that was felt throughout southern California.

With the decision to construct a transcontinental railroad in the 1860s, a new era in the settlement of the west began that was characterized by the strategic location of townsites based on the actual or anticipated path of the western rail network. Its completion in 1869, through the joining of the Central Pacific from the west with the Union Pacific from the east at Promontory, Utah, brought tourists, boomers and boosters flowing into California at an estimated rate of 70,000 per year, a stream that was soon diffused into the southern region (McWilliams 1973:115). Railroad-related town planning and promotion in the greater Los Angeles area began in earnest with the connection of Los Angeles to San Francisco in 1876 (Reps 1981:89, 95), and the arrival of the Santa Fe line into California in 1886 rejuvenated earlier expectations and marked the beginning of a real estate explosion. Competition between the Santa Fe and Southern Pacific railroads, which shortly reduced the passenger rate from Missouri Valley to southern California to $1, facilitated unprecedented migration from the East and Midwest. The Santa Fe delivered several passenger trains a day, and the Southern Pacific reported transporting 120,000 people to Los Angeles in 1887. Among serious investors, veteran townsite "sharks" of the Midwest descended upon southern California in what became a short-lived frenzy of speculation. At the height of the railroad town boom between 1887 and 1889, more than 60 new towns totaling 79,350 acres were laid out in southern California (McWilliams 1973: 113-122). Thirteen of these were platted along the Santa Fe line in the three short months of spring 1887, and by the end of the year, 25 cities and towns had sprung up in the 36 miles between Los Angeles and San Bernardino County. Along the line of the Southern Pacific, eight more had been surveyed, and between the two rights-of-way, three other towns were platted (Reps 1981:100,101). Most of these

towns were more populated by empty subdivided lots than by residents and vanished when the boom collapsed by 1889, but in general, the 1880s contributed a considerable increase in wealth and approximately 137,000 tourists-turned-residents to the region (JMRC 2010).

By the time Riverside incorporated as a city, the first rail line had just arrived in the young town, the California Southern, part of the AT&SF system after 1884, with a branch line through Riverside and a station on the eastern edge of the Mile Square (Hammond 1995:5 and Patterson 1996:161, 184), and in 1888, the Southern California Motor Road (1886) extended their San-Bernardino-Colton line into Riverside, which was soon purchased by the competitive Southern Pacific Company (SPRR; (Patterson 1996:167). The line came in from the northeast and branched in two different directions – south to run parallel with the AT&SF line along the citrus packinghouses on Pachappa Avenue (Commerce Street) and west across Main Street (Sanborn Map 1895, 1908, 1931).

The Southern Pacific had been founded in 1865 by Timothy Phelps and a group of businessmen (American Public University 2014), but was purchased by the Central Pacific in 1868. The two railroads merged in 1870, and while legally known as the Pacific Improvement Company (Riverside County 1892-1899), the rail giant retained the Southern Pacific name and essential business plan, and soon spread tracks across Southern California and the country. Unlike other railroads, the company employed increasingly elaborate, settlement-oriented marketing and community investment, like their involvement in Riverside's local citriculture, which masked a focused, aggressive strategy. From simple flyers to detailed brochures and maps, the SP encouraged the development of small family farms on its lands, promoted settlement and development, and contributed to the establishment of local hotels, hospitals, churches, schools, parks, and more, thereby playing a comprehensive role in the settlement and development of numerous communities, like Riverside, along its routes (Orsi 2005:109, 111; Tibbet 2011:19).

The alignment of this southern branch of the SPRR right-of-way became a critical center of local freight shipping in the late-19th century. In 1896, the company constructed a freight station edged by a 4' platform (demolished 1967) and main line track, and by 1908, the line had increased to five sets of tracks (most removed in 1960, final removal ca. 2000), from which it served the varied shipping needs of the young town, particularly the perishable goods and other industrial exports from the nearby citrus packing houses and other industrial plants and warehouses within the corridor that had emerged on this western edge of the Eastside.

The development of transcontinental and local rail systems served to greatly advance Riverside's agro-economy, and by 1895, Riverside was a thriving, irrigated cooperative that specialized in citriculture. Development in the Mile Square had begun immediately, concurrently, with the support of canal-irrigated agriculture, which soon became the supporting economy of young Riverside, supporting the growth of vegetables, melons, raisin grapes, berries, walnuts, honey, beans, grain, and hay, and livestock ranches and dairy farms were also found in Riverside. While agriculture in general supported Riverside, no crop was as pursued or as successful as citrus. Few in southern California had been engaged in the production of citrus before the late 1870s when "Orange Fever" erupted due to the introduction of the navel orange and the potential for large profits, and new communities from Pasadena to Redlands were founded on orange agriculture. Before 1862, there had been only about 25,000 orange trees in the state, but by 1882, there were approximately 500,000 orange trees in California – half of them growing in Riverside (Lawton 1989:9).

In addition to success in the growth of citrus, early Riversiders made great and innovative advances in all areas associated with getting their product to market, including picking, handling, packing, shipping, and even technological and organizational achievements. Although the Eastside was developed for its residential potential, the early foothold of the railroads prompted citrus industrial development here, and a corridor along its western edge coalesced to become Riverside's leading packing and shipping center. With the Southern Pacific a presence on the Pachappa Avenue edge of Block 10 of White's Addition and other rail lines to the west, packing houses, storage warehouses, feed mills, and more stretched out to the north and south. At corner of Eighth Street and Pachappa Avenue, R.B. Devine, one of the largest packers and shippers in Riverside, maintained a commission and storage warehouse as well as a raisin and orange packing house, which was used as a feed mill and for wood and coal storage after the turn of the century. Other vacant warehouses filled these lots facing Pachappa Avenue, and at the corner of Ninth Street, was W.V. Wiley's Wood, Hay, and Coal Yard as well as a warehouse for baled hay and guano, which became an orange crate box nailing warehouse owned by H.K. Small and Sons (Sanborn Map 1895:8, 1908:18, 30). The Riverside Heights Orange Growers Association Packing House and the Blue Goose Growers Fruit Packing House with box nailing and storage just south of Ninth Street are no longer extant.

True to the Southern Pacific's tendency to invest in local development, the SP participated deeply in the local citrus market. A small number of privately owned cars whisked the relatively small tonnage of perishables to eastern markets before the Southern Pacific and Union Pacific railroads jointly organized the Pacific Fruit Express Company (PFE) in 1906 to provide refrigerator cars for the swift movement of fresh fruits and vegetables. The PFE began operations with 6,000 refrigerator cars and by 1944 became the largest refrigerator car line in the world, offering over 36,000 cold cars across United States and Mexico. In addition, unlike other citrus-related or other industrial developments in the corridor, the Independent Fruit Company was owned by the SP. The Independent Fruit Company Packing House (1898) once faced Mission Inn Avenue on the other side of the railroad tracks from Lot 4 of White's Addition (Riverside County 1896-1899; Sanborn Map 1908:18).

The extant, ramped loading platform (ca. 1930-1947), which is now a free-standing structure, was added to the original freight station (demolished 1967) after the development and heyday of the local rail-dependent citrus industrial economy to facilitate automobile-related loading and unloading either as part of the SP's store-door motor truck service era in the depressed 1930s or to accommodate longer trains and

the motor transfer of greater quantities of military-related freight during the material-shortage war years of the 1940s, which also saw a nationwide effort to recycle and repurpose rail.

The challenging lean years of the depressed 1930s had prompted comprehensive strategic and operational change that ultimately allowed the SP to pioneer a new era in modernized equipment, discount and economy services as well as enhancements such as the introduction of air-conditioning to the travelling public, and creative ways of meeting competition (Heath 1945). It was during the 1930s that the SP firmly established a motor truck "store-door" service, which met the competition of highway truckers by employing motor trucks in conjunction with freight trains in the delivery of less than a carload of freight from shipper to receiver. A contract local drayman picked up the freight packages from the shippers, took them to the freight station for train haul to a destination station where the freight was retrieved by another local drayman for delivery to the receiver. Begun as an experimental service in 1929 with the SP's electric line subsidiary, the Pacific Electric, between Los Angeles and twenty stations in southern California, the immediate popularity of the store-door service prompted its expansion first over Pacific Electric lines and then into further territory on SP lines by February 1930. The service was formalized with the establishment of the Pacific Motor Transport (PMT) Company, based out of San Francisco by the following April, and soon spread across California and Oregon (Heath 1945). The Riverside freight station became an early store-door destination station, with the PMT providing local truck delivery, and nearby Arlington was soon added to the areas served in the vicinity (RDP 1929a).

The service expanded rapidly, soon offering overnight delivery to metropolitan distributing centers to reach the most outlying towns and keep fully-loaded freight trains moving swiftly past smaller towns. Service increased more than 43% and spread to most California communities by 1932 and was also initiated on other SP lines in Texas and Louisiana. Finally, the SP introduced the "Overnight," the first exclusive merchandise train operating on a fast passenger train schedule, which made its debut on October 22, 1935 in a dusk-to-dawn run over the 470-miles between San Francisco and Los Angeles, which led to similar speedy merchandise trains that would later provide modernized overnight freight deliveries to principal SP metropolitan distributing centers. "Break-bulk" points were established at strategically located stations for the swift transfer of freight to line-haul trucks, which then delivered to regular stations for pick up and local store-door deliveries. Freight was loaded and unloaded with cranes and forklifts by the pallet or by the item into and out of general purpose boxcars onto platforms or directly into trucks. By the end of 1939, over 7,745 highway miles were coordinated with rail freight service and reached 12,491 miles by the end of 1944 (Heath 1945).

The outbreak of war in Europe in September 1939 and the looming threat of American involvement, the SP shifted focus to meet the all-encompassing transportation needs of a nation at war again, which were particularly acute on the west coast where 290 military and naval establishments were located, compared with only 15 before Pearl Harbor, as well as about half of the nation's wartime aircraft and cargo ships were produced. In a massive and unprecedented home front transportation of America's men and materials of war and industry, railroad companies across the country, combined, also handled approximately 97% of all organized troop movements and about 90% of all Army and Navy freight and express, moving ever-mounting volumes of traffic through a variety of established and newly formed railroad and governmental organizations. These defense activities poured a ceaseless flow of traffic into plants and ports, especially the Army's busy Ports of Embarkation in Los Angeles and San Francisco Bay, which sent major support to the entire Pacific offensive (Heath 1945).

Increased defense era earnings were funneled back into improvements, funding terminal yard and roundhouse expansions, facilities improvements, main line siding extensions, trackage to serve new military and industrial establishments, about 650 miles of new heavier rail, improvements to shops, communication lines and other facilities throughout the system, and an extensive repair and reconditioning program for every piece of serviceable equipment. The increased length of freight trains required the extension of yard trackage and numerous main line sidings at several terminals. In addition, the SP took a leading part in the national wartime scrap drive, collecting scrap for reuse in the war effort and reclaiming millions of pounds of second hand rail and like tonnage of other track materials for reuse in track layouts at military and naval establishments (Heath 1945).

The repurpose of old rail as framing members of the loading platform is in keeping with both the depressed 1930s and the material shortage war years of the 1940s which saw little new manufacture and creative reuse of existing resources. The cut and welded pieces of rail were likely removed from the site or nearby and exhibit many portions of markings and at least three complete, readable labels which provide information on the steel mill, rail type, and location and date they were rolled. "T.C.I. Co. 901 OPEN HEARTH 608 D53049" refers to the Tennessee Coal, Iron, and Railroad Company (TCI) Ensley Steel Works, which operated from 1888-1976. TCI became a part of U.S. Steel, the largest steel producer in the United States, in 1907 and thus associated with J.P. Morgan and Andrew Carnegie. TCI was the first to roll rail using the open hearth furnace method, and is likely the oldest of the rail framing members around the loading platform, although it is not date stamped. "COLORADO S.E.C. 90 ARA-A IIIII 1924 O.H," refers to the Colorado Fuel and Iron Company, a large steel concern organized by several western railroads in Pueblo, Colorado that was largely owned and controlled by John D. Rockefeller and the heirs of Jay Gould after 1903. This rail was manufactured, as stamped, in June 1924 using the open hearth method. "BSCO MARYLAND O.H. IIIIIII 1926" refers to the Bethlehem Steel Company, the second largest steel producer in the United States, which opened in 1886 and bankrupted in 2007. This rail was manufactured, as stamped, at their secondary mill in Sparrows Point Maryland in July 1926 using the open hearth method. An important year for rail manufacture is 1937, when the controlled cooling (CC) method was introduced and became a universal standard almost immediately (ATTC no date). No marked CC rails were identified among the framing members, but may exist.

Riverside's economic landscape slowly changed slowly throughout the first half of the 20th century, accelerating rapidly in the postwar period and second half decades. A devastating, four-night freeze in 1913 began to shift the local economic position toward one of diversification in the early-20th century, and population increases and the resultant suburban development between the world wars, which both increased the number of local workers and decreased vast tracts of agricultural acreage, effectively altered the view of citriculture as a panoramic staple, both visually and perceptually. While grove and agricultural lands, particularly to the south, were converted to tree-lined streets of single-family dwellings, scattered lots and strips of property on the edges of the original townsite were the target of infill residential construction, and vacant lots, particularly along the arterials in the downtown core, were eyed for commercial development.

While economic interests became broader, commercial and industrial enterprise seemed to consolidate geographically as some areas became increasingly associated with these uses, and emerging strips of concentrated commercial zones appeared such as Magnolia Center to the south, Eighth Street (University Avenue) on the Eastside, the Magnolia Avenue/Van Buren Business District, and the expanding Main Street Industrial Corridor. This geographic concentration of commercial enterprise in Riverside was linear as it was associated with major arterials or highways and generally focused first on the streetcar, and later motoring, patron in addition to the neighborhood pedestrian, and eventually use shifted to mainly auto- or travel-related uses like auto courts, motels, service stations or related auto services, and roadside eateries. The suburbanization of areas more distant from downtowns and streetcar lines was made possible by a nation on the move. With nine million cars on American roads by 1920, attention was given to the improvement of transportation infrastructure. The use of automobiles by working class Americans rose steadily throughout the first half of the 20th century. Not just an important local arterial, Eighth Street became part of the California highway system in the 1930s and was signed Highway 19. By the mid-20th century, while many buildings remained in the industrial corridor on the western edge of the Eastside, fewer were dedicated to citrus-packing and shipping or had become vacant, like the SP's Independent Fruit Company's Packing House (Sanborn Map 1952:18, 30).

The close of WWII marked the beginning of lasting change on many levels. Advances in land use and planning coupled with the rising importance of the automobile forever altered the urban landscape. In Riverside, the economic shift and population growth reflected regional trends. Characteristically, post-war development vied for proximity to growing suburban commercial centers. By the early 1950s, Eighth Street functioned as a vital regional transportation link. Increased traffic along the corridor prompted the conversion from residential to roadside commercial uses that catered to the needs of travelers and also served the residents of the neighborhoods to the north and south. Subdivision reached record heights as did traffic congestion, and the completion of the University of California, Riverside in the mid-1950s caused a dramatic increase in traffic patterns on Eighth Street (renamed University Avenue in 1966) and the Eastside. These challenges prompted the professionalization of city planning and the building of the Riverside Freeway (1957) and the Pomona Freeway (1960-63) through Riverside, which supplanted the local corridors as regional arterials, and forever altered a wide swath of adjacent streets and lots. The loss of direct contact with motorists began to be evinced on the local economy, and the financial decline continued through the 1970s, and '80s. The City's agricultural economy slowly gave way to the rising force of industry as well-known industrial giants, such as Rohr Corporation, Bourns Incorporated, and the Lily-Tulip Cup Corporation arrived in Riverside, and the increasing diversification of Riverside's economic livelihood saw the destruction of much of Riverside's once vast citrus and agricultural acreage.

Thus, it was the construction of the Riverside Freeway, State Route 91 (1957) on the eastern edge of downtown that prompted the grade separation of University Avenue (1957-1960), the subsequent construction of numerous bridges (ca. 1960) to accommodate the through path of Commerce Street, Santa Fe Avenue, the Riverside Canal, and the Union Pacific, AT&SF, and Southern Pacific tracks across the arterial street, and the demolition of the SP freight station (1967). The construction of the SPRR bridge, which was completed in 1960, prompted the removal of most of the track, including the original main line. The last lines were removed ca. 2000, and a curved vehicular asphalt drive was constructed from Commerce Street to the abandoned railroad bridge. State Route 91 was widened in 2008, further segregating the Eastside and the citrus-rail-industrial corridor on its western edge from the downtown core. The retention of the concrete loading platform as a freestanding structure after the demolition of most of the track in 1960 and the former freight house in 1967 supported the continued, but reduced, movement of rail freight in a forever changed local industrial economy and the diminished role of the Southern Pacific and other railroad companies, which began a slow decline in the face of the rising dominance of automobile and air transportation for both passengers and freight in the latter half of the 20th century.

The loading platform (ca. 1930-1947) is associated with the Southern Pacific Railroad Company, a giant in the transcontinental and local rail era of western town settlement that played an active role in the settlement and development of Riverside and the early success of its citrus driven agro-economy. As a later remnant addition to the freight station (demolished 1967) and component of a much larger, more extensive, and no longer extant SPRR property, the loading platform lacks the level of architectural distinction, strength of historic association, and sufficient integrity to merit individual listing in the NR, CR, or for local designation. While currently within the boundaries of the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District, the loading platform does not fall within the period of significance nor does it contribute to the significance of these districts and should be considered a non-contributor. Therefore, JMRC recommends that the SPRR loading platform and SPRR bridge are each assigned a CHR Status Code of ***6L – Determined ineligible for local listing or designation through local government review process; may warrant special consideration in local planning***.

***B12. References:**

American Public University. 2014. Southern Pacific Railroad. Accessed online: http://www.u-s-history.com/pages/h1817.html.

ATTC (Atlantic Track and Turnout Company), no date. *The Source Book: Rail, Trackwork, Accessories*. Atlantic Track and Turnout Company: Bloomfield, New Jersey.

Bynon, A.A. 1893-4. History and Directory of Riverside County 1893-4. Historical Commission Press, Riverside California.

Gudis, Catherine. 2012. Reconnaissance Survey and Context Statement for the Marketplace Specific Plan.

Hammond, Stephen. 1995. HPSR - Widening of Interstate State Route 60 and Interstate Route 215 between Valley Way and University Avenue Riverside County, California.

Heath, Erle. 1945. *Seventy-Five Years of Progress: An Historical Sketch of the Southern Pacific, 1869-1944*. Southern Pacific Bureau of News: San Francisco, CA. Accessed online at http://www.cprr.org/Museum/SP_1869-1944/.

Hofsommer, Don L. 1986. *The Southern Pacific, 1901-1985.*

JMRC. 2003. Arlington Historic Context Statement *in* Tang et al, Historic Resources Survey of the Arlington Neighborhood.

JMRC. 2010. National Register Nomination: Grand Boulevard, Corona, Riverside County, California. On file with OHP.

Lawton, Harry W. 1989. "A Brief History of Citrus in Southern California." Pages 6-13 *in*: Klotz, Esther, Harry W. Lawton, and Joan H. Hall (eds.). 1989. *A History of Citrus in the Riverside Area*. Riverside, California: Riverside Museum Press.

McWilliams, Carey. 1973. *Southern California: An Island on the Land*. Gibbs Smith Publisher, Salt Lake City, Utah.

NETR (Nationwide National Environmental Title Research). Project Area Topographical Maps (1942-1984) and Aerial Photographs (1948-2012), accessed online at: http://www.historicaerials.com/.

Orsi, Richard J. 2005. *Sunset Limited*, University of California Press: Berkeley.

Patterson, Tom. 1996. *A Colony for California: Riverside's First Hundred Years*. Second edition. The Museum Press of the Museum Associates, Riverside, California.

Phillips, Francine. 1995. "Riverside Public Utilities 1895-1995: 100 Years of Service." An annual report produced by the Riverside Public Utilities Department.

PCR Services Corporation (PCR). 2001. Historic Resources Survey, Inventory, & Evaluation: Casa Blanca and the Eastside.

RDP (*Riverside Daily Press*)

1929 "Transport Service of P.E. to be Extended." 28 May, p. 5.

1938 "S.P. Company Absorbs Operations of P.M.T." 2 August, p. 6.

1942 "Santa Fe to Build Ramp on Pachappa." 15 July, p. 5.

Reps, John William. 1981. *The Forgotten Frontier: urban planning in the American West before 1890*. University of Missouri Press: Columbia.

Riverside, City of.

1886-1889. White's Addition Plat Map MB 6/48SB

2009. Eastside Neighborhood Plan (Appendix D of the General Plan 2025)

2015. Historic Resources Inventory Database (http://olmsted.riversideca.gov/historic)

2015. Vertical Files, Community Development Department, Planning Division.

Riverside, County of. 1892-1970. Assessor's Records on microfiche at the Riverside County Robert J. Fitch Archive.

Sanborn Maps. 1895, 1908, 1908, updated 1931, 1908, rev. 1951, 1908, republished 1952.

SPHTS (Southern Pacific Historical & Technical Society). 2014. "The John L. 'Jack' Whitmeyer Collection. Accessed online at: http://www.snowcrest.net/photobob/collectionindex.html.

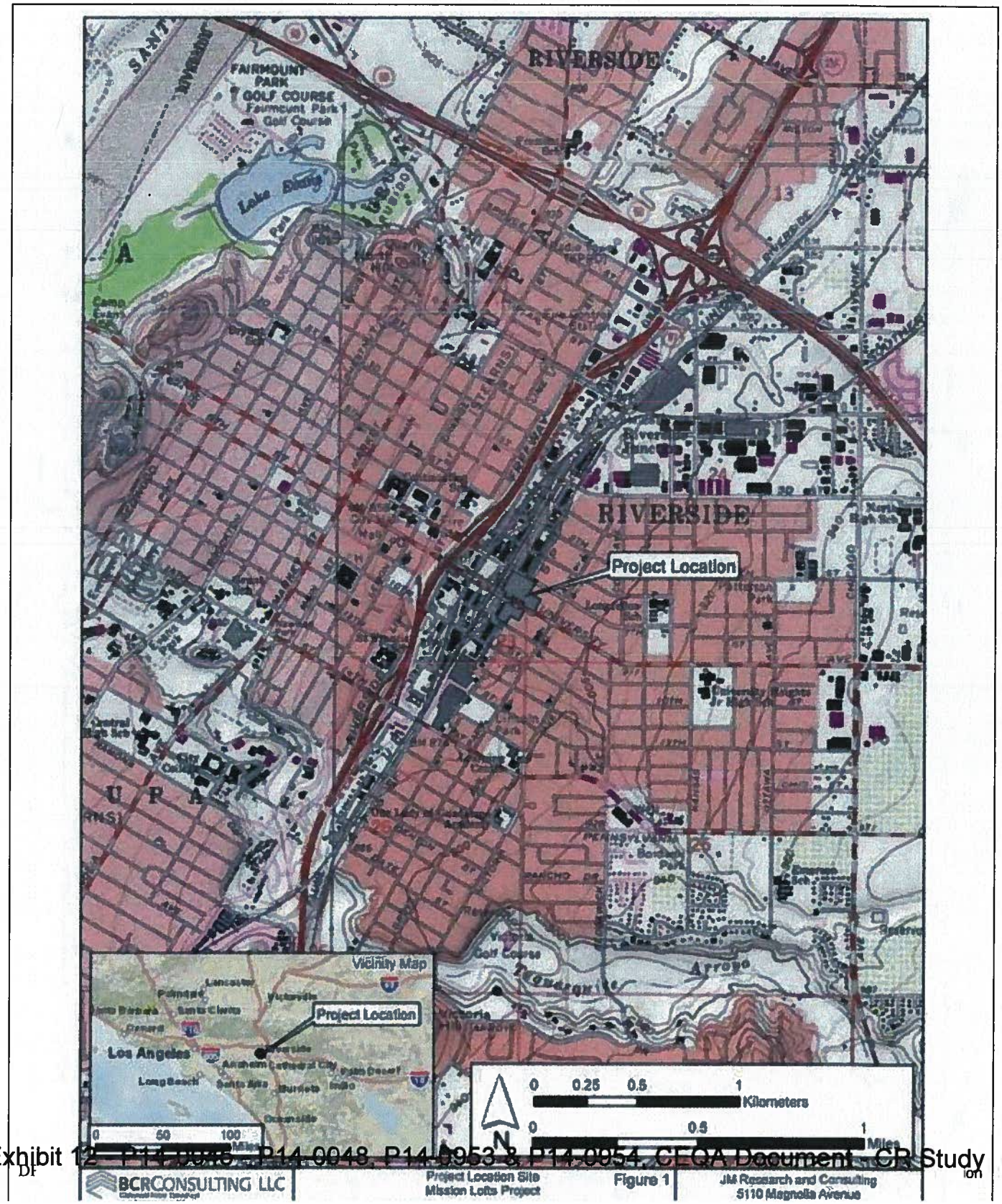
Tibbet, Casey (LSA Associates, Inc.). 2011. HRER for the Colton Crossing Rail-to-Rail Grade Separation Project.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI# _____
Trinomial _____

Page 8 of 8 *Resource Name or # (Assigned by recorder) Southern Pacific Railroad Loading Platform

* Recorded by Jennifer Mermilliod *Date March 16, 2015 ☒ Continuation ☐ Update



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI#
Trinomial
CHR Status Code 6L
Other Listings
Review Code Reviewer Date

*Resource Name or # (Assigned by recorder) Southern Pacific Railroad Bridge 56C0059

P1. Other Identifier: "Freight House Road over University Avenue

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Riverside

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Riverside East Date 1980 T 2S ; R 5W ; ___ ¼ of ___ ¼ of Sec 23,24 ; S.B. B.M.

c. Address ___ City Riverside Zip Code ___

d. UTM: (give more than one for large and/or linear resources) Zone ___ ; ___ mE/ ___ mN/

e. Other Locational Data: (e.g., parcel#, directions to resource, elevation, etc. as appropriate) APN: ___

Approximately 0.25 mile east of Rte. 91 Fwy , east of Commerce Street

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This functionally obsolete Southern Pacific Railroad Bridge 56C0059 (1960) is located approximately 0.25 mile east of Route 91 Freeway, easterly of Commerce Street and extends 65 feet across and 15.1 feet above University Avenue, a four-lane, below-grade arterial street on Riverside's Eastside. The single-span, steel girder-and-floorbeam system is 70.9 feet in total length with a 19.4-foot-wide steel plate deck and bituminous surface supported by conventional precast concrete, seat-type tall abutments and railed with a low, rectangular metal barrier and taller, wrought iron fencing. Signed "SOUTHERN PACIFIC" in black letters on the east side only, the bridge once carried a single mainline freight track, which has been removed and the deck covered with asphalt (ca. 2000). The abandoned bridge is now accessed for transient pedestrian use and is in good condition.

P3b. Resource Attributes: (List attributes and codes) HP19 Railroad bridge

P4. Resources Present: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (view, date, Acession #) View to west
Photo taken on March 16, 2015

*P6. Date Constructed / Age and Sources:
☒ Historic ☐ Prehistoric ☐ Both
1960

*P7. Owner and Address:
City of Riverside
3900 Main Sreet
Riverside, CA 92522

*P8. Recorded by: (Name, org., and addr.)
Jennifer Mermilliod
JM Research & Consulting (JMRC)
5110 Magnolia Avenue
Riverside, CA 92506

*P9. Date Recorded: March 16, 2015

*P10. Survey Type
Intensive-Level for CEQA Compliance

*P11 – Report Citation (Cite survey report and other sources, or enter "none.") Mermilliod, Jennifer (JMRC). 2015. Cultural Resources Survey: Mission Lofts (P14-0045; -046; -047; -048; -049), Riverside, Riverside County, CA.

Attachments: ☐ None ☒ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other Other (List) ___

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 8

*CHR Satus Code 6L

*Resource Name or # (Assigned by recorder) Southern Pacific Railroad Bridge 56C0059

B1. Historic Name:

B2. Common Name:

B3. Original Use: Railroad freight bridge

B4. Present Use: Functionally obsolete/abandoned

*B5. Architectural Style: N/A

*B6. Construction History: (Construction date, alterations and date of alterations)

1960 - original construction; multiple rail lines removed, one crossing bridge
ca. 2000 – last rail line removed, bridge deck covered with asphalt and incorporated into vehicular pavement alignment to northwest

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: Original Location:

*B8. Related Features:

loading platform

B9a. Architect: unknown

B9b. Builder: Southern Pacific Company

*B10. Significance: Theme Settlement & Railroad Development Area City of Riverside/Eastside

Period of Significance 1896-1957 Property Type Bridge Applicable Criteria N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

See Continuation Sheet.

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References:

See Ccontinuation Sheet.

B13. Remarks:

*B14. Evaluator: Jennifer Mermilliod

*Date of Evaluation: April 30, 2015

***B10. Significance:**

Located just beyond the eastern edge of the original Mile Square townsite and current downtown Riverside, the SPRR bridge spans University Avenue (formerly Eighth Street) between Block 10 and 12 of White's Addition, easterly of Commerce Street (formerly Pachappa Avenue) in an area characterized by late-19th century railroad and citrus industrial development within the western edge of Riverside's Eastside neighborhood.

Founded in 1870 by John W. North's Southern California Colony Association, the Mile Square was carved from a portion of Juan Bandini's 1838 Jurupa Rancho. By the end of 1870, civil engineers Goldsworthy and Higbie had platted the holdings of the Southern California Colony Association on an orthogonal plan had begun construction on Riverside's irrigation system to serve the Mile Square, soon known as the Upper Canal, which tapped the Santa Ana River as a water source and "marked the beginning of modern water distribution techniques in the region" (Phillips 1995:3). By 1875, the tax on the river supply was already becoming insufficient for the growing community and did not serve Arlington to the south. In that year, Evans and Sayward began construction of another canal, known as the Lower Canal, which began diversion downriver from and ran parallel to the Upper Canal before traversing the Mile Square on its way to Arlington. Both canals soon became known collectively as the Riverside Canal (CA-RIV-4495H),

Amid a land boom that swept through southern California during the 1870s and 1880s, the town of Riverside incorporated in 1883 to include Arlington and the Government Tract to the south as well as lands to the east, which were soon eyed for town lot development beyond the Mile Square. The much enlarged, budding City of Riverside grew rapidly, launched in large part by the local success of the navel orange through canal irrigation and the introduction of rail transportation into the region and the City (McWilliams 1973: 113-122). Tremendous early growth inspired by the proximity of the railroad and the development of canal-irrigated citrus led to early expansion into the Eastside. The construction of the 20-mile Gage Canal (1882-87) brought water to the eastern Riverside plain, a 2.25 square mile area that is now roughly bounded by Third Street on the north, the Tequesquite Arroyo and Victoria Club golf course on the south, State Route 91 on the west, and Chicago Avenue on the east (City of Riverside 2009:16). With the promise of water assured, new tracts were surveyed and officially recorded on the Eastside, readying these lands for real estate speculation (JMRC 2003). The irrigation of the Eastside made possible the first town-lot expansions of the Mile Square, beginning with White's Addition (1886) and followed quickly by other subdivisions, including Cox's Addition (1886), Castleman's Addition (1886), Garfield Place (1887), Madison Square (1887), Hall's Additions (1888-1890), and the H.P. Kyes Tract (1889) (City of Riverside 1886-1889; PCR 2001:17). These tracks carved tree-lined streets from hundreds of acres of former federal land.

White's Addition, a triangular subdivision from Pachappa Avenue, the original western boundary of the Eastside (now Commerce Street), between Third and Tenth Streets recorded by Albert S. White in May 1886, launched the subdivision of the area to the east (City of Riverside 1886-1889:MB 6/48SB). This oldest part of the Eastside neighborhood was purchased from the land holdings of John W. North by Albert S. White, a prominent local horticulturist, county supervisor, and city trustee (Bynon 1893-4). With the new subdivision, Eighth Street (now University Avenue) was given the identifier "East" and address numbering was restarted at "100." White's Addition continued the orthogonal alignment of streets begun in the Mile Square, which were oriented on a northeast-southwest axis along the Jurupa Rancho boundary line. Water was piped from the Gage Canal to every lot in the tract, and the streets were improved with sidewalks and planted with street trees in parkway strips.

Though often overshadowed by the pivotal role that canal irrigation played in the early prosperity and enduring stability of Riverside, the success of citriculture, local tourism, and settlement through the introduction of rail transportation into the region and the City cannot be overstated. The railroad more than threaded the two original colony settlements and the Government Tract together; it offered a connection to the southern California region and far beyond and allowed Riverside to quickly lead the nation's citrus industry and participate in the real estate boom of the late 1880s that was felt throughout southern California.

With the decision to construct a transcontinental railroad in the 1860s, a new era in the settlement of the west began that was characterized by the strategic location of townsites based on the actual or anticipated path of the western rail network. Its completion in 1869, through the joining of the Central Pacific from the west with the Union Pacific from the east at Promontory, Utah, brought tourists, boomers and boosters flowing into California at an estimated rate of 70,000 per year, a stream that was soon diffused into the southern region (McWilliams 1973:115). Railroad-related town planning and promotion in the greater Los Angeles area began in earnest with the connection of Los Angeles to San Francisco in 1876 (Reps 1981:89, 95), and the arrival of the Santa Fe line into California in 1886 rejuvenated earlier expectations and marked the beginning of a real estate explosion. Competition between the Santa Fe and Southern Pacific railroads, which shortly reduced the passenger rate from Missouri Valley to southern California to $1, facilitated unprecedented migration from the East and Midwest. The Santa Fe delivered several passenger trains a day, and the Southern Pacific reported transporting 120,000 people to Los Angeles in 1887. Among serious investors, veteran townsite "sharks" of the Midwest descended upon southern California in what became a short-lived frenzy of speculation. At the height of the railroad town boom between 1887 and 1889, more than 60 new towns totaling 79,350 acres were laid out in southern California (McWilliams 1973: 113-122). Thirteen of these were platted along the Santa Fe line in the three short months of spring 1887, and by the end of the year, 25 cities and towns had sprung up in the 36 miles between Los Angeles and San Bernardino County. Along the line of the Southern Pacific, eight more had been surveyed, and between the two rights-of-way, three other towns were platted (Reps 1981:100-101). Most of these towns were more populated by empty subdivided lots than by residents and vanished when the boom collapsed by 1889, but in general, the 1880s contributed a considerable increase in wealth and approximately 137,000 tourists-turned-residents to the region (JMRC 2010).

By the time Riverside incorporated as a city, the first rail line had just arrived in the young town, the California Southern, part of the AT&SF system after 1884, with a branch line through Riverside and a station on the eastern edge of the Mile Square (Hammond 1995:5 and Patterson 1996:161, 184), and in 1888, the Southern California Motor Road (1886) extended their San-Bernardino-Colton line into Riverside, which was soon purchased by the competitive Southern Pacific Company (SPRR; (Patterson 1996:167). The line came in from the northeast and branched in two different directions – south to run parallel with the AT&SF line along the citrus packinghouses on Pachappa Avenue (Commerce Street) and west across Main Street (Sanborn Map 1895, 1908, 1931).

The Southern Pacific had been founded in 1865 by Timothy Phelps and a group of businessmen (American Public University 2014), but was purchased by the Central Pacific in 1868. The two railroads merged in 1870, and while legally known as the Pacific Improvement Company (Riverside County 1892-1899), the rail giant retained the Southern Pacific name and essential business plan, and soon spread tracks across Southern California and the country. Unlike other railroads, the company employed increasingly elaborate, settlement-oriented marketing and community investment, like their involvement in Riverside's local citriculture, which masked a focused, aggressive strategy. From simple flyers to detailed brochures and maps, the SP encouraged the development of small family farms on its lands, promoted settlement and development, and contributed to the establishment of local hotels, hospitals, churches, schools, parks, and more, thereby playing a comprehensive role in the settlement and development of numerous communities, like Riverside, along its routes (Orsi 2005:109, 111; Tibbet 2011:19).

The alignment of this southern branch of the SPRR right-of-way became a critical center of local freight shipping in the late-19th century. In 1896, the company constructed a freight station edged by a 4' platform (demolished 1967) and main line track, and by 1908, the line had increased to five sets of tracks (most removed in 1960, final removal ca. 2000), from which the SP served the varied shipping needs of the young town, particularly the perishable goods and other industrial exports from the nearby citrus packing houses and other industrial plants and warehouses within the corridor that had emerged on this western edge of the Eastside.

The development of transcontinental and local rail systems served to greatly advance Riverside's agro-economy, and by 1895, Riverside was a thriving, irrigated cooperative that specialized in citriculture. Development in the Mile Square had begun immediately, concurrently, with the support of canal-irrigated agriculture, which soon became the supporting economy of young Riverside, supporting the growth of vegetables, melons, raisin grapes, berries, walnuts, honey, beans, grain, and hay, and livestock ranches and dairy farms were also found in Riverside. While agriculture in general supported Riverside, no crop was as pursued or as successful as citrus. Few in southern California had been engaged in the production of citrus before the late 1870s when "Orange Fever" erupted due to the introduction of the navel orange and the potential for large profits, and new communities from Pasadena to Redlands were founded on orange agriculture. Before 1862, there had been only about 25,000 orange trees in the state, but by 1882, there were approximately 500,000 orange trees in California – half of them growing in Riverside (Lawton 1989:9).

In addition to success in the growth of citrus, early Riversiders made great and innovative advances in all areas associated with getting their product to market, including picking, handling, packing, shipping, and even technological and organizational achievements. Although the Eastside was developed for its residential potential, the early foothold of the railroads prompted citrus industrial development here, and a corridor along its western edge coalesced to become Riverside's leading packing and shipping center. With the Southern Pacific a presence on the Pachappa Avenue edge of Block 10 of White's Addition and other rail lines to the west, packing houses, storage warehouses, feed mills, and more stretched out to the north and south. At corner of Eighth Street and Pachappa Avenue, R.B. Devine, one of the largest packers and shippers in Riverside, maintained a commission and storage warehouse as well as a raisin and orange packing house, which was used as a feed mill and for wood and coal storage after the turn of the century. Other vacant warehouses filled these lots facing Pachappa Avenue, and at the corner of Ninth Street, was W.V. Wiley's Wood, Hay, and Coal Yard as well as a warehouse for baled hay and guano, which became an orange crate box nailing warehouse owned by H.K. Small and Sons (Sanborn Map 1895:8, 1908:18, 30). The Riverside Heights Orange Growers Association Packing House and the Blue Goose Growers Fruit Packing House with box nailing and storage just south of Ninth Street are no longer extant.

True to the Southern Pacific's tendency to invest in local development, the SP participated deeply in the local citrus market. A small number of privately owned cars whisked the relatively small tonnage of perishables to eastern markets before the Southern Pacific and Union Pacific railroads jointly organized the Pacific Fruit Express Company (PFE) in 1906 to provide refrigerator cars for the swift movement of fresh fruits and vegetables. The PFE began operations with 6,000 refrigerator cars and by 1944 became the largest refrigerator car line in the world, offering over 36,000 cold cars across United States and Mexico. In addition, unlike other citrus-related or other industrial developments in the corridor, the Independent Fruit Company was owned by the SP. The Independent Fruit Company Packing House (1898) once faced Mission Inn Avenue on the east side of the railroad tracks from Lot 4 of White's Addition (Riverside County 1896-1899; Sanborn Map 1908:18).

The challenging lean years of the depressed 1930s had prompted comprehensive strategic and operational change that ultimately allowed the SP to pioneer a new era in modernized equipment, discount and economy services as well as enhancements such as the introduction of air-conditioning to the travelling public, and creative ways of meeting competition (Heath 1945). It was during the 1930s that the SP firmly established a motor truck "store-door" service, which met the competition of highway truckers by employing motor trucks in conjunction with freight trains in the delivery of less than a carload of freight from shipper to receiver. A contract local drayman picked up the freight packages

from the shippers, took them to the freight station for train haul to a destination station where the freight was retrieved by another local drayman for delivery to the receiver. Begun as an experimental service in 1929 with the SP's electric line subsidiary, the Pacific Electric, between Los Angeles and twenty stations in southern California, the immediate popularity of the store-door service prompted its expansion first over Pacific Electric lines and then into further territory on SP lines by February 1930. The service was formalized with the establishment of the Pacific Motor Transport (PMT) Company, based out of San Francisco by the following April, and soon spread across California and Oregon (Heath 1945). The Riverside freight station became an early store-door destination station, with the PMT providing local truck delivery, and nearby Arlington was soon added to the areas served in the vicinity (RDP 1929a).

The service expanded rapidly, soon offering overnight delivery to metropolitan distributing centers to reach the most outlying towns and keep fully-loaded freight trains moving swiftly past smaller towns. Service increased more than 43% and spread to most California communities by 1932 and was also initiated on other SP lines in Texas and Louisiana. Finally, the SP introduced the "Overnight," the first exclusive merchandise train operating on a fast passenger train schedule, which made its debut on October 22, 1935 in a dusk-to-dawn run over the 470-miles between San Francisco and Los Angeles, which led to similar speedy merchandise trains that would later provide modernized overnight freight deliveries to principal SP metropolitan distributing centers. "Break-bulk" points were established at strategically located stations for the swift transfer of freight to line-haul trucks, which then delivered to regular stations for pick up and local store-door deliveries. Freight was loaded and unloaded with cranes and forklifts by the pallet or by the item into and out of general purpose boxcars onto platforms or directly into trucks. By the end of 1939, over 7,745 highway miles were coordinated with rail freight service and reached 12,491 miles by the end of 1944 (Heath 1945).

The outbreak of war in Europe in September 1939 and the looming threat of American involvement, the SP shifted focus to meet the all-encompassing transportation needs of a nation at war again, which were particularly acute on the west coast where 290 military and naval establishments were located, compared with only 15 before Pearl Harbor, as well as about half of the nation's wartime aircraft and cargo ships were produced. In a massive and unprecedented home front transportation of America's men and materials of war and industry, railroad companies across the country, combined, also handled approximately 97% of all organized troop movements and about 90% of all Army and Navy freight and express, moving ever-mounting volumes of traffic through a variety of established and newly formed railroad and governmental organizations. These defense activities poured a ceaseless flow of traffic into plants and ports, especially the Army's busy Ports of Embarkation in Los Angeles and San Francisco Bay, which sent major support to the entire Pacific offensive (Heath 1945).

Increased defense era earnings were funneled back into improvements, funding terminal yard and roundhouse expansions, facilities improvements, main line siding extensions, trackage to serve new military and industrial establishments, about 650 miles of new heavier rail, improvements to shops, communication lines and other facilities throughout the system, and an extensive repair and reconditioning program for every piece of serviceable equipment. The increased length of freight trains required the extension of yard trackage and numerous main line sidings at several terminals. In addition, the SP took a leading part in the national wartime scrap drive, collecting scrap for reuse in the war effort and reclaiming millions of pounds of second hand rail and like tonnage of other track materials for reuse in track layouts at military and naval establishments (Heath 1945). The realted extant, ramped loading platform (ca. 1930-1947), which is now a free-standing, approximately 138-foot-long structure framed with reused rail segments, was added to the original freight station (demolished 1967) after the development and heyday of the local rail-dependent citrus industrial economy to facilitate automobile-related loading and unloading either as part of the SP's store-door motor truck service era in the depressed 1930s or to accommodate longer trains and the motor transfer of greater quantities of military-related freight during the material-shortage war years of the 1940s.

Riverside's economic landscape slowly changed slowly throughout the first half of the 20th century, accelerating rapidly in the postwar period and second half decades. A devastating, four-night freeze in 1913 began to shift the local economic position toward one of diversification in the early-20th century, and population increases and the resultant suburban development between the world wars, which both increased the number of local workers and decreased vast tracts of agricultural acreage, effectively altered the view of citriculture as a panoramic staple, both visually and perceptually. While grove and agricultural lands, particularly to the south, were converted to tree-lined streets of single-family dwellings, scattered lots and strips of property on the edges of the original townsite were the target of infill residential construction, and vacant lots, particularly along the arterials in the downtown core, were eyed for commercial development.

While economic interests became broader, commercial and industrial enterprise seemed to consolidate geographically as some areas became increasingly associated with these uses, and emerging strips of concentrated commercial zones appeared such as Magnolia Center to the south, Eighth Street (University Avenue) on the Eastside, the Magnolia Avenue/Van Buren Business District, and the expanding Main Street Industrial Corridor. This geographic concentration of commercial enterprise in Riverside was linear as it was associated with major arterials or highways and generally focused first on the streetcar, and later motoring, patron in addition to the neighborhood pedestrian, and eventually use shifted to mainly auto- or travel-related uses like auto courts, motels, service stations or related auto services, and roadside eateries. The suburbanization of areas more distant from downtowns and streetcar lines was made possible by a nation on the move. With nine million cars on American roads by 1920, attention was given to the improvement of transportation infrastructure. The use of automobiles by working class Americans rose steadily throughout the first half of the 20th century. Not just an important local arterial, Eighth Street became part of the California highway system in the 1930s and was signed Highway 19. By the mid-20th century, while many buildings remained in the industrial corridor on the western edge of the Eastside, fewer were dedicated to citrus packing and shipping or had become vacant, like the SP's Independent Fruit

Company's Packing House (Sanborn Map 1952:18, 30).

The close of WWII marked the beginning of lasting change on many levels. Advances in land use and planning coupled with the rising importance of the automobile forever altered the urban landscape. In Riverside, the economic shift and population growth reflected regional trends. Characteristically, post-war development vied for proximity to growing suburban commercial centers. By the early 1950s, Eighth Street functioned as a vital regional transportation link. Increased traffic along the corridor prompted the conversion from residential to roadside commercial uses that catered to the needs of travelers and also served the residents of the neighborhoods to the north and south. Subdivision reached record heights as did traffic congestion, and the completion of the University of California, Riverside in the mid-1950s caused a dramatic increase in traffic patterns on Eighth Street (renamed University Avenue in 1966) and the Eastside. These challenges prompted the professionalization of city planning and the building of the Riverside Freeway (1957) and the Pomona Freeway (1960-63) through Riverside, which supplanted the local corridors as regional arterials, and forever altered a wide swath of adjacent streets and lots. The loss of direct contact with motorists began to be evinced on the local economy, and the financial decline continued through the 1970s, and '80s. The City's agricultural economy slowly gave way to the rising force of industry as well-known industrial giants, such as Rohr Corporation, Bourns Incorporated, and the Lily-Tulip Cup Corporation arrived in Riverside, and the increasing diversification of Riverside's economic livelihood saw the destruction of much of Riverside's once vast citrus and agricultural acreage.

Thus, it was the construction of the Riverside Freeway, State Route 91 (1957) on the eastern edge of downtown that prompted the grade separation of University Avenue (1957-1960), the subsequent construction of numerous bridges (ca. 1960) to accommodate the through path of Commerce Street, Santa Fe Avenue, the Riverside Canal, and the Union Pacific, AT&SF, and Southern Pacific tracks across the arterial street, and the demolition of the SP freight station (1967). The construction of the SPRR bridge, which was completed in 1960, prompted the removal of most of the track, including the original main line. The last lines were removed ca. 2000, and a curved vehicular asphalt drive was constructed from Commerce Street to the abandoned railroad bridge. State Route 91 was widened in 2008, further segregating the Eastside and the citrus-rail-industrial corridor on its western edge from the downtown core. The retention of the concrete loading platform as a freestanding structure after the demolition of most of the track in 1960 and the former freight house in 1967 supported the continued, but reduced, movement of rail freight in a forever changed local industrial economy and the diminished role of the Southern Pacific and other railroad companies, which began a slow decline in the face of the rising dominance of automobile and air transportation for both passengers and freight in the latter half of the 20th century.

The railroad bridge (1960) is associated with the Southern Pacific Railroad Company, a giant in the transcontinental and local rail era of western town settlement that played an active role in the settlement and development of Riverside and the early success of its citrus driven agro-economy. As a later remnant component of a much larger, more extensive, and no longer extant SPRR property, the construction of which required the demolition of original track across the historic alignment of Eighth Street (University Avenue), the railroad bridge lacks the level of architectural distinction, strength of historic association, and sufficient integrity to merit individual listing in the NR, CR, or for local designation. While currently within the boundaries of the Seventh Street East Historic District and the Citrus Thematic Industrial Potential Historic District, the railroad bridge does not fall within the period of significance nor does it contribute to the significance of these districts and should be considered a non-contributor. Therefore, JMRC recommends that the SPRR loading platform and SPRR bridge are each assigned a CHR Status Code of ***6L – Determined ineligible for local listing or designation through local government review process; may warrant special consideration in local planning***.

***B12. References:**

American Public University. 2014. Southern Pacific Railroad. Accessed online: http://www.u-s-history.com/pages/h1817.html.

ATTC (Atlantic Track and Turnout Company), no date. *The Source Book: Rail, Trackwork, Accessories*. Atlantic Track and Turnout Company: Bloomfield, New Jersey.

Bynon, A.A. 1893-4. History and Directory of Riverside County 1893-4. Historical Commission Press, Riverside California.

Gudis, Catherine. 2012. Reconnaissance Survey and Context Statement for the Marketplace Specific Plan.

Hammond, Stephen. 1995. HPSR - Widening of Interstate State Route 60 and Interstate Route 215 between Valley Way and University Avenue Riverside County, California.

Heath, Erle. 1945. *Seventy-Five Years of Progress: An Historical Sketch of the Southern Pacific, 1869-1944*. Southern Pacific Bureau of News: San Francisco, CA. Accessed online at http://www.cprr.org/Museum/SP_1869-1944/.

Hofsommer, Don L. 1986. *The Southern Pacific, 1901-1985*.

JMRC. 2003. Arlington Historic Context Statement *in* Tang et al, Historic Resources Survey of the Arlington Neighborhood.

JMRC. 2010. National Register Nomination: Grand Boulevard, Corona, Riverside County, California. On file with OHP.

Lawton, Harry W. 1989. "A Brief History of Citrus in Southern California." Pages 6-13 *in*: Klotz, Esther, Harry W. Lawton, and Joan H. Hall (eds.). 1989. *A History of Citrus in the Riverside Area*. Riverside, California: Riverside Museum Press.

McWilliams, Carey. 1973. *Southern California: An Island on the Land*. Gibbs Smith Publisher, Salt Lake City, Utah.

NETR (Nationwide National Environmental Title Research). Project Area Topographical Maps (1942-1984) and Aerial Photographs (1948-2012), accessed online at: http://www.historicaerials.com/.

Orsi, Richard J. 2005. *Sunset Limited*, University of California Press: Berkeley.

Patterson, Tom. 1996. *A Colony for California: Riverside's First Hundred Years*. Second edition. The Museum Press of the Museum Associates, Riverside, California.

Phillips, Francine. 1995. "Riverside Public Utilities 1895-1995: 100 Years of Service." An annual report produced by the Riverside Public Utilities Department.

PCR Services Corporation (PCR). 2001. Historic Resources Survey, Inventory, & Evaluation: Casa Blanca and the Eastside.

RDP (*Riverside Daily Press*)

1929 "Transport Service of P.E. to be Extended." 28 May, p. 5.

1938 "S.P. Company Absorbs Operations of P.M.T." 2 August, p. 6.

1942 "Santa Fe to Build Ramp on Pachappa." 15 July, p. 5.

Reps, John William. 1981. *The Forgotten Frontier: urban planning in the American West before 1890*. University of Missouri Press: Columbia.

Riverside, City of.

1886-1889. White's Addition Plat Map MB 6/48SB

2009. Eastside Neighborhood Plan (Appendix D of the General Plan 2025)

2015. Historic Resources Inventory Database (http://olmsted.riversideca.gov/historic)

2015. Vertical Files, Community Development Department, Planning Division.

Riverside, County of. 1892-1970. Assessor's Records on microfiche at the Riverside County Robert J. Fitch Archive.

Sanborn Maps. 1895, 1908, 1908, updated 1931, 1908, rev. 1951, 1908, republished 1952.

SPHTS (Southern Pacific Historical & Technical Society). 2014. "The John L. 'Jack' Whitmeyer Collection. Accessed online at: http://www.snowcrest.net/photobob/collectionindex.html.

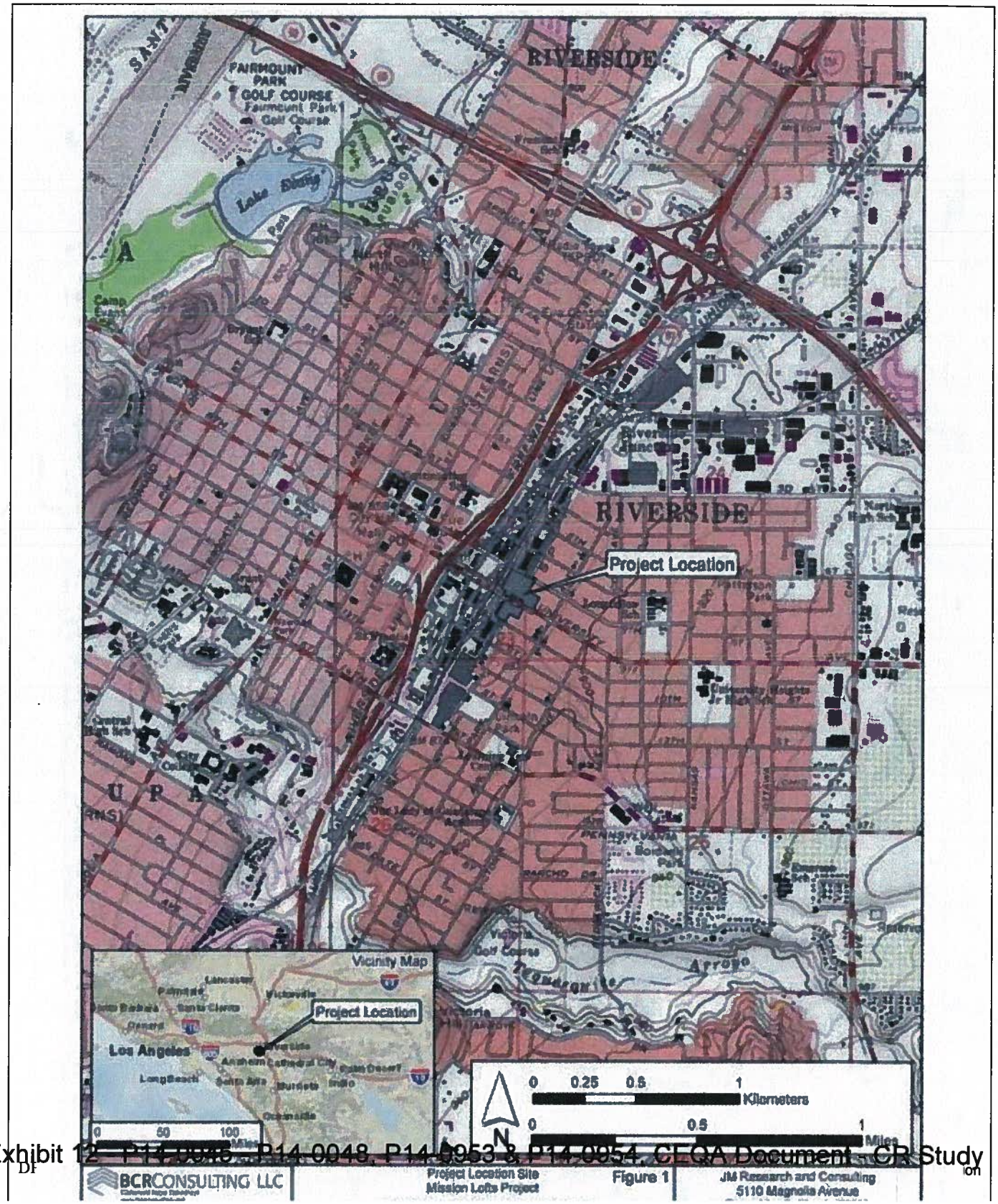
Tibbet, Casey (LSA Associates, Inc.). 2011. HRER for the Colton Crossing Rail-to-Rail Grade Separation Project.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # _____
HRI# _____
Trinomial _____

Page 8 of 8 *Resource Name or # (Assigned by recorder) Southern Pacific Railroad Bridge 56C0059

* Recorded by Jennifer Mermilliod *Date March 16, 2015 ☒ Continuation ☐ Update



Project Location Site
Mission Lofts Project

Figure 1

JM Research and Consulting
5110 Magnolia Avenue

BCR CONSULTING LLC

Appendix B
Proposed Project Exhibits

Sheet Index

Civil:
KHR Associates
4100 Newport Place Drive, Suite 200
Newport Beach, CA 92660
949.756.6440

Landscape:
MJS Design Group, Inc.
507 30th Street
Newport Beach, CA 92663
949.675.9964
mjsdesigngroup.com

MISSION LOFTS

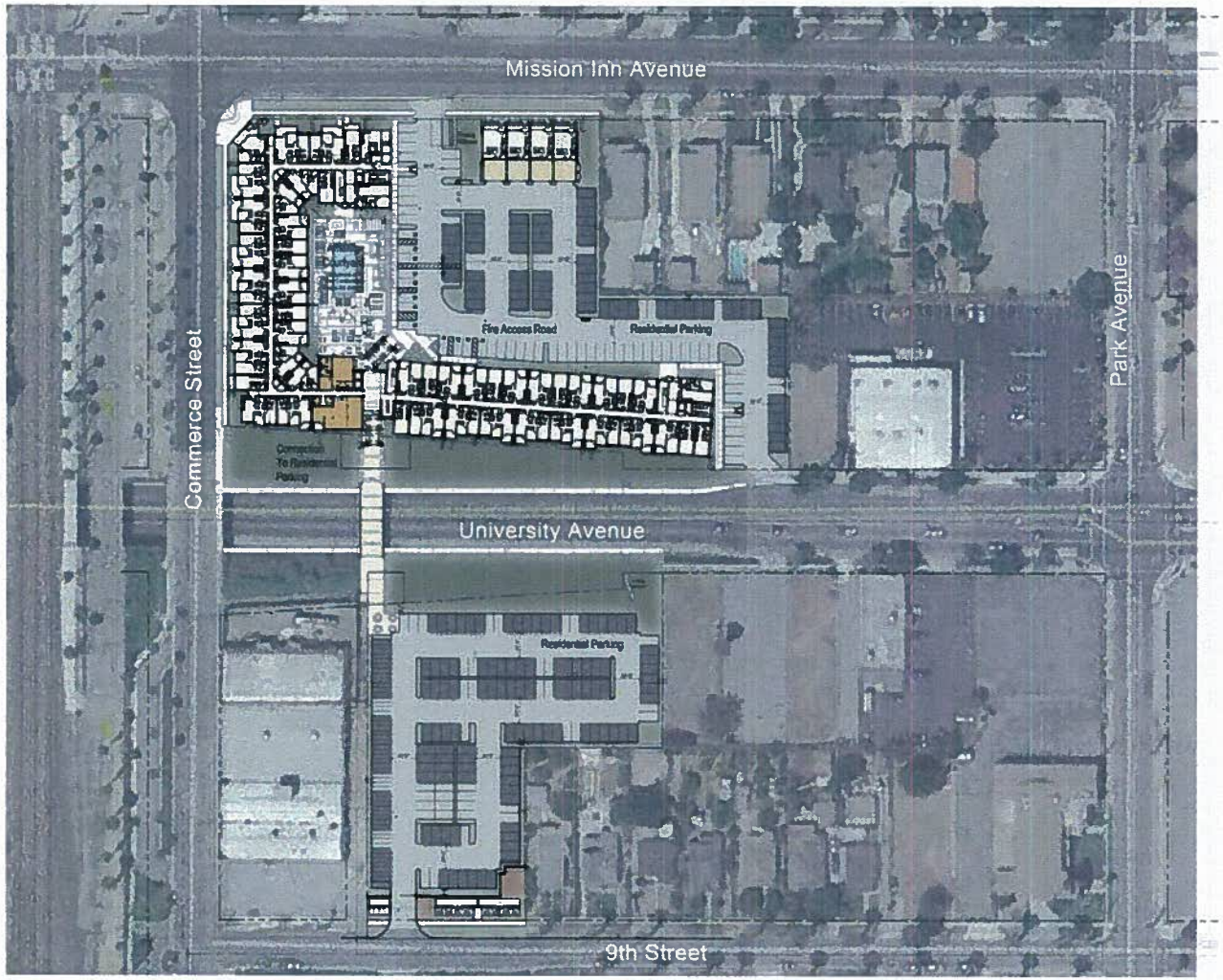
Mission Lofts LLC
1201 Dove Street, Suite 250
Newport Beach, CA 92660
949.975.1122

COVER SHEET

RIVERSIDE, CA

A0.1

KTGY Group, Inc.
Architecture+Planning
17922 Fitch
Irvine, CA 92614
949.851.2133
ktgy.com



Project Data			
Project	Mission Lofts Riverside, CA		
Site Area Information			
Parcel North	Gross Site Area		3.16 AC
Parcel South	Gross Site Area		1.53 AC
Total	Gross Site Area	4.69 AC	
	Total Dwelling Units	212 DU	
	Density	45.2 DU/AC	

Building Plan Summary		Type V Construction
Building A		4 Story Residential on Grade
Building B		2 Story Residential on Grade
Building A		208 DU
Building B		4 DU
Total		212 DU

Unit Plan	Unit Type	Gross SF	Total	Percent
Plan S-1	Studio	459	51	24.1%
Plan S-2	Studio	639	1	0.5%
Plan 1-0	1 Bd / 1 Ba	624	16	7.5%
Plan 1-1	1 Bd / 1 Ba	657	4	1.9%
Plan 1-2	1 Bd / 1 Ba	681	52	24.5%
Plan 1-3	1 Bd / 1 Ba	739	2	0.9%
Plan 1-4	1 Bd / 1 Ba	823	3	1.4%
Plan 2-0	2 Bd / 2 Ba	868	73	34.4%
Plan 2-1	2 Bd / 2 Ba	952	6	2.8%
Plan 2-2	2 Bd / 2 Ba	1,177	4	1.9%
Totals			212	100%
Average Unit Size		709 SF		
Studio Plan			52	25%
1 Bedroom Plan			77	36%
2 Bedroom Plan			83	39%
Totals			212	100%

Residential Parking Provided	
Parcel North Parking	
Covered Parking	67 stalls
Open Parking	79 stalls
Total Parcel North Parking	146 stalls
Parcel South Parking	
Covered Parking	124 stalls
Open Parking	50 stalls
Total Parcel South Parking	174 stalls
Total Covered Parking	191 stalls
Total Open Parking	129 stalls
Total Stalls Provided	320 stalls
Parking Ratio	1.51 stalls per unit

Carport Parking

0 20 40 80

SP1.0

MISSION LOFTS

Mission Lofts LLC
1201 Dove Street, Suite 250
Newport Beach, CA 92660
949.975.1122

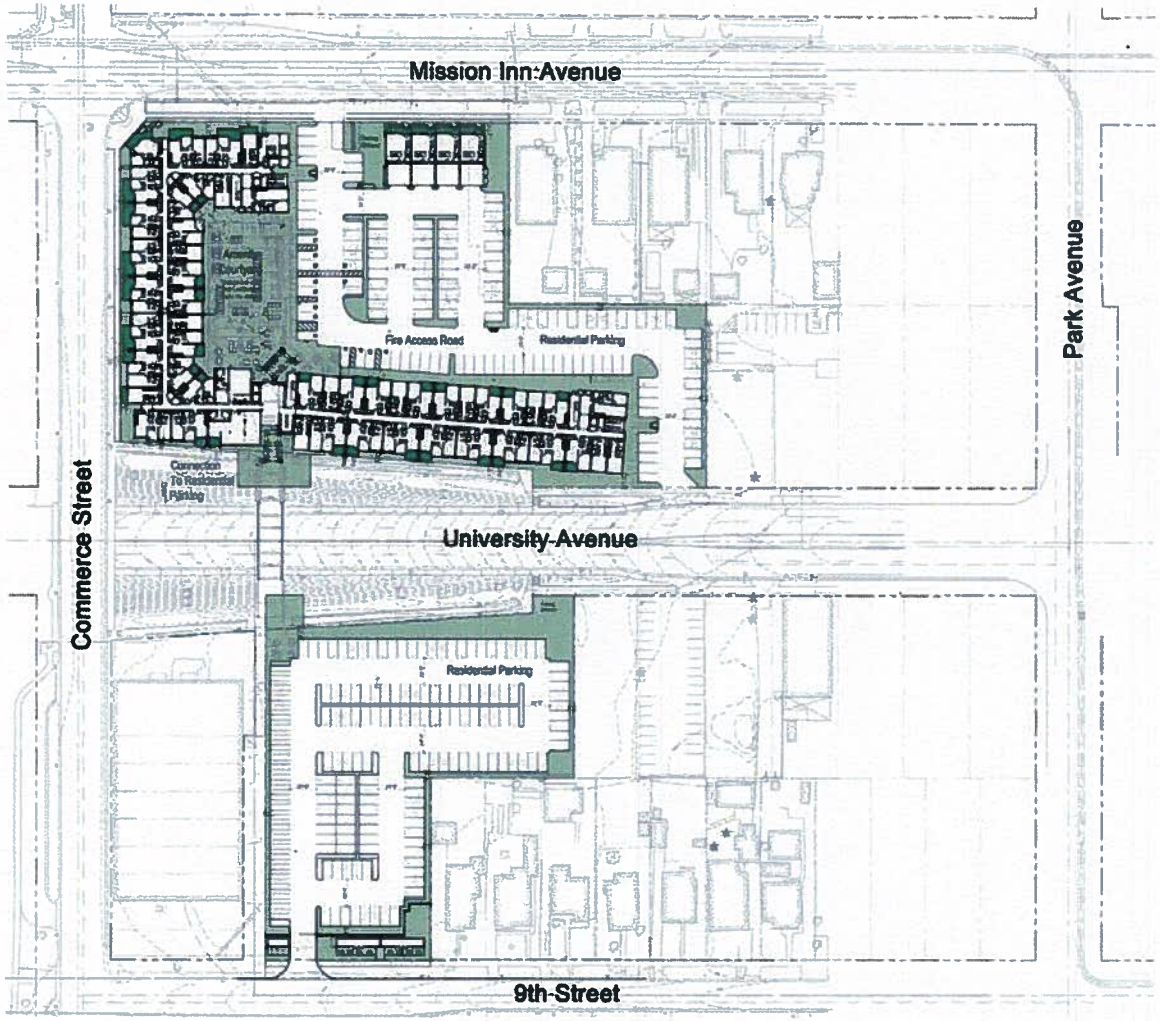
ARCHITECTURAL SITE PLAN

RIVERSIDE, CA

KTGY Group, Inc.
Architecture+Planning
17922 Fitch
Irvine, CA 92614
949.851.2133
ktgy.com

ktgy

Exhibit 12 - P14-0045 - P14-0048, P14-0953 & P14-0954, CEQA Document - CR Study



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OPEN SPACE EXHIBIT

RIVERSIDE, CA

SP1.1

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