



**U.S. Department of Housing and Urban
Development**

451 Seventh Street, SW
Washington, DC 20410
www.hud.gov
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Environmental Assessment Determinations and Compliance Findings for HUD-assisted Projects 24 CFR Part 58

Project Information

Project Name: Crossroads at Washington

Responsible Entity: OC Housing and Homeless Services

Grant Recipient (if different than Responsible Entity): City of Santa Ana

State/Local Identifier: CA/059

Preparer: Cindy Wolfe, Administrative Manager/Environmental Coordinator

Certifying Officer Name and Title:

Julia Bidwell, Director, OC Housing and Community Development

Consultant (if applicable):

Rincon Consultants, Inc.
250 East 1st Street, Suite 301
Los Angeles, California 90012

Direct Comments to: Judson Brown, Housing Division Manager, Community Development Agency of the City of Santa Ana

Project Location:

The Crossroads at Washington Project (“proposed project” or “project”) is located at 1126 and 1146 East Washington Avenue (APNs 398-092-12 and 398-092-14) in the City of Santa Ana (City) in Orange County, California 92701. The project site encompasses approximately 2.3 acres. Figure 1 illustrates the general location of the project site in the region and Figure 2 shows the location of the project site in the community and surrounding uses. See Appendix A for Figures 1 and 2.

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

The proposed project involves an 86-unit multi-family residential complex totaling approximately 69,400 square feet (sf) of residential and community building space on an approximately 2.3-acre site. The proposed buildings would be three stories in height, and

proposed units would consist of studios, one-, two-, three- and four-bedroom units. Of the 86 proposed units, 85 units would be restricted to extremely-low income households. The project would include approximately 3,500 sf of community building space for the leasing/management office and for residential amenities. Recreational amenities that would be provided as part of the project for residents include an outdoor pool with lounge area, tot lot with a shade canopy, an open green area, and a dog run. The project includes a total of 110 parking spaces on site, with 68 standard parking spaces and 42 tandem parking spaces. Site access would be provided through an entrance gate at the East Washington Avenue cul-de-sac. Appendix B includes the proposed site plan.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

The proposed project involves the construction of affordable housing that would improve permanent supportive housing opportunities for extremely-low income households in the City of Santa Ana.

Existing Conditions and Trends [24 CFR 58.40(a)]:

The project site is comprised of two parcels and is currently undeveloped. The project site is in an urbanized area that is primarily developed with industrial, commercial, and residential uses. The Santa Ana Freeway (Interstate 5 [I-5]) is located approximately 140 feet northeast of the site. Figure 3 shows photos of existing site conditions (see Appendix A).

Funding Information

| Grant Number | HUD Program | Funding Amount |
|---|--|--------------------------|
| | HUD HOME Investment Partnerships Program | \$2,280,701 ¹ |
| | 43 Project Based Vouchers ¹ | |
| 13018780-69152 | HUD HOME Investment Partnerships Program | \$3,007,489 ² |
| 14218760-69152 | HUD Neighborhood Stabilization Program 1 | \$788,000 ² |
| 14218761-69152 | HUD Neighborhood Stabilization Program 2 | \$131,000 ² |
| 14218762-69152 | HUD Neighborhood Stabilization Program 3 | \$44,951 ² |
| ¹ County of Orange ² City of Santa Ana | | |

Apart from the HUD funding listed in the table above, funding for the project would also involve a 62-year ground lease agreement by Housing Authority of City of Santa Ana and the County of Orange.

Estimated Total HUD Funded Amount: Two (2) HUD HOME Investment Partnerships Program funds valued at \$5,288,190; three (3) HUD Neighborhood Stabilization Program funds with a combined value of \$963,951

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]: \$38,733,621

Compliance with 24 CFR 50.4, 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

| Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6 | Are formal compliance steps or mitigation required? | Compliance determinations |
|---|---|---|
| STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6 | | |
| Airport Hazards 24 CFR Part 51 Subpart D | Yes No <input type="checkbox"/> <input checked="" type="checkbox"/> | No military airfields are in the City of Santa Ana. The project site is located approximately 7.6 miles north of John Wayne Airport. The project site is not within the airport’s noise contour map or impact zones. (a, b) |
| Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501] | Yes No <input type="checkbox"/> <input checked="" type="checkbox"/> | The project site is located approximately 11.5 miles inland from the coast of the Pacific Ocean. According to the U.S. Fish and Wildlife Service (USFWS) Coastal Barrier Resources System (CBRS) Mapper, there are no coastal barrier resources in the State of California. (c) Therefore, the project site is not located in a CBRS unit. |
| Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a] | Yes No <input type="checkbox"/> <input checked="" type="checkbox"/> | According to the Federal Management Agency’s (FEMA) Federal Insurance Rate Map, the project site is in Flood Zone X (FEMA Map Number 06059C0163J, effective December 3, 2009), which is an area outside of the 0.2 percent annual chance floodplain. (d) In addition, according to the Orange County Floodplains Map, which is based on the FEMA National Flood Insurance Program, the project is not located within 100-year and 500-year floodplains designated by FEMA. (e) Therefore, there is minimal flood potential and no flood insurance is required for the project. Furthermore, the project would not increase flood hazards on neighboring properties or |

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| | | otherwise adversely affect floodplain management. |
| STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5 | | |
| <p>Clean Air</p> <p>Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93</p> | <p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>The project site is in the South Coast Air Basin, which is a nonattainment area for ozone and particulate matter (PM_{2.5} and PM₁₀). Thus, the Basin currently exceeds several state and federal ambient air quality standards and is required to implement strategies that would reduce the pollutant levels to recognized acceptable standards.</p> <p>The proposed project would incrementally increase regional energy demand and would generate new vehicle trips, both of which would generate air pollutant emissions. The California Emissions Estimator Model (CalEEMod) version 2016.3.2 is a statewide land use emissions computer model and comprehensive tool for quantifying air quality impacts from land use projects throughout California as well as operational project emissions.</p> <p>During construction of the project, air pollutant emissions would be generated. However, standard construction practices in accordance with South Coast Air Quality Management District's (SCAQMD) regulations, such as Rule 403 (i.e., watering, slow speeds) and Rule 1113 (requires use of low-volatile organic compound [VOC] paint), would reduce emissions.</p> <p>Because the proposed project would include new construction of more than five dwelling units, and the SCAB is in nonattainment and maintenance status for criteria pollutants, emissions levels were estimated for the project using CalEEMod in accordance with HUD guidance for air quality analysis. CalEEMod results for the proposed project's impacts related to construction and operation air quality, as well as HUD's Air Quality Partner Worksheet, are included in Appendix D and Tables 1 and 2 (below). Neither</p> |

construction nor operational emissions would exceed de minimis levels for the criteria air pollutants for volatile organic compounds (VOCs), nitrogen oxides (NO_x), carbon monoxide (CO), PM_{2.5}, or PM₁₀; the criteria air pollutants for which the SCAB is in nonattainment or maintenance status. (f) The project's total direct and indirect emissions would not exceed de minimis thresholds and the project would not conflict with the Clean Air Act.

Table 1

Construction Emissions¹ (Annual, metric tons/yr)

| | ROG | NO _x | PM _{2.5} | PM ₁₀ | CO |
|--------------------------------------|-----------|-----------------|-------------------|------------------|-----------|
| Maximum Total Emissions ² | 0.52 | 2.21 | 0.14 | 0.22 | 2.01 |
| <i>De Minimis Levels³</i> | 10 | 100 | 100 | 100 | 100 |
| Exceed De Minimis Levels? | NO | NO | NO | NO | NO |

¹ Grading phases incorporate anticipated emissions reductions from compliance with SCAQMD Rule 403 to reduce fugitive dust. Architectural coating during construction incorporates compliance with SCAQMD Rule 1113, which requires use of the use of low-VOC paint (50 g/L for non-flat coatings).

² In accordance with CalEEMod v. 2016.3.2 User's Guide, the term, Reactive Organic Gas (ROG) is used for the purposes of comparing ROG values to VOC significance thresholds. The User's Guide specifies that both terms refer to precursors to ozone and may be used interchangeably and the CalEEMod reports figures under the header ROG.

³ De Minimis levels correspond to the level of nonattainment and maintenance, and are provided by US EPA at <https://www.epa.gov/general-conformity/de-minimis-tables> Source: CalEEMod v.2016.3.2, results are provided in Appendix C.

Table 2

Operational Emissions¹ (Annual, metric tons/yr)

| | ROG | NO _x | PM _{2.5} | PM ₁₀ | CO |
|--------------------------------------|-----------|-----------------|-------------------|------------------|-----------|
| Maximum Total Emissions ² | 0.47 | 0.89 | 0.17 | 0.59 | 2.94 |
| <i>De Minimis Levels³</i> | 10 | 100 | 100 | 100 | 100 |
| Exceed De Minimis Levels? | NO | NO | NO | NO | NO |

¹ Architectural coating during operation incorporates compliance with SCAQMD Rule 1113, which requires use of low-VOC paint (50 g/L for nonflat coatings).

² In accordance with CalEEMod v 2016.3.2 User's Guide, the term, Reactive Organic Gas (ROG) is used for the purposes of comparing ROG values to VOC significance thresholds. The User's Guide specifies that both terms refer to precursors to ozone and may be used interchangeably and the CalEEMod reports figures under the header ROG.

³ De Minimis levels correspond to level of nonattainment and maintenance and are provided by US EPA at <https://www.epa.gov/general-conformity/de-minimis-tables> Source: CalEEMod v.2016.3.2, results are provided in Appendix C.

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| <p>Coastal Zone Management</p> <p>Coastal Zone Management Act, sections 307(c) & (d)</p> | <p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>The project site is located approximately 11.5 miles inland from the coast of the Pacific Ocean. According to the National Oceanic and Atmospheric (NOAA) Office for Coastal Management, the California coastal zone generally extends 1,000 yards inland from the mean high tide line. (g) Therefore, the project site is not located in a coastal zone and is not under jurisdiction for coastal zone management regulations.</p> |
| <p>Contamination and Toxic Substances</p> <p>24 CFR Part 50.3(i) & 58.5(i)(2)</p> | <p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>The project site is located in an urbanized area with residential, commercial, and industrial uses in the vicinity. According to historic aerials, the project site contained agricultural uses until it was first developed during the 1960s and 1970s with commercial/office uses. (h) However, the structures were demolished during the early 1990s, and the project site has since remained vacant and undeveloped. There are no sites listed on the U.S. Environmental Protection Agency (U.S. EPA) National Priorities List (NPL) or Superfund Enterprise Management System (SEMS) database. (i, j) There are no active cleanup sites listed within a quarter mile radius of the project site according to the California Department of Toxic Substances Control (DTSC) EnviroStor database. (k) According to the California State Water Resources Control Board's (SWRCB) GeoTracker database, there are six closed cases for leaking underground storage tanks, wherein the sites have been cleaned and remediated to acceptable SWRCB standards. (l) Therefore, the project site does not contain any contamination or toxic substances.</p> |
| <p>Endangered Species</p> <p>Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402</p> | <p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>The project is in an urbanized area that is primarily developed with a mix of industrial, commercial, and residential uses. The project site is currently vacant. The project site is not located in any known regional wildlife movement corridors or any other sensitive biological areas as indicated by the USFWS Environmental Conservation Online</p> |

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| | | <p>System (ECOS) Critical Habitat portal, or California Department of Fish and Wildlife (CDFW) Biogeographic Information and Observation System (BIOS). (m, n) In addition, the project site does not contain any riparian habitat or sensitive natural communities and no endangered, rare, threatened, or special status plant species (or associated habitats) or wildlife species designated by the USFWS, CDFW, or California Native Plant Society (CNPS) are likely to occur on-site. (o) Therefore, according to the USFWS and CDFW resources, the proposed project would not have an adverse effect on any endangered species or sensitive habitats.</p> |
| <p>Explosive and Flammable Hazards</p> <p>24 CFR Part 51 Subpart C</p> | <p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>Residential land uses typically do not use or store large quantities of hazardous materials. The proposed project would not involve the use, storage, transportation, or disposal of hazardous materials.</p> <p>Potentially hazardous materials such as fuels, lubricants, and solvents would be used during construction of the project. However, the transport, use, and disposal of hazardous materials during the construction of the project would be conducted in accordance with all applicable state and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Materials Management Act, and the California Code of Regulations, Title 22.</p> |
| <p>Farmlands Protection</p> <p>Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658</p> | <p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>According to the California Department of Conservation’s Farmland Mapping and Monitoring Program (FMMP), the City does not contain any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. (p) The FMMP designates the entire City as Urban and Built-Up Land, so no farmland is present on or near the project site, nor is any land under Williamson Act contracts. (q) In addition, the project site is currently zoned as Transit Village (TV) in the Transit Zoning Code, which aims to</p> |

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| | | provide compact transit-supportive mixed-use/residential development. (r) The Santa Ana General Plan land use designation for the project site is District Center (DC); therefore, the site is not zoned for agricultural use. (s) |
| <p>Floodplain Management</p> <p>Executive Order 11988, particularly section 2(a); 24 CFR Part 55</p> | <p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>The project site is located approximately 11.5 miles inland from the coast of the Pacific Ocean. According to the FEMA Federal Insurance Rate Map, the project site is located in Flood Zone X, which is an area outside of the 0.2 percent annual chance floodplain. (d) In addition, according to the Orange County Floodplains Map, which is based on the FEMA National Flood Insurance Program, the project is not located within 100-year and 500-year floodplains designated by FEMA. (e) Therefore, the project would be affected by a floodplain.</p> |
| <p>Historic Preservation</p> <p>National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800</p> | <p>Yes No</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> | <p>Rincon Consultants, Inc. prepared a Cultural Resources Assessment Report of the project site in concordance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) in August 2019. The study is provided in Appendix D.</p> <p>As part of the Cultural Resources Assessment Study, Rincon contacted the Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search for the project on August 6, 2019. On August 9, 2019, Rincon also prepared and mailed anticipatory letters to 22 NAHC-listed Native American tribes and individuals known to be affiliated with the project vicinity. The anticipatory letters requested information in writing of any known Native American religious or cultural resources on or immediately adjacent to the project site and informed the Native American groups of the opportunity to consult as part of the Section 106 process. The NAHC responded via email on August 27, 2019, stating that the results of the SLF were negative for specific site information</p> |

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| | <p>and included a list of Native American contacts, all of which previously had been sent anticipatory letters. Rincon followed up with each contact by phone to document “good faith” efforts to follow-up. Follow-up calls were placed on August 23, 2019 and August 27, 2019. The responses from the Native American outreach efforts are also included in Appendix B of the Assessment Report (Appendix D), which includes a copy of the SLF search request and results, NAHC contact list, a copy of the anticipatory letter, and non-confidential responses from the Native American contacts.</p> <p>The approximately 2.3-acre project site is located in an urbanized area predominantly surrounded by industrial, commercial, and residential uses. The site is currently vacant. The results of the cultural resource assessment did not identify any prehistoric or historic cultural resources in the Area of Potential Effects (APE). In addition, the site visit revealed the site to exhibit a high level of previous disturbance. According to historical aerial photographs and archival records, the site was primarily used for agricultural purposes, and buildings were constructed on the site since the 1960s and were demolished and nonexistent since the mid-1990s. The site has remained largely undeveloped since 1995, and has no potential historic properties under NHPA.</p> <p>An assessment of archaeological sensitivity indicates that the APE contains a relatively low potential to encounter intact, subsurface archaeological deposits. The lack of reported prehistoric archaeological remains with a half-mile radius of the project site indicates that the property is not highly sensitive for prehistoric archaeological resources. Therefore, no further cultural resources work needs to be conducted for the project. Nevertheless, mitigation measures are recommended in case of unanticipated discoveries of cultural resources or human</p> |
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| | | remains during ground-disturbing activities related to project construction. |
| <p>Noise Abatement and Control</p> <p>Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B</p> | <p>Yes No</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> | <p>Development of the proposed project, including short-term construction and long-term use, would increase on-site ambient noise levels. During construction, noise has the potential to disturb nearby residents. However, pursuant to the City of Santa Ana's noise ordinance (Section 18-314 of the City of Santa Ana Municipal Code), construction activity would be prohibited between the hours of 8:00 pm and 7:00 am Monday through Saturday and is prohibited on Sundays and federal holidays. (t) Therefore, construction activities would not disturb residents during hours of recognized sleep. Long-term operation of the project would generate noise typical of residential development, which would be compatible with the surrounding neighborhood.</p> <p>According to HUD, review and analysis is required for projects located within 1,000 feet of a major roadway, 3,000 feet of a railroad, or 15 miles of a military or civilian airport. (u) The project itself is a noise-sensitive use because it involves construction of permanent supportive housing. The nearest highway/freeway is the Santa Ana Freeway (I-5), located approximately 140 feet northeast of the project site. Due to this distance, noise from the freeway may affect the project site. The nearest airport is John Wayne Airport, which is located approximately 7.6 miles south. In addition, the project site is not within the airport's noise contour map and would not be exposed to adverse airport noise. (a, b) The Metrolink rail line is located approximately 450 feet west from the center of the site and the Santa Ana Metrolink Station is located 0.4 mile southwest of the project site. Therefore, noise from the Metrolink (e.g., train horns) may affect the project site at this distance. The predominant source of noise in the vicinity is traffic on I-</p> |

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| | <p>5 and East Santa Ana Boulevard.</p> <p>According to HUD’s Site Acceptability Standards, exterior noise below 65 decibels (dBA) DNL is within the “Acceptable Range,” exterior noise in the 65 to 75 dBA DNL range is “Normally Unacceptable,” exterior noise above 75 dBA DNL is “Unacceptable,” and interior noise levels less than 45 dBA DNL are acceptable for residential uses. Project approvals in the “Normally Unacceptable Range” require a minimum of 5 dBA of additional sound attenuation if the day-night average sound level (DNL) is greater than 65 dBA but does not exceed 70 dBA. (u)</p> <p>Two 15-minute noise measurements were taken at the project site on August 8, 2019 during the morning peak traffic hour between 8:25 AM and 9:10 AM. The measurements were taken at the north end of the project site by the cul-de-sac at the end of East Washington Avenue and at the south end of the project site off of East Santa Ana Boulevard. The noise measurement data is available for reference in Appendix E. The measured ambient noise level on the north end of the project site was recorded at 63 dBA Leq, which captured traffic noise along I-5. In addition, the ambient noise level along East Santa Ana Boulevard was recorded at 70 dBA Leq, which captured traffic noise along East Santa Ana Boulevard, I-5, and activity on the Metrolink rail line.</p> <p>HUD’s Day/Night Noise Level (DNL) Calculator was used to assess roadway noise. (v) Average daily traffic (ADT) data from the Orange County Transportation Authority 2018 Traffic Flow Map was utilized in this study. (w) Based on the configuration of the project site, proposed residences at the eastern boundary of the site would be exposed to noise from I-5 while proposed residences at the southern boundary of the site would be exposed to combined noise from East Santa</p> |
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| | | <p>Ana Boulevard and the Metrolink rail line. According to DNL calculations, roadway noise from I-5 would be approximately 75 dBA Ldn at proposed residences along the eastern boundary of the site, and the combined roadway noise from East Santa Ana Boulevard and the Metrolink rail line would be 71 dBA Ldn at proposed residences along the southern boundary of the site. Based on HUD's Acceptability Standards, proposed residences would be exposed to "Normally Unacceptable" noise levels. Refer to Appendix E for the HUD DNL assessment, along with the HUD Noise Abatement and Control Worksheet.</p> <p>As indicated by the HUD DNL Calculator model results, exterior noise levels at the project site would potentially be in the "Normally Unacceptable Range" of HUD's Site Acceptability Standards. Therefore, noise attenuation mitigation is needed to ensure that interior noise levels at the proposed residences do not exceed 45 dBA DNL.</p> |
| <p>Sole Source Aquifers</p> <p>Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149</p> | <p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>The project site is not located in an area supported by a sole source aquifer. The closest sole source aquifer is the Campo/Cottonwood Creek Aquifer, located over 100 miles southeast of the site. (x)</p> |
| <p>Wetlands Protection</p> <p>Executive Order 11990, particularly sections 2 and 5</p> | <p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>The project site is in an urbanized area surrounded by a mix of industrial, commercial, and residential uses. Federally protected wetlands or waters as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) do not occur on-site and therefore would not be impacted through direct removal, filling, hydrological interruption, or other means. Furthermore, according to the USFWS's Wetlands Online Mapper, no wetlands are located on or adjacent to the project site. (o)</p> |
| <p>Wild and Scenic Rivers</p> | <p>Yes No</p> | <p>No wild or scenic rivers are located in the immediate vicinity of the project site. The</p> |

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| Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c) | <input type="checkbox"/> <input checked="" type="checkbox"/> | <p>closest river is the channelized Santa Ana River, located approximately 2.8 miles west of the project site. However, the Santa Ana River is not designated as a wild and scenic river and does not flow through or adjacent to the project site. (y)</p> |
| ENVIRONMENTAL JUSTICE | | |
| <p>Environmental Justice</p> <p>Executive Order 12898</p> | <p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p> | <p>The project site is in an urbanized area surrounded by a mix of industrial, commercial, and residential uses. Based on the U.S. Environmental Protection Agency's (EPA) Environmental Justice Screening and Mapping Tool, the project site is located within a census block group where the demographics are 65% low income and 90% minority. (z) The generated EJSCREEN Report is attached as Appendix F.</p> <p>As discussed under <i>Clean Air, Contamination and Toxic Substances</i>, and <i>Explosive and Flammable Hazards</i>, the project would not expose the surrounding community to adverse air quality or environmental hazards. As discussed under <i>Noise Abatement and Control</i>, the project may be exposed to noise impacts due to traffic on I-5 and East Santa Ana Boulevard, and activity on the Metrolink rail line; however, the implementation of noise attenuation measures would ensure that interior noise levels at the proposed residences do not exceed 45 dBA DNL.</p> <p>The project would not result in the demolition of existing housing since the project site is vacant; rather, it would provide permanent supportive housing opportunities extremely low-income families and those with special needs, which would have a beneficial impact on the community. Because the proposed project would not result in adverse environmental effects, it would not result in disproportionately high adverse effects on minority or low-income populations, and the proposed project is not expected to create any environmental justice</p> |

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| | | concerns. |
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Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

- (1) Minor beneficial impact
- (2) No impact anticipated
- (3) Minor Adverse Impact – May require mitigation
- (4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

| Environmental Assessment Factor | Impact Code | Impact Evaluation |
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| LAND DEVELOPMENT | | |
| Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design | 1 | <p>The project site has a General Plan designation of District Center and is zoned Transit Village (TV) in the Transit Zoning Code. (r, s) According to the Transit Zoning Code, the purpose of the TV zone is to provide compact transit-supportive mixed-use and residential development. (r) No general plan or zone change would be required to implement the project. The intensity standard for the TV zone is 20 to 30 dwelling units per acre for courtyard housing, such as the proposed project. The proposed project would have a developed intensity of 29.6 units per acre. Therefore, the proposed project would be consistent with the allowed use of the project site and development intensity standards.</p> <p>The proposed project would be developed in compliance with the development standards and provisions of the Transit Zoning Code. The project also aligns with Land Use Policy Goals of the General Plan to promote high density residential development in the City’s District Centers. (s) Furthermore, the project would provide housing for extremely-low income households, which would be consistent with applicable housing needs for the City by helping to meet its Regional Housing Needs Allocation for the 2014-2021 period and would, therefore, be consistent with applicable housing</p> |

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| | | <p>needs. (aa)</p> <p>The proposed project would generally be compatible with surrounding development, which consists of commercial and residential uses. The proposed project would represent a positive change in the visual character of the project site from a vacant site. The project would not substantially degrade the site or its surroundings and would provide beneficial housing opportunities extremely-low income households, add landscaping, and be compatible with the surrounding commercial developments in proposed building massing.</p> |
| Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff | 2 | <p>The project site is relatively flat and is vacant. (cc) Based on the State’s hazards map for the project area, the project site is not at risk for liquefaction, floods, or wildfires. (bb) The project would not involve major topographic modifications since subterranean levels are not proposed for the residential buildings or parking.</p> <p>Construction activities would expose soils and present potential for erosion; however, the generally level conditions of the project site and the nature of the proposed project (with no subterranean levels) would limit the potential for substantial soil erosion. Although temporary erosion could occur, the project would be required to comply with construction Best Management Practices (BMPs) described in Orange County’s Construction Runoff Guidance Manual for erosion control. These include the use of soil binders, straw mulch, earth dikes, and drainage swales, and velocity dissipation devices. (dd) Implementation of erosion control measures as required by the City, compliance with the California Building Code (CBC), and adherence to all requirements set for the in the National Pollutant Discharge Elimination System (NPDES) permit for construction activities would minimize erosion potential. No impacts association with soil erosion or drainage would occur. Implementation of the project would not alter the pre-existing drainage facilities and patterns. Overall, the flow of storm water runoff would remain the same as under existing conditions at the project site.</p> |
| Hazards and Nuisances including Site Safety and Noise | 3 | <p>The project site is vacant, and as discussed under <i>Contamination and Toxic Substances</i>, there are no sites listed on the U.S. EPA’s NPL or SEMS databases. (i, j) There are no active cleanup sties listed within a quarter mile radius of the proposed site according to DTSC’s Envirostor and SWRCB’s GeoTracker databases. (k, l) Furthermore, as stated in <i>Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff</i>, the project site is not at risk for liquefaction,</p> |

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| | <p>floods, or wildfires. (bb)</p> <p>As discussed under the <i>Noise Abatement and Control</i> analysis, project construction would temporarily increase on-site ambient noise levels. However, pursuant to the City of Santa Ana’s noise ordinance, construction activity would be restricted to daytime hours and therefore; construction activities would not disturb residents during hours of recognized sleep.</p> <p>The project itself is a noise-sensitive use since it involves construction of 86 affordable housing units. The nearest highway/freeway is I-5, located approximately 140 feet northeast of the project site. Due to this distance, noise from the freeway may affect the project site. The nearest airport is John Wayne Airport, which is located approximately 7.6 miles south. The project site is not within the airport’s noise contour map and would not be exposed to adverse airport noise. (a, b) The Metrolink rail line is located approximately 450 feet west from the center of the site and the Santa Ana Metrolink Station is located 0.4 mile southwest of the project site. Therefore, noise from the Metrolink (e.g., train horns) may affect the project site at this distance. The predominant source of noise in the vicinity is traffic on I-5 and East Santa Ana Boulevard.</p> <p>As discussed in the analysis of Noise Abatement and Control, proposed residences would be exposed to “Normally Unacceptable” noise levels per HUD’s Acceptability Standards. Therefore, mitigation is required to ensure that interior noise levels within the proposed residences do not exceed 45 dBA DNL.</p> |
| Energy Consumption | <p>2</p> <p>Southern California Edison would provide electricity to the proposed project. Public utilities located in California are required to achieve 33% renewable energy supply by the year 2020. (ee)</p> <p>Energy would be required during construction; however, construction would be temporary and energy use would not exceed available supplies. Project operation may incrementally increase the consumption of electricity and natural gas in the long term for lighting, but the project site is in an area currently served by utility providers. In addition, the project would be required to comply with the energy conservation requirements of Title 24 of the California Administrative Code and CalGreen. (ff)</p> <p>Because electricity and natural gas resources are available both locally and regionally, the proposed project would not</p> |

| | | impact the availability of energy resources. |
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| Environmental Assessment Factor | Impact Code | Impact Evaluation |
| SOCIOECONOMIC | | |
| Employment and Income Patterns | 2 | The proposed project entails construction of a three-story multi-family residential complex, which would provide permanent supportive housing for extremely-low income households in the City of Santa Ana. The project site is vacant; therefore, no employees would be displaced as a result of implementing the project. Rather, operation of the project would generate full-time employment opportunities that entail management of the 86-unit residential complex. The project would include management and staff office spaces, as well as one unit to be occupied by the on-site property manager. In addition, construction of the proposed project would generate temporary employment opportunities. Therefore, the proposed project would have no adverse impacts on long-term employment or income patterns. |
| Demographic Character Changes, Displacement | 2 | <p><u>Demographic Character Changes</u></p> <p>The proposed project would involve the construction of an 86-unit multi-family affordable housing complex with residential community amenities for extremely low-income households, which would increase the local population. The project would include 16 studio units, 26 one-bedroom units, 22 two-bedroom units, 17 three-bedroom units, and 5 four-bedroom units. Based on Health and Safety Code 50052.5 maximum occupancy standards, the proposed project would house an estimated 227 new residents. (gg) Although many future project residents may already live in Santa Ana, project residents could add to the City's population.</p> <p>The current population of Santa Ana is estimated at 334,136. (hh) Assuming that all project residents are new to Santa Ana, the addition of 227 new residents to the City would increase the population of Santa Ana to 334,363, which is approximately a 0.07 percent increase. The Southern California Association of Governments (SCAG) estimates that the City's population will increase to 343,400 by 2035, an increase over current population levels of 9,264 residents, which is a 2.8 percent increase. (ii) Therefore, the population increase associated with the proposed project would be within the population forecast for the City.</p> <p><u>Displacement</u></p> |

| | | The project site is currently vacant. Therefore, no housing units or people residing on the project site would be displaced by project construction and operation. No impacts associated with the displacement of existing uses or residents would occur. |
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| Environmental Assessment Factor | Impact Code | Impact Evaluation |
| COMMUNITY FACILITIES AND SERVICES | | |
| Educational and Cultural Facilities | 2 | <p>The project site is in the Santa Ana Unified School District (SAUSD). The proposed project entails construction of an 86-unit multi-family residential complex for extremely-low income households. According to the U.S. Census Bureau, 27.5 percent of the residential population in the City of Santa Ana is under 18 years of age. (The proposed project would house approximately 227 residents, of which approximately 63 would be under 18 years of age. Therefore, the project would not generate a substantial number of students. The project would also be subject to Senate Bill 50 (Section 65995(h)) and mandatory fees would be paid to the SAUSD, which would offset the low level of impacts incurred from project residents (kk). No impacts to educational facilities would occur.</p> <p>As discussed under <i>Historic Preservation</i>, no cultural resources are located on the project site and the proposed project would not result in adverse impacts to cultural properties under Section 106 of NHPA.</p> |
| Commercial Facilities | 1 | <p>The project site is in an urbanized area with a variety of commercial and retail establishments proximate to the project site that could serve the residents of the proposed project. The closest commercial retail facilities are located approximately 0.7 mile southwest of the site at the intersection of East 3rd Street and Main Street, which contains a grocery store, restaurants, banks, and other retailers.</p> <p>The proposed project could potentially generate increased traffic and noise around the project site during construction; however, impacts would be temporary and no commercial facilities would be permanently affected. The project would also increase the customer base for local businesses.</p> |
| Health Care and Social Services | 2 | As mentioned in <i>Demographic Character Changes, and Displacement</i> , the proposed project could potentially add an estimated 227 new residents to the City of Santa Ana population. As a result, the project may incrementally |

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| | | <p>increase the need for health care services in Santa Ana. However, a number of health care services are located within a five-mile radius to the project site. The Orange County Global Medical Center is located approximately 1.8 miles east of the project site and is the closest facility that provides emergency medical services within a 282-bed facility with over 1,500 medical staff. (ll) The St. Joseph Hospital is located approximately three miles north of the project site, and contains 75 specialty healthcare programs, a medical staff of over 1,000 personnel, and 525-bed capacity. (mm) Therefore, the addition of 227 new residents would not adversely affect health care services.</p> |
| <p>Solid Waste Disposal / Recycling</p> | <p>2</p> | <p>Operation of the project may incrementally increase solid waste generation. Waste Management collects refuse and recycling in the City of Santa Ana for disposal and recycling at the Frank R. Bowerman Landfill in Irvine, approximately 11 miles east of the project site. The City has agreements with Waste Management to provide residential and commercial collection services throughout Santa Ana. The Frank R. Bowerman Landfill has a total permitted capacity of 266,000,000 cubic yards and a remaining capacity of 205,000,000 cubic yards of solid waste. The landfill currently has 11,500 tons of permitted throughput per day and has an estimated closure date of December 31, 2053. (nn)</p> <p>Based on the CalEEMod results in Appendix C, the project would generate approximately 39.6 tons of solid waste per year, or approximately 0.11 tons per day. Project-generated waste would be less than 0.001% of Frank R. Bowerman Landfill's daily allowable waste. The incremental increase in solid waste due to the proposed project would not adversely affect solid waste facilities.</p> |
| <p>Waste Water / Sanitary Sewers</p> | <p>2</p> | <p>Wastewater generated at the project site is collected by the City's local wastewater collection system and is then conveyed to the Orange County Sanitation District's (OCSD) trunk mainlines for conveyance and treatment. All OCSD sewers in the City collect and convey wastewater to the OCSD Treatment Plant No. 1 located in the City of Fountain Valley. The facility currently treats 117 million gallons per day (MGD) of wastewater. OCSD's Plant No. 1 has a capacity of 320 MGD. (oo)</p> <p>Assuming that wastewater generation would be 80 percent of the water demand, which is based on the CalEEMod result (see <i>Water Supply</i> below), the project would generate an estimated 17,567 gallons of wastewater per day, or</p> |

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| | | <p>0.02% of amount of wastewater currently treated by OCSD per day. (oo) This increase would be within OCSD's available capacity for collection and treatment. In addition, expansion plans by OCSD are ongoing and designed to address the incremental increase in sewage generation as a result of a new development. (oo) Therefore, wastewater capacity is sufficient to serve the project.</p> |
| Water Supply | 2 | <p>The City of Santa Ana receives water from two main sources, the Lower Santa Ana River Groundwater basin, which is managed by the Orange County Water District (OCWD) and imported water from Metropolitan Water District of Southern California (Metropolitan). Based on the CalEEMod results (see Appendix C), the project would demand an estimated 21,959 gallons of water per day, or 24.5 acre-feet per year (AFY). Development of the proposed project would likely increase demand for water in comparison to the existing motel. The proposed project would potentially demand water for kitchens, restrooms, irrigation, and landscaping.</p> <p>According to the City of Santa Ana's 2015 Urban Water Management Plan (UWMP), the City's forecasted supply for a normal year 2020 would be 36,998 AFY. (pp) The proposed project would demand approximately 0.07% of this forecasted water supply. The UWMP states that the City would be capable of providing adequate water supply to its service area under a normal supply and demand, single dry-year supply and demand, and multiple dry-year supply and demand scenarios through 2040. (pp) Therefore, the UWMP accounts for increased demand due to growth in the City and sufficient water supplies to serve the project are available.</p> |
| Public Safety - Police, Fire and Emergency Medical | 2 | <p>The Santa Ana Police Department (SAPD) provides police services to the project area. The SAPD headquarters is at City Hall (60 Civic Center Plaza), located approximately 1.7 miles west of the project site. The existing average response time for emergency calls is approximately seven minutes. Final project plans would be reviewed by the SAPD to ensure that all appropriate City requirements are met and demands for service are minimized.</p> <p>The Orange County Fire Authority (OCFA) serves the project area. The OCFA provides primary response for fire suppression and emergency medical services to the community. Given the seven existing fire stations within three miles of the project site, the project area has adequate nearby fire facilities to serve the project in addition to the</p> |

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| | | <p>existing service needs. (qq) The current response time to emergency calls from the project site is less than five minutes. Final project plans will be reviewed by the OCFA to ensure that all appropriate City requirements are met and demands for service are reduced to the extent possible. With the continued implementation of existing practices of the City and compliance with the California Fire Code, the proposed project would not significantly affect community fire protection services and would not result in the need for new or expanded fire protection facilities.</p> |
| <p>Parks, Open Space and Recreation</p> | <p>2</p> | <p>The City of Santa Ana owns and operates 35 parks, comprising about 400 acres (rr). The City's estimated current population is 334,136 residents. (hh) Therefore, the ratio of public parks to residents in the City is 1.2 acres of parkland per for every 1,000 residents.</p> <p>The proposed project would add an estimated 227 new residents to the total City population, which would increase population in the project area by an estimated 0.07 percent. This increase in population would result in an increased demand for parks. The park closest to the proposed project is Logan Park, located approximately 0.4 mile west of the project site. In addition, the project includes a community pool with lounge area, an open green space, barbeque and picnic area, a tot lot with a shade canopy, and a dog run and wash for recreational use by project residents. These amenities would help meet the recreational needs of site residents. Therefore, the incremental increase in park demand would not adversely affect City parks, open space, and recreation facilities.</p> |
| <p>Transportation and Accessibility</p> | <p>2</p> | <p>Construction of the project would generate temporary construction-related traffic such as deliveries of equipment and materials to the project site and construction worker traffic. Construction traffic would be limited, temporary, and would not be substantial in relation to the existing traffic load and capacity of the street system that serves the project site and immediate area.</p> <p>Based on the Institute of Transportation Engineers 10th Edition trip rate of 3.83 average daily trips per apartment unit, the proposed project would generate an estimated 330 daily trips. (ss)</p> <p>According to the Orange County Congestion Management Program (CMP), a traffic impact analysis is required for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP</p> |

| | | <p>highway system. (tt) Therefore, a traffic impact analysis is not required for the proposed project, which would generate an estimated 330 daily trips.</p> <p>The OCTA 59, 83, and 206 bus lines stop approximately 500 feet east (west bound lines) and 250 feet south (east bound lines) of the project site, which provide access into the downtown area. The Santa Ana Regional Transportation Center and Santa Ana Metrolink Station are located 0.4 mile southwest of the project site, and provide additional transportation options for project residents.</p> <p>No accessibility issues or barriers to emergency vehicles are present on the project site or would be created by the proposed project. Internal paved pathways and landscaping would connect all areas of the project site. The proposed project's estimated 330 daily trips would not adversely alter operational levels of service and existing transportation facilities and the local road network would be adequate to meet the needs of the project.</p> |
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| Environmental Assessment Factor | Impact Code | Impact Evaluation |
| NATURAL FEATURES | | |
| Unique Natural Features, Water Resources | 2 | <p>No unique natural features, such as caves, cliffs, vistas/view sheds, canyons, or waterfalls are present on or adjacent to the project site.</p> <p>As discussed in <i>Farmland Protection</i>, no farmland is present on or near the project site. Additionally, as discussed in <i>Sole Source Aquifers</i>, <i>Wetland Protection</i>, and <i>Wild and Scenic Rivers</i>, the project site is not adjacent to wetlands, wild and scenic rivers, or sole source aquifers water resources. Therefore, the project would not adversely affect any natural features or water resources.</p> |
| Vegetation, Wildlife | 2 | <p>The project site is in an urbanized area predominantly surrounded by commercial and residential uses. The project site is on a vacant parcel. The project site does not contain any riparian habitat or sensitive natural communities and no endangered, rare, threatened, or special status plant species (or associated habitats) or wildlife species designated by the USFWS, CDFW, or CNPS are likely to occur on-site. In addition, the project site is not located in any known regional wildlife movement corridors or any other sensitive biological areas as indicated by the USFWS Critical Habitat portal, ECOS, or CDFW BIOS. (pp, rr) Therefore, according to the USFWS and CDFW resources, the proposed project would not have an adverse effect on any</p> |

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| | | endangered species or sensitive habitats. |
| Other Factors | 2 | No other factors are pertinent to the proposed project. |

Additional Studies Performed:

Cultural Resources Study – Rincon Consultants, Inc.

Field Inspection (Date and completed by):

Site visit on August 8, 2019 completed by Vanessa Villanueva, Associate Environmental Planner, Rincon Consultants, Inc.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]:

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List of Permits Obtained: None

Public Outreach [24 CFR 50.23 & 58.43]: None

Cumulative Impact Analysis [24 CFR 58.32]:

Cumulative impacts may occur as a result of other planned and pending development in the site vicinity. However, the proposed project would construct an 86-unit multi-family residential complex, which would incrementally contribute to any cumulative environmental changes. As discussed in the *Clean Air* and *Transportation and Accessibility* sections, the project's air pollutant emissions would not cause an exceedance of threshold levels and the project would be expected to generate a nominal number of new vehicle trips. In addition, the project would not contribute to cumulative impacts related to other issues (e.g., soil suitability, hazards); therefore, potential cumulative impacts would not be considerable.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

Offsite Alternative: Consideration of an offsite alternative is not warranted because significant impacts that cannot be mitigated have not been identified.

Reduced Project: Reducing the number of affordable housing units may incrementally reduce impacts in a range of issue areas, such as public services, air quality, utilities, and transportation. However, the proposed project's impacts would not be significant in these areas. Reducing the project size would not alter mitigation requirements related to historic resources or noise.

No Action Alternative [24 CFR 58.40(e)]: If the proposed project were not implemented, the project site would continue to be vacant. Overall, impacts in a range of issue areas would be lower under the no action alternative. However, the proposed project's impacts in these areas would not be significant. Furthermore, this alternative would not provide housing for extremely-low income households.

Summary of Findings and Conclusions:

The proposed project would construct a three-story multi-family residential complex on an approximately 2.3-acre site, that would include 86 units ranging from studios to four-bedroom units for extremely-low income households. Project amenities would include approximately 3,500 sf of community building space for the leasing/management office and for residential amenities. Recreational amenities that would be provided as part of the project for residents include an outdoor pool with lounge area, tot lot with a shade canopy, an open green area, and a dog run. The project includes a total of 110 parking spaces on site, with 68 standard parking spaces and 42 tandem parking spaces. Neighboring land uses immediately adjacent to the project site consist of commercial and light industrial uses. The project would not adversely affect the visual character of the site or the surrounding area because proposed buildings would be similar in scale to the existing and adjacent buildings and would be compatible with the existing land uses.

Ambient noise levels at the site are within HUD's "Normally Unacceptable Range." Therefore, noise mitigation is required to ensure that interior noise levels within the proposed residences do not exceed acceptable standards for residential uses. The project site is generally flat and is not subject to unusual geological hazards. According to the FEMA Federal Insurance Rate Map, the project site is located in Flood Zone X, which is an area outside of the 0.2 percent annual chance floodplain. Therefore, flood insurance is not required for the project and no mitigation is required to reduce any potential hazards to health of future occupants.

No significant historic or archaeological resources are present on-site. The project would not affect known culturally important resources; nevertheless, mitigation is recommended in the event that unanticipated discoveries of cultural resources or human remains are unearthed during ground-disturbing activities related to project construction.

The project would not adversely affect public services or educational and cultural facilities. The project site is vacant; therefore, implementation of the project would not displace any existing residents or employees. Rather, implementation of the project would create temporary employment opportunities during construction and some employment opportunities during the operation period. The project would not result in adverse effects to water or energy supplies, nor would it generate the need for new or expanded water, wastewater, or solid waste facilities.

The number of new vehicle trips associated with the project would not significantly alter operational levels of service and existing transportation facilities and services would be adequate to meet the needs of the project. The project would conform to all applicable federal, State, and regional air pollution control regulations, and would not adversely affect local or regional air quality.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible

for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

| Law, Authority, or Factor | Mitigation Measure |
|-----------------------------|--|
| Historic Preservation | <p><u>DISCOVERY OF CULTURAL RESOURCES</u> If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be NRHP eligible, additional work such as data recovery excavation, Native American consultation, and archaeological monitoring may be warranted to mitigate any adverse effects under the NHPA.</p> <p><u>DISCOVERY OF HUMAN REMAINS</u> The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, existing regulations outlined in the State of California Health and Safety Code Section 7050.5 state that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code § 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access and provide recommendations as to the treatment of the remains to the landowner.</p> |
| Noise Abatement and Control | <p><u>SOUND INSULATION</u> The applicant shall install exterior building materials with sufficient Sound Transmission Class (STC) ratings to reduce interior noise levels in habitable rooms of all residential units with direct exposure to local roadways to below 45 dBA DNL, as required by HUD. All exterior wall assemblies (including windows and wall components) shall provide either STC of 35 or its equivalent in order to achieve an interior noise level of 45 dBA DNL. All residential units shall be provided with forced-air mechanical ventilation with non-</p> |

operable windows. The applicant shall provide a Development Agreement to HUD that demonstrates how construction of the proposed residential units and chosen building materials will achieve an interior noise level of 45 dBA DNL. The provision of forced-air mechanical ventilation enables new residents to retain adequate air quality with windows closed, and the installation of exterior wall assemblies with sufficient STC ratings would substantially reduce interior noise in habitable rooms. Exterior materials with an STC 35 rating would reduce exterior noise at a 500 Hz frequency by approximately 35 dBA in the interior environment. This STC rating is calculated for specific materials in a laboratory setting by measuring sound transmission loss in 1/3 octave increments between 125 Hz and 4,000 Hz. Although STC 35-rated materials would not perform equally at all frequencies of ambient noise, they would reduce overall exterior noise of up to 77 dBA DNL by about 35 dBA. The resulting interior noise level of about 42 dBA DNL would meet HUD's interior standard of 45 dBA DNL.

The applicant shall conduct a Post-Construction Sound Study to confirm the effectiveness of the agreed-upon noise reduction measures in obtaining a maximum interior noise level of 45 dBA in all residential units with direct exposure to local roadways. If the Sound Study finds that an interior sound level of 45 dBA DNL or lower has not been achieved, additional attenuation features shall be developed and implemented to achieve a sound level of 45 dBA DNL before project occupancy.

Determination:

Finding of No Significant Impact [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

Finding of Significant Impact [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: Cindy Wolfe Date: 11/12/19

Name/Title/Organization: Cindy Wolfe, Administrative Manager/Environmental Coordinator/
OC Housing and Community Development

Certifying Officer Signature: Julia Bidwell Date: 11/12/19

Name/Title: Julia Bidwell, Director, OC Housing and Community Development

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

ATTACHMENTS

Appendix A

Figure 1 Regional Location
Figure 2 Project Location
Figure 3 Site Photos

Appendix B

Project Site Plan

Appendix C

CalEEMod Results – Summer, Winter, Annual Emissions
HUD Air Quality Worksheet

Appendix D

Cultural Resources Assessment Report – Rincon Consultants, Inc.

Appendix E

HUD Day/Night Noise Level Assessment
HUD Noise Abatement and Control Worksheet

Appendix F

EJSCREEN Report – Environmental Protection Agency

Appendix A



Project Site Figures



Crossroads at Washington Housing Project
Environmental Assessment



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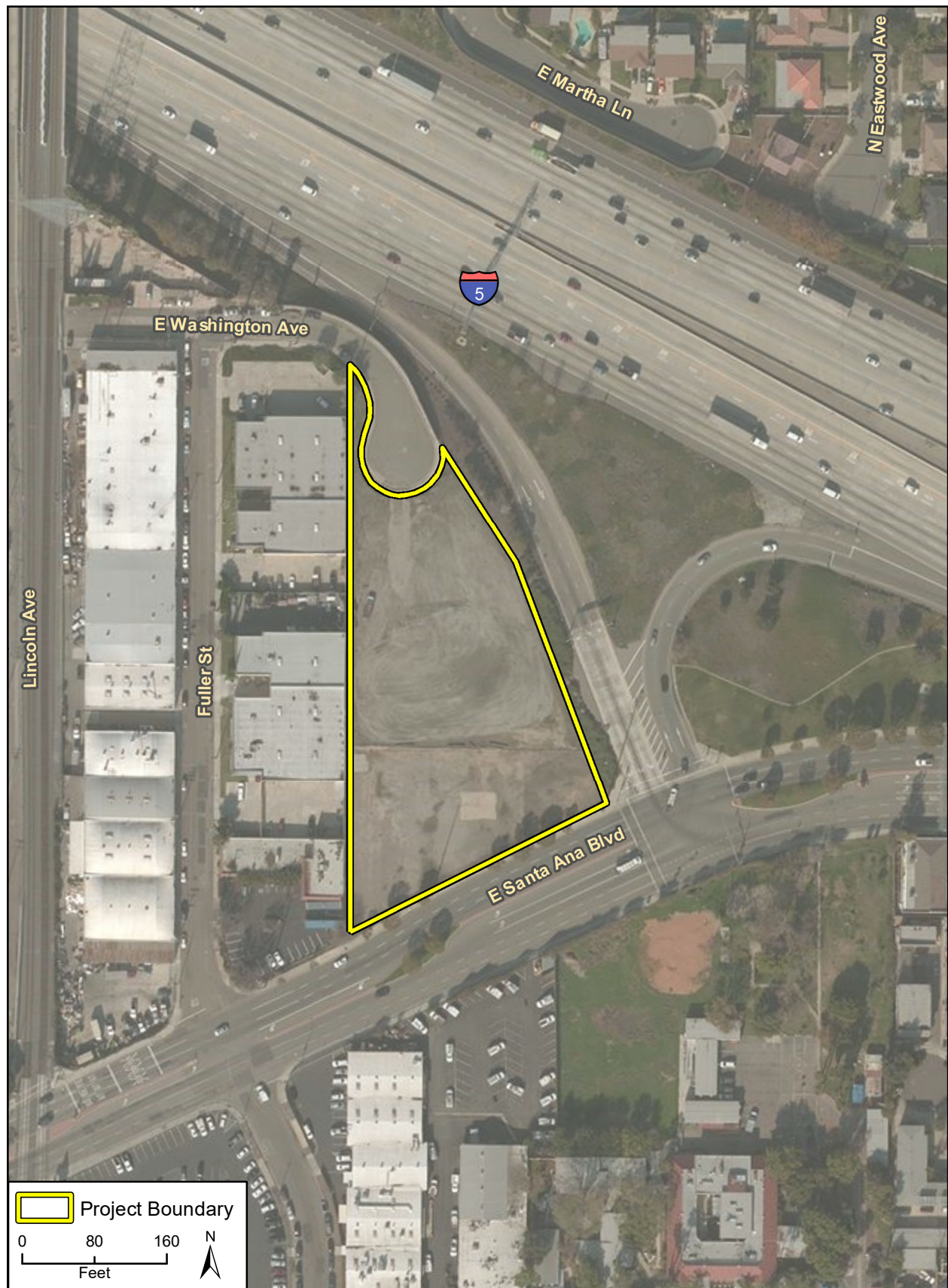
 Project Location
 



Regional Location

Figure 1
 City of Santa Ana





Project Boundary

Figure 2
City of Santa Ana





Photo 1: Northeast view of project site along East Santa Ana Boulevard, from southwest corner of site.



Photo 2: Southward view of project site from cul-de-sac at Washington Avenue, from north end of site.



Photo 1: Southeast view of project site from center of site.



Photo 2: Northwest view of project site from southeast corner of site.

Appendix B

Project Site Plan



1126 & 1146 East Washington Avenue + County Parcel

Family Housing

PROJECT SUMMARY

| | |
|-----------------|------------|
| SITE AREA | 2.28 AC |
| NUMBER OF UNITS | 86 UNITS |
| DENSITY | 37.7 DU/AC |

UNIT SUMMARY

| TYPE | S.F. | # | % |
|--------------|----------------|-----------------|-------|
| STUDIO | +/- 400 S.F. | 16 | 18.6% |
| 1 BR | +/- 600 S.F. | 26 | 30.2% |
| 2 BR | +/- 850 S.F. | 22 | 25.6% |
| 3 BR | +/- 1,100 S.F. | 17 | 19.8% |
| 4 BR | +/- 1,300 S.F. | 5 | 5.8% |
| TOTAL | | 86 UNITS | |

PARKING SUMMARY

| | | | |
|------------------|-------------------|--------------------------|--|
| Parking Provided | | | |
| Standard | 68 Spaces | | |
| Tandem | 42 Spaces | = 21 x 2 | |
| TOTAL | 110 Spaces | 1.28 Spaces/ Unit | |



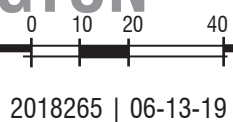
SITE PLAN

THE CROSSROADS AT WASHINGTON



SANTA ANA, CALIFORNIA

© 2019 WILLIAM HEZMALHALCH ARCHITECTS, INC. DBA WHA.



2018265 | 06-13-19

ARCHITECTS . PLANNERS . DESIGNERS



ORANGE COUNTY . LOS ANGELES . BAY AREA





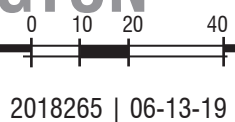
SITE PLAN

THE CROSSROADS AT WASHINGTON

SANTA ANA, CALIFORNIA



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ORANGE COUNTY . LOS ANGELES . BAY AREA



SITE PLAN

THE CROSSROADS AT WASHINGTON

SANTA ANA, CALIFORNIA

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2018265 | 06-13-19



ORANGE COUNTY . LOS ANGELES . BAY AREA

Appendix C

*CalEEMod Results
Air Quality Worksheet*



Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

Crossroads at Washington - Santa Ana
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---------------------|--------|---------------|-------------|--------------------|------------|
| Apartments Mid Rise | 86.00 | Dwelling Unit | 1.31 | 69,400.00 | 227 |
| Parking Lot | 110.00 | Space | 0.99 | 44,000.00 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 31 |
| Climate Zone | 8 | Operational Year | 2021 | | |
| Utility Company | Southern California Edison | | | | |
| CO2 Intensity (lb/MWhr) | 702.44 | CH4 Intensity (lb/MWhr) | 0.029 | N2O Intensity (lb/MWhr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

Project Characteristics -

Land Use - Lot acreage totals 2.3 acres; SF of residential based on site plans; 227 population estimate based on unit sizes, counts, and maximum occupancy per CA Health & Safety Code 50052.5

Construction Phase - Estimated per site plans

Grading - Total site acreage is approx 2.4 acres

Woodstoves - No woodstoves or fireplaces in residential units

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

| Table Name | Column Name | Default Value | New Value |
|----------------------|----------------------------|---------------|------------|
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True |
| tblConstructionPhase | NumDays | 220.00 | 189.00 |
| tblConstructionPhase | PhaseEndDate | 1/11/2021 | 11/27/2020 |
| tblConstructionPhase | PhaseEndDate | 12/14/2020 | 10/31/2020 |
| tblConstructionPhase | PhaseEndDate | 12/28/2020 | 11/13/2020 |
| tblConstructionPhase | PhaseStartDate | 12/29/2020 | 11/14/2020 |
| tblConstructionPhase | PhaseStartDate | 12/15/2020 | 11/1/2020 |
| tblFireplaces | FireplaceDayYear | 25.00 | 0.00 |
| tblFireplaces | FireplaceHourDay | 3.00 | 0.00 |
| tblFireplaces | FireplaceWoodMass | 1,019.20 | 0.00 |
| tblFireplaces | NumberGas | 73.10 | 0.00 |
| tblFireplaces | NumberNoFireplace | 8.60 | 0.00 |
| tblFireplaces | NumberWood | 4.30 | 0.00 |
| tblGrading | AcresOfGrading | 3.00 | 2.30 |
| tblGrading | AcresOfGrading | 4.50 | 2.30 |
| tblLandUse | LandUseSquareFeet | 86,000.00 | 69,400.00 |
| tblLandUse | LotAcreage | 2.26 | 1.31 |
| tblLandUse | Population | 246.00 | 227.00 |
| tblWoodstoves | NumberCatalytic | 4.30 | 0.00 |
| tblWoodstoves | NumberNoncatalytic | 4.30 | 0.00 |
| tblWoodstoves | WoodstoveDayYear | 25.00 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 999.60 | 0.00 |

2.0 Emissions Summary

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|-----------|--|--|
| 1 | 1-1-2020 | 3-31-2020 | 0.7334 | 0.7334 |
| 2 | 4-1-2020 | 6-30-2020 | 0.7170 | 0.7170 |
| 3 | 7-1-2020 | 9-30-2020 | 0.7249 | 0.7249 |
| | | Highest | 0.7334 | 0.7334 |

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 | 0.3030 | 0.0103 | 0.8902 | 5.0000e-005 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 1.4515 | 1.4515 | 1.4100e-003 | 0.0000 | 1.4867 |
| Energy | 5.3000e-003 | 0.0453 | 0.0193 | 2.9000e-004 | | 3.6600e-003 | 3.6600e-003 | | 3.6600e-003 | 3.6600e-003 | 0.0000 | 166.2796 | 166.2796 | 5.7000e-003 | 1.9300e-003 | 166.9985 |
| Mobile | 0.1760 | 0.9542 | 2.4328 | 8.7800e-003 | 0.7255 | 7.1700e-003 | 0.7326 | 0.1944 | 6.6900e-003 | 0.2011 | 0.0000 | 810.5288 | 810.5288 | 0.0398 | 0.0000 | 811.5227 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 8.0303 | 0.0000 | 8.0303 | 0.4746 | 0.0000 | 19.8948 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1.7777 | 35.7512 | 37.5288 | 0.1841 | 4.6200e-003 | 43.5060 |
| Total | 0.4843 | 1.0097 | 3.3423 | 9.1200e-003 | 0.7255 | 0.0157 | 0.7412 | 0.1944 | 0.0153 | 0.2096 | 9.8080 | 1,014.0110 | 1,023.8190 | 0.7055 | 6.5500e-003 | 1,043.4087 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

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 | 0.3030 | 0.0103 | 0.8902 | 5.0000e-005 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 1.4515 | 1.4515 | 1.4100e-003 | 0.0000 | 1.4867 |
| Energy | 5.3000e-003 | 0.0453 | 0.0193 | 2.9000e-004 | | 3.6600e-003 | 3.6600e-003 | | 3.6600e-003 | 3.6600e-003 | 0.0000 | 166.2796 | 166.2796 | 5.7000e-003 | 1.9300e-003 | 166.9985 |
| Mobile | 0.1600 | 0.8362 | 2.0266 | 7.1000e-003 | 0.5785 | 5.8400e-003 | 0.5843 | 0.1550 | 5.4500e-003 | 0.1605 | 0.0000 | 655.0518 | 655.0518 | 0.0332 | 0.0000 | 655.8805 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 8.0303 | 0.0000 | 8.0303 | 0.4746 | 0.0000 | 19.8948 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 1.4221 | 31.1018 | 32.5240 | 0.1474 | 3.7100e-003 | 37.3146 |
| Total | 0.4684 | 0.8917 | 2.9361 | 7.4400e-003 | 0.5785 | 0.0144 | 0.5929 | 0.1550 | 0.0140 | 0.1690 | 9.4524 | 853.8847 | 863.3372 | 0.6622 | 5.6400e-003 | 881.5752 |

| | 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 |
|--------------------------|-------------|--------------|--------------|--------------|---------------|--------------|--------------|----------------|---------------|--------------|-------------|--------------|--------------|-------------|--------------|--------------|
| Percent Reduction | 3.30 | 11.68 | 12.15 | 18.42 | 20.26 | 8.46 | 20.01 | 20.26 | 8.13 | 19.38 | 3.62 | 15.79 | 15.67 | 6.14 | 13.89 | 15.51 |

3.0 Construction Detail

Construction Phase

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Demolition | Demolition | 1/1/2020 | 1/28/2020 | 5 | 20 | |
| 2 | Site Preparation | Site Preparation | 1/29/2020 | 1/31/2020 | 5 | 3 | |
| 3 | Grading | Grading | 2/1/2020 | 2/10/2020 | 5 | 6 | |
| 4 | Building Construction | Building Construction | 2/11/2020 | 10/31/2020 | 5 | 189 | |
| 5 | Paving | Paving | 11/1/2020 | 11/13/2020 | 5 | 10 | |
| 6 | Architectural Coating | Architectural Coating | 11/14/2020 | 11/27/2020 | 5 | 10 | |

Acres of Grading (Site Preparation Phase): 2.3

Acres of Grading (Grading Phase): 2.3

Acres of Paving: 0.99

Residential Indoor: 140,535; Residential Outdoor: 46,845; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,640 (Architectural Coating – sqft)

OffRoad Equipment

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| Paving | Cement and Mortar Mixers | 1 | 8.00 | 9 | 0.56 |
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Cranes | 1 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 2 | 7.00 | 89 | 0.20 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Demolition | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Grading | Tractors/Loaders/Backhoes | 2 | 7.00 | 97 | 0.37 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Paving Equipment | 1 | 8.00 | 132 | 0.36 |
| Site Preparation | Scrapers | 1 | 8.00 | 367 | 0.48 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |

Trips and VMT

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

| 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 |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 5 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 3 | 8.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 8 | 80.00 | 16.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 16.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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 | 0.0213 | 0.2095 | 0.1466 | 2.4000e-004 | | 0.0115 | 0.0115 | | 0.0108 | 0.0108 | 0.0000 | 21.0677 | 21.0677 | 5.4200e-003 | 0.0000 | 21.2031 |
| Total | 0.0213 | 0.2095 | 0.1466 | 2.4000e-004 | | 0.0115 | 0.0115 | | 0.0108 | 0.0108 | 0.0000 | 21.0677 | 21.0677 | 5.4200e-003 | 0.0000 | 21.2031 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

3.2 Demolition - 2020

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 | 5.8000e-004 | 4.5000e-004 | 4.9300e-003 | 1.0000e-005 | 1.4300e-003 | 1.0000e-005 | 1.4400e-003 | 3.8000e-004 | 1.0000e-005 | 3.9000e-004 | 0.0000 | 1.2852 | 1.2852 | 4.0000e-005 | 0.0000 | 1.2861 |
| Total | 5.8000e-004 | 4.5000e-004 | 4.9300e-003 | 1.0000e-005 | 1.4300e-003 | 1.0000e-005 | 1.4400e-003 | 3.8000e-004 | 1.0000e-005 | 3.9000e-004 | 0.0000 | 1.2852 | 1.2852 | 4.0000e-005 | 0.0000 | 1.2861 |

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 | 0.0213 | 0.2095 | 0.1466 | 2.4000e-004 | | 0.0115 | 0.0115 | | 0.0108 | 0.0108 | 0.0000 | 21.0676 | 21.0676 | 5.4200e-003 | 0.0000 | 21.2030 |
| Total | 0.0213 | 0.2095 | 0.1466 | 2.4000e-004 | | 0.0115 | 0.0115 | | 0.0108 | 0.0108 | 0.0000 | 21.0676 | 21.0676 | 5.4200e-003 | 0.0000 | 21.2030 |

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3.2 Demolition - 2020

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 | 5.8000e-004 | 4.5000e-004 | 4.9300e-003 | 1.0000e-005 | 1.4300e-003 | 1.0000e-005 | 1.4400e-003 | 3.8000e-004 | 1.0000e-005 | 3.9000e-004 | 0.0000 | 1.2852 | 1.2852 | 4.0000e-005 | 0.0000 | 1.2861 |
| Total | 5.8000e-004 | 4.5000e-004 | 4.9300e-003 | 1.0000e-005 | 1.4300e-003 | 1.0000e-005 | 1.4400e-003 | 3.8000e-004 | 1.0000e-005 | 3.9000e-004 | 0.0000 | 1.2852 | 1.2852 | 4.0000e-005 | 0.0000 | 1.2861 |

3.3 Site Preparation - 2020

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 | | | | | 1.2200e-003 | 0.0000 | 1.2200e-003 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 2.4800e-003 | 0.0299 | 0.0169 | 4.0000e-005 | | 1.1700e-003 | 1.1700e-003 | | 1.0700e-003 | 1.0700e-003 | 0.0000 | 3.2290 | 3.2290 | 1.0400e-003 | 0.0000 | 3.2551 |
| Total | 2.4800e-003 | 0.0299 | 0.0169 | 4.0000e-005 | 1.2200e-003 | 1.1700e-003 | 2.3900e-003 | 1.3000e-004 | 1.0700e-003 | 1.2000e-003 | 0.0000 | 3.2290 | 3.2290 | 1.0400e-003 | 0.0000 | 3.2551 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

3.3 Site Preparation - 2020

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 | 5.0000e-005 | 4.0000e-005 | 4.6000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 3.0000e-005 | 0.0000 | 4.0000e-005 | 0.0000 | 0.1186 | 0.1186 | 0.0000 | 0.0000 | 0.1187 |
| Total | 5.0000e-005 | 4.0000e-005 | 4.6000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 3.0000e-005 | 0.0000 | 4.0000e-005 | 0.0000 | 0.1186 | 0.1186 | 0.0000 | 0.0000 | 0.1187 |

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 | | | | | 5.5000e-004 | 0.0000 | 5.5000e-004 | 6.0000e-005 | 0.0000 | 6.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 2.4800e-003 | 0.0299 | 0.0169 | 4.0000e-005 | | 1.1700e-003 | 1.1700e-003 | | 1.0700e-003 | 1.0700e-003 | 0.0000 | 3.2290 | 3.2290 | 1.0400e-003 | 0.0000 | 3.2551 |
| Total | 2.4800e-003 | 0.0299 | 0.0169 | 4.0000e-005 | 5.5000e-004 | 1.1700e-003 | 1.7200e-003 | 6.0000e-005 | 1.0700e-003 | 1.1300e-003 | 0.0000 | 3.2290 | 3.2290 | 1.0400e-003 | 0.0000 | 3.2551 |

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3.3 Site Preparation - 2020

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 | 5.0000e-005 | 4.0000e-005 | 4.6000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 3.0000e-005 | 0.0000 | 4.0000e-005 | 0.0000 | 0.1186 | 0.1186 | 0.0000 | 0.0000 | 0.1187 |
| Total | 5.0000e-005 | 4.0000e-005 | 4.6000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 3.0000e-005 | 0.0000 | 4.0000e-005 | 0.0000 | 0.1186 | 0.1186 | 0.0000 | 0.0000 | 0.1187 |

3.4 Grading - 2020

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 | | | | | 0.0193 | 0.0000 | 0.0193 | 0.0101 | 0.0000 | 0.0101 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 5.7700e-003 | 0.0640 | 0.0298 | 6.0000e-005 | | 2.9700e-003 | 2.9700e-003 | | 2.7300e-003 | 2.7300e-003 | 0.0000 | 5.4333 | 5.4333 | 1.7600e-003 | 0.0000 | 5.4773 |
| Total | 5.7700e-003 | 0.0640 | 0.0298 | 6.0000e-005 | 0.0193 | 2.9700e-003 | 0.0223 | 0.0101 | 2.7300e-003 | 0.0128 | 0.0000 | 5.4333 | 5.4333 | 1.7600e-003 | 0.0000 | 5.4773 |

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3.4 Grading - 2020

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 | 1.3000e-004 | 1.0000e-004 | 1.1400e-003 | 0.0000 | 3.3000e-004 | 0.0000 | 3.3000e-004 | 9.0000e-005 | 0.0000 | 9.0000e-005 | 0.0000 | 0.2966 | 0.2966 | 1.0000e-005 | 0.0000 | 0.2968 |
| Total | 1.3000e-004 | 1.0000e-004 | 1.1400e-003 | 0.0000 | 3.3000e-004 | 0.0000 | 3.3000e-004 | 9.0000e-005 | 0.0000 | 9.0000e-005 | 0.0000 | 0.2966 | 0.2966 | 1.0000e-005 | 0.0000 | 0.2968 |

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 | | | | | 8.6800e-003 | 0.0000 | 8.6800e-003 | 4.5300e-003 | 0.0000 | 4.5300e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 5.7700e-003 | 0.0640 | 0.0298 | 6.0000e-005 | | 2.9700e-003 | 2.9700e-003 | | 2.7300e-003 | 2.7300e-003 | 0.0000 | 5.4333 | 5.4333 | 1.7600e-003 | 0.0000 | 5.4773 |
| Total | 5.7700e-003 | 0.0640 | 0.0298 | 6.0000e-005 | 8.6800e-003 | 2.9700e-003 | 0.0117 | 4.5300e-003 | 2.7300e-003 | 7.2600e-003 | 0.0000 | 5.4333 | 5.4333 | 1.7600e-003 | 0.0000 | 5.4773 |

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3.4 Grading - 2020

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 | 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 | 0.0000 |
| Worker | 1.3000e-004 | 1.0000e-004 | 1.1400e-003 | 0.0000 | 3.3000e-004 | 0.0000 | 3.3000e-004 | 9.0000e-005 | 0.0000 | 9.0000e-005 | 0.0000 | 0.2966 | 0.2966 | 1.0000e-005 | 0.0000 | 0.2968 | |
| Total | 1.3000e-004 | 1.0000e-004 | 1.1400e-003 | 0.0000 | 3.3000e-004 | 0.0000 | 3.3000e-004 | 9.0000e-005 | 0.0000 | 9.0000e-005 | 0.0000 | 0.2966 | 0.2966 | 1.0000e-005 | 0.0000 | 0.2968 | |

3.5 Building Construction - 2020

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 | 0.2162 | 1.6475 | 1.4078 | 2.3600e-003 | | 0.0896 | 0.0896 | | 0.0859 | 0.0859 | 0.0000 | 196.2240 | 196.2240 | 0.0398 | 0.0000 | 197.2196 |
| Total | 0.2162 | 1.6475 | 1.4078 | 2.3600e-003 | | 0.0896 | 0.0896 | | 0.0859 | 0.0859 | 0.0000 | 196.2240 | 196.2240 | 0.0398 | 0.0000 | 197.2196 |

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3.5 Building Construction - 2020

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 | 5.1200e-003 | 0.1621 | 0.0409 | 3.8000e-004 | 9.5300e-003 | 7.9000e-004 | 0.0103 | 2.7500e-003 | 7.6000e-004 | 3.5100e-003 | 0.0000 | 36.9907 | 36.9907 | 2.4700e-003 | 0.0000 | 37.0524 |
| Worker | 0.0337 | 0.0259 | 0.2868 | 8.3000e-004 | 0.0829 | 6.4000e-004 | 0.0836 | 0.0220 | 5.9000e-004 | 0.0226 | 0.0000 | 74.7404 | 74.7404 | 2.1500e-003 | 0.0000 | 74.7942 |
| Total | 0.0388 | 0.1880 | 0.3277 | 1.2100e-003 | 0.0925 | 1.4300e-003 | 0.0939 | 0.0248 | 1.3500e-003 | 0.0261 | 0.0000 | 111.7311 | 111.7311 | 4.6200e-003 | 0.0000 | 111.8466 |

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 | 0.2162 | 1.6475 | 1.4078 | 2.3600e-003 | | 0.0896 | 0.0896 | | 0.0859 | 0.0859 | 0.0000 | 196.2237 | 196.2237 | 0.0398 | 0.0000 | 197.2194 |
| Total | 0.2162 | 1.6475 | 1.4078 | 2.3600e-003 | | 0.0896 | 0.0896 | | 0.0859 | 0.0859 | 0.0000 | 196.2237 | 196.2237 | 0.0398 | 0.0000 | 197.2194 |

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3.5 Building Construction - 2020

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 | 5.1200e-003 | 0.1621 | 0.0409 | 3.8000e-004 | 9.5300e-003 | 7.9000e-004 | 0.0103 | 2.7500e-003 | 7.6000e-004 | 3.5100e-003 | 0.0000 | 36.9907 | 36.9907 | 2.4700e-003 | 0.0000 | 37.0524 |
| Worker | 0.0337 | 0.0259 | 0.2868 | 8.3000e-004 | 0.0829 | 6.4000e-004 | 0.0836 | 0.0220 | 5.9000e-004 | 0.0226 | 0.0000 | 74.7404 | 74.7404 | 2.1500e-003 | 0.0000 | 74.7942 |
| Total | 0.0388 | 0.1880 | 0.3277 | 1.2100e-003 | 0.0925 | 1.4300e-003 | 0.0939 | 0.0248 | 1.3500e-003 | 0.0261 | 0.0000 | 111.7311 | 111.7311 | 4.6200e-003 | 0.0000 | 111.8466 |

3.6 Paving - 2020

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 | 5.7700e-003 | 0.0579 | 0.0590 | 9.0000e-005 | | 3.2800e-003 | 3.2800e-003 | | 3.0300e-003 | 3.0300e-003 | 0.0000 | 7.7529 | 7.7529 | 2.4600e-003 | 0.0000 | 7.8143 |
| Paving | 1.3000e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 7.0700e-003 | 0.0579 | 0.0590 | 9.0000e-005 | | 3.2800e-003 | 3.2800e-003 | | 3.0300e-003 | 3.0300e-003 | 0.0000 | 7.7529 | 7.7529 | 2.4600e-003 | 0.0000 | 7.8143 |

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3.6 Paving - 2020

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 | 3.3000e-004 | 2.6000e-004 | 2.8500e-003 | 1.0000e-005 | 8.2000e-004 | 1.0000e-005 | 8.3000e-004 | 2.2000e-004 | 1.0000e-005 | 2.2000e-004 | 0.0000 | 0.7415 | 0.7415 | 2.0000e-005 | 0.0000 | 0.7420 |
| Total | 3.3000e-004 | 2.6000e-004 | 2.8500e-003 | 1.0000e-005 | 8.2000e-004 | 1.0000e-005 | 8.3000e-004 | 2.2000e-004 | 1.0000e-005 | 2.2000e-004 | 0.0000 | 0.7415 | 0.7415 | 2.0000e-005 | 0.0000 | 0.7420 |

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 | 5.7700e-003 | 0.0579 | 0.0590 | 9.0000e-005 | | 3.2800e-003 | 3.2800e-003 | | 3.0300e-003 | 3.0300e-003 | 0.0000 | 7.7529 | 7.7529 | 2.4600e-003 | 0.0000 | 7.8143 |
| Paving | 1.3000e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | 7.0700e-003 | 0.0579 | 0.0590 | 9.0000e-005 | | 3.2800e-003 | 3.2800e-003 | | 3.0300e-003 | 3.0300e-003 | 0.0000 | 7.7529 | 7.7529 | 2.4600e-003 | 0.0000 | 7.8143 |

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3.6 Paving - 2020

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 | 3.3000e-004 | 2.6000e-004 | 2.8500e-003 | 1.0000e-005 | 8.2000e-004 | 1.0000e-005 | 8.3000e-004 | 2.2000e-004 | 1.0000e-005 | 2.2000e-004 | 0.0000 | 0.7415 | 0.7415 | 2.0000e-005 | 0.0000 | 0.7420 |
| Total | 3.3000e-004 | 2.6000e-004 | 2.8500e-003 | 1.0000e-005 | 8.2000e-004 | 1.0000e-005 | 8.3000e-004 | 2.2000e-004 | 1.0000e-005 | 2.2000e-004 | 0.0000 | 0.7415 | 0.7415 | 2.0000e-005 | 0.0000 | 0.7420 |

3.7 Architectural Coating - 2020

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 | 0.2232 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.2100e-003 | 8.4200e-003 | 9.1600e-003 | 1.0000e-005 | | 5.5000e-004 | 5.5000e-004 | | 5.5000e-004 | 5.5000e-004 | 0.0000 | 1.2766 | 1.2766 | 1.0000e-004 | 0.0000 | 1.2791 |
| Total | 0.2245 | 8.4200e-003 | 9.1600e-003 | 1.0000e-005 | | 5.5000e-004 | 5.5000e-004 | | 5.5000e-004 | 5.5000e-004 | 0.0000 | 1.2766 | 1.2766 | 1.0000e-004 | 0.0000 | 1.2791 |

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3.7 Architectural Coating - 2020

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 | 3.6000e-004 | 2.7000e-004 | 3.0300e-003 | 1.0000e-005 | 8.8000e-004 | 1.0000e-005 | 8.8000e-004 | 2.3000e-004 | 1.0000e-005 | 2.4000e-004 | 0.0000 | 0.7909 | 0.7909 | 2.0000e-005 | 0.0000 | 0.7915 |
| Total | 3.6000e-004 | 2.7000e-004 | 3.0300e-003 | 1.0000e-005 | 8.8000e-004 | 1.0000e-005 | 8.8000e-004 | 2.3000e-004 | 1.0000e-005 | 2.4000e-004 | 0.0000 | 0.7909 | 0.7909 | 2.0000e-005 | 0.0000 | 0.7915 |

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 | 0.2232 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.2100e-003 | 8.4200e-003 | 9.1600e-003 | 1.0000e-005 | | 5.5000e-004 | 5.5000e-004 | | 5.5000e-004 | 5.5000e-004 | 0.0000 | 1.2766 | 1.2766 | 1.0000e-004 | 0.0000 | 1.2791 |
| Total | 0.2245 | 8.4200e-003 | 9.1600e-003 | 1.0000e-005 | | 5.5000e-004 | 5.5000e-004 | | 5.5000e-004 | 5.5000e-004 | 0.0000 | 1.2766 | 1.2766 | 1.0000e-004 | 0.0000 | 1.2791 |

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3.7 Architectural Coating - 2020

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 | 3.6000e-004 | 2.7000e-004 | 3.0300e-003 | 1.0000e-005 | 8.8000e-004 | 1.0000e-005 | 8.8000e-004 | 2.3000e-004 | 1.0000e-005 | 2.4000e-004 | 0.0000 | 0.7909 | 0.7909 | 2.0000e-005 | 0.0000 | 0.7915 |
| Total | 3.6000e-004 | 2.7000e-004 | 3.0300e-003 | 1.0000e-005 | 8.8000e-004 | 1.0000e-005 | 8.8000e-004 | 2.3000e-004 | 1.0000e-005 | 2.4000e-004 | 0.0000 | 0.7909 | 0.7909 | 2.0000e-005 | 0.0000 | 0.7915 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

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| | 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 | 0.1600 | 0.8362 | 2.0266 | 7.1000e-003 | 0.5785 | 5.8400e-003 | 0.5843 | 0.1550 | 5.4500e-003 | 0.1605 | 0.0000 | 655.0518 | 655.0518 | 0.0332 | 0.0000 | 655.8805 |
| Unmitigated | 0.1760 | 0.9542 | 2.4328 | 8.7800e-003 | 0.7255 | 7.1700e-003 | 0.7326 | 0.1944 | 6.6900e-003 | 0.2011 | 0.0000 | 810.5288 | 810.5288 | 0.0398 | 0.0000 | 811.5227 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 571.90 | 549.54 | 503.96 | 1,910,188 | 1,523,124 |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 571.90 | 549.54 | 503.96 | 1,910,188 | 1,523,124 |

4.3 Trip Type Information

| Land Use | Miles | | | Trip % | | | Trip Purpose % | | |
|---------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| | 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 |

4.4 Fleet Mix

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise | 0.551391 | 0.043400 | 0.201050 | 0.120272 | 0.016162 | 0.005864 | 0.021029 | 0.030512 | 0.002059 | 0.001866 | 0.004766 | 0.000706 | 0.000924 |
| Parking Lot | 0.551391 | 0.043400 | 0.201050 | 0.120272 | 0.016162 | 0.005864 | 0.021029 | 0.030512 | 0.002059 | 0.001866 | 0.004766 | 0.000706 | 0.000924 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | 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 | 113.8357 | 113.8357 | 4.7000e-003 | 9.7000e-004 | 114.2430 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 113.8357 | 113.8357 | 4.7000e-003 | 9.7000e-004 | 114.2430 |
| NaturalGas Mitigated | 5.3000e-003 | 0.0453 | 0.0193 | 2.9000e-004 | | 3.6600e-003 | 3.6600e-003 | | 3.6600e-003 | 3.6600e-003 | 0.0000 | 52.4439 | 52.4439 | 1.0100e-003 | 9.6000e-004 | 52.7556 |
| NaturalGas Unmitigated | 5.3000e-003 | 0.0453 | 0.0193 | 2.9000e-004 | | 3.6600e-003 | 3.6600e-003 | | 3.6600e-003 | 3.6600e-003 | 0.0000 | 52.4439 | 52.4439 | 1.0100e-003 | 9.6000e-004 | 52.7556 |

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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 | 982762 | 5.3000e-003 | 0.0453 | 0.0193 | 2.9000e-004 | | 3.6600e-003 | 3.6600e-003 | | 3.6600e-003 | 3.6600e-003 | 0.0000 | 52.4439 | 52.4439 | 1.0100e-003 | 9.6000e-004 | 52.7556 |
| 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 | | 5.3000e-003 | 0.0453 | 0.0193 | 2.9000e-004 | | 3.6600e-003 | 3.6600e-003 | | 3.6600e-003 | 3.6600e-003 | 0.0000 | 52.4439 | 52.4439 | 1.0100e-003 | 9.6000e-004 | 52.7556 |

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 | | | | | |
| Apartments Mid Rise | 982762 | 5.3000e-003 | 0.0453 | 0.0193 | 2.9000e-004 | | 3.6600e-003 | 3.6600e-003 | | 3.6600e-003 | 3.6600e-003 | 0.0000 | 52.4439 | 52.4439 | 1.0100e-003 | 9.6000e-004 | 52.7556 |
| 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 | | 5.3000e-003 | 0.0453 | 0.0193 | 2.9000e-004 | | 3.6600e-003 | 3.6600e-003 | | 3.6600e-003 | 3.6600e-003 | 0.0000 | 52.4439 | 52.4439 | 1.0100e-003 | 9.6000e-004 | 52.7556 |

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5.3 Energy by Land Use - Electricity**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 341876 | 108.9290 | 4.5000e-003 | 9.3000e-004 | 109.3187 |
| Parking Lot | 15400 | 4.9068 | 2.0000e-004 | 4.0000e-005 | 4.9243 |
| Total | | 113.8357 | 4.7000e-003 | 9.7000e-004 | 114.2430 |

Mitigated

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------|-----------------|-----------------|--------------------|--------------------|-----------------|
| Land Use | kWh/yr | MT/yr | | | |
| Apartments Mid Rise | 341876 | 108.9290 | 4.5000e-003 | 9.3000e-004 | 109.3187 |
| Parking Lot | 15400 | 4.9068 | 2.0000e-004 | 4.0000e-005 | 4.9243 |
| Total | | 113.8357 | 4.7000e-003 | 9.7000e-004 | 114.2430 |

6.0 Area Detail**6.1 Mitigation Measures Area**

Crossroads at Washington - Santa Ana - South Coast Air Basin, Annual

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

No Hearths Installed

| | 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 | 0.3030 | 0.0103 | 0.8902 | 5.0000e-005 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 1.4515 | 1.4515 | 1.4100e-003 | 0.0000 | 1.4867 |
| Unmitigated | 0.3030 | 0.0103 | 0.8902 | 5.0000e-005 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 1.4515 | 1.4515 | 1.4100e-003 | 0.0000 | 1.4867 |

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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 | 0.0223 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.2536 | | | | | 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 | 0.0271 | 0.0103 | 0.8902 | 5.0000e-005 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 1.4515 | 1.4515 | 1.4100e-003 | 0.0000 | 1.4867 |
| Total | 0.3030 | 0.0103 | 0.8902 | 5.0000e-005 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 1.4515 | 1.4515 | 1.4100e-003 | 0.0000 | 1.4867 |

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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 | 0.0223 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.2536 | | | | | 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 | 0.0271 | 0.0103 | 0.8902 | 5.0000e-005 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 1.4515 | 1.4515 | 1.4100e-003 | 0.0000 | 1.4867 |
| Total | 0.3030 | 0.0103 | 0.8902 | 5.0000e-005 | | 4.9000e-003 | 4.9000e-003 | | 4.9000e-003 | 4.9000e-003 | 0.0000 | 1.4515 | 1.4515 | 1.4100e-003 | 0.0000 | 1.4867 |

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|-------------|---------|
| Category | MT/yr | | | |
| Mitigated | 32.5240 | 0.1474 | 3.7100e-003 | 37.3146 |
| Unmitigated | 37.5288 | 0.1841 | 4.6200e-003 | 43.5060 |

7.2 Water by Land Use

Unmitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------|--------------------|----------------|---------------|--------------------|----------------|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 5.60325 / 3.53248 | 37.5288 | 0.1841 | 4.6200e-003 | 43.5060 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 37.5288 | 0.1841 | 4.6200e-003 | 43.5060 |

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7.2 Water by Land Use

Mitigated

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---------------------|--------------------|----------------|---------------|--------------------|----------------|
| Land Use | Mgal | MT/yr | | | |
| Apartments Mid Rise | 4.4826 / 3.53248 | 32.5240 | 0.1474 | 3.7100e-003 | 37.3146 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 32.5240 | 0.1474 | 3.7100e-003 | 37.3146 |

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

| | Total CO2 | CH4 | N2O | CO2e |
|-------------|-----------|--------|--------|---------|
| | MT/yr | | | |
| Mitigated | 8.0303 | 0.4746 | 0.0000 | 19.8948 |
| Unmitigated | 8.0303 | 0.4746 | 0.0000 | 19.8948 |

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8.2 Waste by Land Use

Unmitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---------------------|----------------|---------------|---------------|---------------|----------------|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 39.56 | 8.0303 | 0.4746 | 0.0000 | 19.8948 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 8.0303 | 0.4746 | 0.0000 | 19.8948 |

Mitigated

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---------------------|----------------|---------------|---------------|---------------|----------------|
| Land Use | tons | MT/yr | | | |
| Apartments Mid Rise | 39.56 | 8.0303 | 0.4746 | 0.0000 | 19.8948 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total | | 8.0303 | 0.4746 | 0.0000 | 19.8948 |

9.0 Operational Offroad

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

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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

11.0 Vegetation

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

Crossroads at Washington - Santa Ana
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---------------------|--------|---------------|-------------|--------------------|------------|
| Apartments Mid Rise | 86.00 | Dwelling Unit | 1.31 | 69,400.00 | 227 |
| Parking Lot | 110.00 | Space | 0.99 | 44,000.00 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 31 |
| Climate Zone | 8 | Operational Year | 2021 | | |
| Utility Company | Southern California Edison | | | | |
| CO2 Intensity (lb/MWhr) | 702.44 | CH4 Intensity (lb/MWhr) | 0.029 | N2O Intensity (lb/MWhr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

Project Characteristics -

Land Use - Lot acreage totals 2.3 acres; SF of residential based on site plans; 227 population estimate based on unit sizes, counts, and maximum occupancy per CA Health & Safety Code 50052.5

Construction Phase - Estimated per site plans

Grading - Total site acreage is approx 2.4 acres

Woodstoves - No woodstoves or fireplaces in residential units

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

| Table Name | Column Name | Default Value | New Value |
|----------------------|----------------------------|---------------|------------|
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True |
| tblConstructionPhase | NumDays | 220.00 | 189.00 |
| tblConstructionPhase | PhaseEndDate | 1/11/2021 | 11/27/2020 |
| tblConstructionPhase | PhaseEndDate | 12/14/2020 | 10/31/2020 |
| tblConstructionPhase | PhaseEndDate | 12/28/2020 | 11/13/2020 |
| tblConstructionPhase | PhaseStartDate | 12/29/2020 | 11/14/2020 |
| tblConstructionPhase | PhaseStartDate | 12/15/2020 | 11/1/2020 |
| tblFireplaces | FireplaceDayYear | 25.00 | 0.00 |
| tblFireplaces | FireplaceHourDay | 3.00 | 0.00 |
| tblFireplaces | FireplaceWoodMass | 1,019.20 | 0.00 |
| tblFireplaces | NumberGas | 73.10 | 0.00 |
| tblFireplaces | NumberNoFireplace | 8.60 | 0.00 |
| tblFireplaces | NumberWood | 4.30 | 0.00 |
| tblGrading | AcresOfGrading | 3.00 | 2.30 |
| tblGrading | AcresOfGrading | 4.50 | 2.30 |
| tblLandUse | LandUseSquareFeet | 86,000.00 | 69,400.00 |
| tblLandUse | LotAcreage | 2.26 | 1.31 |
| tblLandUse | Population | 246.00 | 227.00 |
| tblWoodstoves | NumberCatalytic | 4.30 | 0.00 |
| tblWoodstoves | NumberNoncatalytic | 4.30 | 0.00 |
| tblWoodstoves | WoodstoveDayYear | 25.00 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 999.60 | 0.00 |

2.0 Emissions Summary

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

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 | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |
| Energy | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| Mobile | 1.0552 | 5.1433 | 14.3316 | 0.0514 | 4.1535 | 0.0402 | 4.1937 | 1.1112 | 0.0376 | 1.1488 | | 5,222.9206 | 5,222.9206 | 0.2484 | | 5,229.1307 |
| Total | 2.8128 | 5.4736 | 21.5590 | 0.0533 | 4.1535 | 0.0995 | 4.2530 | 1.1112 | 0.0969 | 1.2081 | 0.0000 | 5,552.4846 | 5,552.4846 | 0.2669 | 5.8100e-003 | 5,560.8882 |

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 | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |
| Energy | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| Mobile | 0.9635 | 4.5281 | 11.8505 | 0.0415 | 3.3119 | 0.0328 | 3.3446 | 0.8861 | 0.0306 | 0.9167 | | 4,221.1291 | 4,221.1291 | 0.2065 | | 4,226.2905 |
| Total | 2.7211 | 4.8585 | 19.0779 | 0.0435 | 3.3119 | 0.0921 | 3.4039 | 0.8861 | 0.0899 | 0.9760 | 0.0000 | 4,550.6931 | 4,550.6931 | 0.2250 | 5.8100e-003 | 4,558.0480 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

| | 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 |
|-------------------|------|-------|-------|-------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|-------|------|-------|
| Percent Reduction | 3.26 | 11.24 | 11.51 | 18.49 | 20.26 | 7.49 | 19.96 | 20.26 | 7.20 | 19.22 | 0.00 | 18.04 | 18.04 | 15.71 | 0.00 | 18.03 |

3.0 Construction Detail**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Demolition | Demolition | 1/1/2020 | 1/28/2020 | 5 | 20 | |
| 2 | Site Preparation | Site Preparation | 1/29/2020 | 1/31/2020 | 5 | 3 | |
| 3 | Grading | Grading | 2/1/2020 | 2/10/2020 | 5 | 6 | |
| 4 | Building Construction | Building Construction | 2/11/2020 | 10/31/2020 | 5 | 189 | |
| 5 | Paving | Paving | 11/1/2020 | 11/13/2020 | 5 | 10 | |
| 6 | Architectural Coating | Architectural Coating | 11/14/2020 | 11/27/2020 | 5 | 10 | |

Acres of Grading (Site Preparation Phase): 2.3

Acres of Grading (Grading Phase): 2.3

Acres of Paving: 0.99

Residential Indoor: 140,535; Residential Outdoor: 46,845; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,640 (Architectural Coating – sqft)

OffRoad Equipment

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| Paving | Cement and Mortar Mixers | 1 | 8.00 | 9 | 0.56 |
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Cranes | 1 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 2 | 7.00 | 89 | 0.20 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Demolition | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Grading | Tractors/Loaders/Backhoes | 2 | 7.00 | 97 | 0.37 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Paving Equipment | 1 | 8.00 | 132 | 0.36 |
| Site Preparation | Scrapers | 1 | 8.00 | 367 | 0.48 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |

Trips and VMT

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

| 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 |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 5 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 3 | 8.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 8 | 80.00 | 16.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 16.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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 | 2.1262 | 20.9463 | 14.6573 | 0.0241 | | 1.1525 | 1.1525 | | 1.0761 | 1.0761 | | 2,322.3127 | 2,322.3127 | 0.5970 | | 2,337.2363 |
| Total | 2.1262 | 20.9463 | 14.6573 | 0.0241 | | 1.1525 | 1.1525 | | 1.0761 | 1.0761 | | 2,322.3127 | 2,322.3127 | 0.5970 | | 2,337.2363 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.2 Demolition - 2020

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 | 0.0583 | 0.0394 | 0.5299 | 1.4900e-003 | 0.1453 | 1.1100e-003 | 0.1464 | 0.0385 | 1.0200e-003 | 0.0396 | | 148.6987 | 148.6987 | 4.2900e-003 | | 148.8059 |
| Total | 0.0583 | 0.0394 | 0.5299 | 1.4900e-003 | 0.1453 | 1.1100e-003 | 0.1464 | 0.0385 | 1.0200e-003 | 0.0396 | | 148.6987 | 148.6987 | 4.2900e-003 | | 148.8059 |

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 | 2.1262 | 20.9463 | 14.6573 | 0.0241 | | 1.1525 | 1.1525 | | 1.0761 | 1.0761 | 0.0000 | 2,322.3127 | 2,322.3127 | 0.5970 | | 2,337.2363 |
| Total | 2.1262 | 20.9463 | 14.6573 | 0.0241 | | 1.1525 | 1.1525 | | 1.0761 | 1.0761 | 0.0000 | 2,322.3127 | 2,322.3127 | 0.5970 | | 2,337.2363 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.2 Demolition - 2020

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 | 0.0583 | 0.0394 | 0.5299 | 1.4900e-003 | 0.1453 | 1.1100e-003 | 0.1464 | 0.0385 | 1.0200e-003 | 0.0396 | | 148.6987 | 148.6987 | 4.2900e-003 | | 148.8059 |
| Total | 0.0583 | 0.0394 | 0.5299 | 1.4900e-003 | 0.1453 | 1.1100e-003 | 0.1464 | 0.0385 | 1.0200e-003 | 0.0396 | | 148.6987 | 148.6987 | 4.2900e-003 | | 148.8059 |

3.3 Site Preparation - 2020

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 | | | | | 0.8131 | 0.0000 | 0.8131 | 0.0878 | 0.0000 | 0.0878 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.6521 | 19.9196 | 11.2678 | 0.0245 | | 0.7771 | 0.7771 | | 0.7149 | 0.7149 | | 2,372.9062 | 2,372.9062 | 0.7675 | | 2,392.0924 |
| Total | 1.6521 | 19.9196 | 11.2678 | 0.0245 | 0.8131 | 0.7771 | 1.5901 | 0.0878 | 0.7149 | 0.8027 | | 2,372.9062 | 2,372.9062 | 0.7675 | | 2,392.0924 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.3 Site Preparation - 2020

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 | 0.0359 | 0.0243 | 0.3261 | 9.2000e-004 | 0.0894 | 6.8000e-004 | 0.0901 | 0.0237 | 6.3000e-004 | 0.0243 | | 91.5069 | 91.5069 | 2.6400e-003 | | 91.5728 |
| Total | 0.0359 | 0.0243 | 0.3261 | 9.2000e-004 | 0.0894 | 6.8000e-004 | 0.0901 | 0.0237 | 6.3000e-004 | 0.0243 | | 91.5069 | 91.5069 | 2.6400e-003 | | 91.5728 |

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 | | | | | 0.3659 | 0.0000 | 0.3659 | 0.0395 | 0.0000 | 0.0395 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.6521 | 19.9196 | 11.2678 | 0.0245 | | 0.7771 | 0.7771 | | 0.7149 | 0.7149 | 0.0000 | 2,372.9062 | 2,372.9062 | 0.7675 | | 2,392.0924 |
| Total | 1.6521 | 19.9196 | 11.2678 | 0.0245 | 0.3659 | 0.7771 | 1.1429 | 0.0395 | 0.7149 | 0.7544 | 0.0000 | 2,372.9062 | 2,372.9062 | 0.7675 | | 2,392.0924 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.3 Site Preparation - 2020

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 | 0.0359 | 0.0243 | 0.3261 | 9.2000e-004 | 0.0894 | 6.8000e-004 | 0.0901 | 0.0237 | 6.3000e-004 | 0.0243 | | 91.5069 | 91.5069 | 2.6400e-003 | | 91.5728 |
| Total | 0.0359 | 0.0243 | 0.3261 | 9.2000e-004 | 0.0894 | 6.8000e-004 | 0.0901 | 0.0237 | 6.3000e-004 | 0.0243 | | 91.5069 | 91.5069 | 2.6400e-003 | | 91.5728 |

3.4 Grading - 2020

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 | | | | | 6.4286 | 0.0000 | 6.4286 | 3.3541 | 0.0000 | 3.3541 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.9219 | 21.3418 | 9.9355 | 0.0206 | | 0.9902 | 0.9902 | | 0.9110 | 0.9110 | | 1,996.4061 | 1,996.4061 | 0.6457 | | 2,012.5480 |
| Total | 1.9219 | 21.3418 | 9.9355 | 0.0206 | 6.4286 | 0.9902 | 7.4188 | 3.3541 | 0.9110 | 4.2651 | | 1,996.4061 | 1,996.4061 | 0.6457 | | 2,012.5480 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.4 Grading - 2020

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 | 0.0449 | 0.0303 | 0.4076 | 1.1500e-003 | 0.1118 | 8.5000e-004 | 0.1126 | 0.0296 | 7.9000e-004 | 0.0304 | | 114.3836 | 114.3836 | 3.3000e-003 | | 114.4660 |
| Total | 0.0449 | 0.0303 | 0.4076 | 1.1500e-003 | 0.1118 | 8.5000e-004 | 0.1126 | 0.0296 | 7.9000e-004 | 0.0304 | | 114.3836 | 114.3836 | 3.3000e-003 | | 114.4660 |

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 | | | | | 2.8929 | 0.0000 | 2.8929 | 1.5094 | 0.0000 | 1.5094 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.9219 | 21.3418 | 9.9355 | 0.0206 | | 0.9902 | 0.9902 | | 0.9110 | 0.9110 | 0.0000 | 1,996.4061 | 1,996.4061 | 0.6457 | | 2,012.5480 |
| Total | 1.9219 | 21.3418 | 9.9355 | 0.0206 | 2.8929 | 0.9902 | 3.8830 | 1.5094 | 0.9110 | 2.4203 | 0.0000 | 1,996.4061 | 1,996.4061 | 0.6457 | | 2,012.5480 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.4 Grading - 2020

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 | 0.0449 | 0.0303 | 0.4076 | 1.1500e-003 | 0.1118 | 8.5000e-004 | 0.1126 | 0.0296 | 7.9000e-004 | 0.0304 | | 114.3836 | 114.3836 | 3.3000e-003 | | 114.4660 |
| Total | 0.0449 | 0.0303 | 0.4076 | 1.1500e-003 | 0.1118 | 8.5000e-004 | 0.1126 | 0.0296 | 7.9000e-004 | 0.0304 | | 114.3836 | 114.3836 | 3.3000e-003 | | 114.4660 |

3.5 Building Construction - 2020

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 | 2.2879 | 17.4336 | 14.8972 | 0.0250 | | 0.9482 | 0.9482 | | 0.9089 | 0.9089 | | 2,288.8877 | 2,288.8877 | 0.4646 | | 2,300.5014 |
| Total | 2.2879 | 17.4336 | 14.8972 | 0.0250 | | 0.9482 | 0.9482 | | 0.9089 | 0.9089 | | 2,288.8877 | 2,288.8877 | 0.4646 | | 2,300.5014 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.5 Building Construction - 2020

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 | 0.0531 | 1.6852 | 0.4099 | 4.0800e-003 | 0.1024 | 8.3400e-003 | 0.1107 | 0.0295 | 7.9800e-003 | 0.0375 | | 436.4661 | 436.4661 | 0.0279 | | 437.1645 |
| Worker | 0.3588 | 0.2426 | 3.2606 | 9.1900e-003 | 0.8942 | 6.8200e-003 | 0.9010 | 0.2372 | 6.2800e-003 | 0.2434 | | 915.0691 | 915.0691 | 0.0264 | | 915.7283 |
| Total | 0.4120 | 1.9277 | 3.6705 | 0.0133 | 0.9966 | 0.0152 | 1.0118 | 0.2666 | 0.0143 | 0.2809 | | 1,351.5352 | 1,351.5352 | 0.0543 | | 1,352.8929 |

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 | 2.2879 | 17.4336 | 14.8972 | 0.0250 | | 0.9482 | 0.9482 | | 0.9089 | 0.9089 | 0.0000 | 2,288.8877 | 2,288.8877 | 0.4646 | | 2,300.5014 |
| Total | 2.2879 | 17.4336 | 14.8972 | 0.0250 | | 0.9482 | 0.9482 | | 0.9089 | 0.9089 | 0.0000 | 2,288.8877 | 2,288.8877 | 0.4646 | | 2,300.5014 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.5 Building Construction - 2020

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 | 0.0531 | 1.6852 | 0.4099 | 4.0800e-003 | 0.1024 | 8.3400e-003 | 0.1107 | 0.0295 | 7.9800e-003 | 0.0375 | | 436.4661 | 436.4661 | 0.0279 | | 437.1645 |
| Worker | 0.3588 | 0.2426 | 3.2606 | 9.1900e-003 | 0.8942 | 6.8200e-003 | 0.9010 | 0.2372 | 6.2800e-003 | 0.2434 | | 915.0691 | 915.0691 | 0.0264 | | 915.7283 |
| Total | 0.4120 | 1.9277 | 3.6705 | 0.0133 | 0.9966 | 0.0152 | 1.0118 | 0.2666 | 0.0143 | 0.2809 | | 1,351.5352 | 1,351.5352 | 0.0543 | | 1,352.8929 |

3.6 Paving - 2020

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 | 1.1547 | 11.5873 | 11.8076 | 0.0178 | | 0.6565 | 0.6565 | | 0.6051 | 0.6051 | | 1,709.2180 | 1,709.2180 | 0.5417 | | 1,722.7605 |
| Paving | 0.2594 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.4141 | 11.5873 | 11.8076 | 0.0178 | | 0.6565 | 0.6565 | | 0.6051 | 0.6051 | | 1,709.2180 | 1,709.2180 | 0.5417 | | 1,722.7605 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.6 Paving - 2020

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 | 0.0673 | 0.0455 | 0.6114 | 1.7200e-003 | 0.1677 | 1.2800e-003 | 0.1689 | 0.0445 | 1.1800e-003 | 0.0456 | | 171.5755 | 171.5755 | 4.9400e-003 | | 171.6991 |
| Total | 0.0673 | 0.0455 | 0.6114 | 1.7200e-003 | 0.1677 | 1.2800e-003 | 0.1689 | 0.0445 | 1.1800e-003 | 0.0456 | | 171.5755 | 171.5755 | 4.9400e-003 | | 171.6991 |

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 | 1.1547 | 11.5873 | 11.8076 | 0.0178 | | 0.6565 | 0.6565 | | 0.6051 | 0.6051 | 0.0000 | 1,709.2180 | 1,709.2180 | 0.5417 | | 1,722.7605 |
| Paving | 0.2594 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.4141 | 11.5873 | 11.8076 | 0.0178 | | 0.6565 | 0.6565 | | 0.6051 | 0.6051 | 0.0000 | 1,709.2180 | 1,709.2180 | 0.5417 | | 1,722.7605 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.6 Paving - 2020

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 | 0.0673 | 0.0455 | 0.6114 | 1.7200e-003 | 0.1677 | 1.2800e-003 | 0.1689 | 0.0445 | 1.1800e-003 | 0.0456 | | 171.5755 | 171.5755 | 4.9400e-003 | | 171.6991 |
| Total | 0.0673 | 0.0455 | 0.6114 | 1.7200e-003 | 0.1677 | 1.2800e-003 | 0.1689 | 0.0445 | 1.1800e-003 | 0.0456 | | 171.5755 | 171.5755 | 4.9400e-003 | | 171.6991 |

3.7 Architectural Coating - 2020

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 | 44.6490 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2422 | 1.6838 | 1.8314 | 2.9700e-003 | | 0.1109 | 0.1109 | | 0.1109 | 0.1109 | | 281.4481 | 281.4481 | 0.0218 | | 281.9928 |
| Total | 44.8911 | 1.6838 | 1.8314 | 2.9700e-003 | | 0.1109 | 0.1109 | | 0.1109 | 0.1109 | | 281.4481 | 281.4481 | 0.0218 | | 281.9928 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.7 Architectural Coating - 2020

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 | 0.0718 | 0.0485 | 0.6521 | 1.8400e-003 | 0.1788 | 1.3600e-003 | 0.1802 | 0.0474 | 1.2600e-003 | 0.0487 | | 183.0138 | 183.0138 | 5.2700e-003 | | 183.1457 |
| Total | 0.0718 | 0.0485 | 0.6521 | 1.8400e-003 | 0.1788 | 1.3600e-003 | 0.1802 | 0.0474 | 1.2600e-003 | 0.0487 | | 183.0138 | 183.0138 | 5.2700e-003 | | 183.1457 |

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 | 44.6490 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2422 | 1.6838 | 1.8314 | 2.9700e-003 | | 0.1109 | 0.1109 | | 0.1109 | 0.1109 | 0.0000 | 281.4481 | 281.4481 | 0.0218 | | 281.9928 |
| Total | 44.8911 | 1.6838 | 1.8314 | 2.9700e-003 | | 0.1109 | 0.1109 | | 0.1109 | 0.1109 | 0.0000 | 281.4481 | 281.4481 | 0.0218 | | 281.9928 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

3.7 Architectural Coating - 2020

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 | 0.0718 | 0.0485 | 0.6521 | 1.8400e-003 | 0.1788 | 1.3600e-003 | 0.1802 | 0.0474 | 1.2600e-003 | 0.0487 | | 183.0138 | 183.0138 | 5.2700e-003 | | 183.1457 |
| Total | 0.0718 | 0.0485 | 0.6521 | 1.8400e-003 | 0.1788 | 1.3600e-003 | 0.1802 | 0.0474 | 1.2600e-003 | 0.0487 | | 183.0138 | 183.0138 | 5.2700e-003 | | 183.1457 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

| | 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 | 0.9635 | 4.5281 | 11.8505 | 0.0415 | 3.3119 | 0.0328 | 3.3446 | 0.8861 | 0.0306 | 0.9167 | | 4,221.1291 | 4,221.1291 | 0.2065 | | 4,226.2905 |
| Unmitigated | 1.0552 | 5.1433 | 14.3316 | 0.0514 | 4.1535 | 0.0402 | 4.1937 | 1.1112 | 0.0376 | 1.1488 | | 5,222.9206 | 5,222.9206 | 0.2484 | | 5,229.1307 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 571.90 | 549.54 | 503.96 | 1,910,188 | 1,523,124 |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 571.90 | 549.54 | 503.96 | 1,910,188 | 1,523,124 |

4.3 Trip Type Information

| Land Use | Miles | | | Trip % | | | Trip Purpose % | | |
|---------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| | 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 |

4.4 Fleet Mix

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise | 0.551391 | 0.043400 | 0.201050 | 0.120272 | 0.016162 | 0.005864 | 0.021029 | 0.030512 | 0.002059 | 0.001866 | 0.004766 | 0.000706 | 0.000924 |
| Parking Lot | 0.551391 | 0.043400 | 0.201050 | 0.120272 | 0.016162 | 0.005864 | 0.021029 | 0.030512 | 0.002059 | 0.001866 | 0.004766 | 0.000706 | 0.000924 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | 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 | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| NaturalGas Unmitigated | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

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 | 2692.5 | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| 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 | | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |

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 | 2.6925 | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| 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 | | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |

6.0 Area Detail

6.1 Mitigation Measures Area

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

No Hearths Installed

| | 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 | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |
| Unmitigated | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

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 | 0.1223 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.3897 | | | | | 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 | 0.2165 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | | 12.7996 | 12.7996 | 0.0124 | | 13.1107 |
| Total | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

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 | 0.1223 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.3897 | | | | | 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 | 0.2165 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | | 12.7996 | 12.7996 | 0.0124 | | 13.1107 |
| Total | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Crossroads at Washington - Santa Ana - South Coast Air Basin, Summer

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

11.0 Vegetation

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

Crossroads at Washington - Santa Ana
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---------------------|--------|---------------|-------------|--------------------|------------|
| Apartments Mid Rise | 86.00 | Dwelling Unit | 1.31 | 69,400.00 | 227 |
| Parking Lot | 110.00 | Space | 0.99 | 44,000.00 | 0 |

1.2 Other Project Characteristics

| | | | | | |
|--------------------------------|----------------------------|--------------------------------|-------|----------------------------------|-------|
| Urbanization | Urban | Wind Speed (m/s) | 2.2 | Precipitation Freq (Days) | 31 |
| Climate Zone | 8 | Operational Year | 2021 | | |
| Utility Company | Southern California Edison | | | | |
| CO2 Intensity (lb/MWhr) | 702.44 | CH4 Intensity (lb/MWhr) | 0.029 | N2O Intensity (lb/MWhr) | 0.006 |

1.3 User Entered Comments & Non-Default Data

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

Project Characteristics -

Land Use - Lot acreage totals 2.3 acres; SF of residential based on site plans; 227 population estimate based on unit sizes, counts, and maximum occupancy per CA Health & Safety Code 50052.5

Construction Phase - Estimated per site plans

Grading - Total site acreage is approx 2.4 acres

Woodstoves - No woodstoves or fireplaces in residential units

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

| Table Name | Column Name | Default Value | New Value |
|----------------------|----------------------------|---------------|------------|
| tblAreaMitigation | UseLowVOCPaintParkingCheck | False | True |
| tblConstructionPhase | NumDays | 220.00 | 189.00 |
| tblConstructionPhase | PhaseEndDate | 1/11/2021 | 11/27/2020 |
| tblConstructionPhase | PhaseEndDate | 12/14/2020 | 10/31/2020 |
| tblConstructionPhase | PhaseEndDate | 12/28/2020 | 11/13/2020 |
| tblConstructionPhase | PhaseStartDate | 12/29/2020 | 11/14/2020 |
| tblConstructionPhase | PhaseStartDate | 12/15/2020 | 11/1/2020 |
| tblFireplaces | FireplaceDayYear | 25.00 | 0.00 |
| tblFireplaces | FireplaceHourDay | 3.00 | 0.00 |
| tblFireplaces | FireplaceWoodMass | 1,019.20 | 0.00 |
| tblFireplaces | NumberGas | 73.10 | 0.00 |
| tblFireplaces | NumberNoFireplace | 8.60 | 0.00 |
| tblFireplaces | NumberWood | 4.30 | 0.00 |
| tblGrading | AcresOfGrading | 3.00 | 2.30 |
| tblGrading | AcresOfGrading | 4.50 | 2.30 |
| tblLandUse | LandUseSquareFeet | 86,000.00 | 69,400.00 |
| tblLandUse | LotAcreage | 2.26 | 1.31 |
| tblLandUse | Population | 246.00 | 227.00 |
| tblWoodstoves | NumberCatalytic | 4.30 | 0.00 |
| tblWoodstoves | NumberNoncatalytic | 4.30 | 0.00 |
| tblWoodstoves | WoodstoveDayYear | 25.00 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 999.60 | 0.00 |

2.0 Emissions Summary

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

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 | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |
| Energy | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| Mobile | 1.0142 | 5.2649 | 13.4719 | 0.0487 | 4.1535 | 0.0405 | 4.1939 | 1.1112 | 0.0378 | 1.1490 | | 4,956.3901 | 4,956.3901 | 0.2476 | | 4,962.5792 |
| Total | 2.7718 | 5.5952 | 20.6993 | 0.0507 | 4.1535 | 0.0998 | 4.2532 | 1.1112 | 0.0971 | 1.2083 | 0.0000 | 5,285.9540 | 5,285.9540 | 0.2661 | 5.8100e-003 | 5,294.3367 |

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 | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |
| Energy | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| Mobile | 0.9251 | 4.6151 | 11.2491 | 0.0393 | 3.3119 | 0.0330 | 3.3449 | 0.8861 | 0.0308 | 0.9169 | | 4,003.4129 | 4,003.4129 | 0.2069 | | 4,008.5850 |
| Total | 2.6827 | 4.9454 | 18.4765 | 0.0413 | 3.3119 | 0.0923 | 3.4042 | 0.8861 | 0.0901 | 0.9762 | 0.0000 | 4,332.9768 | 4,332.9768 | 0.2254 | 5.8100e-003 | 4,340.3425 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

| | 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 |
|-------------------|------|-------|-------|-------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|-------|------|-------|
| Percent Reduction | 3.21 | 11.61 | 10.74 | 18.51 | 20.26 | 7.48 | 19.96 | 20.26 | 7.18 | 19.21 | 0.00 | 18.03 | 18.03 | 15.29 | 0.00 | 18.02 |

3.0 Construction Detail**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1 | Demolition | Demolition | 1/1/2020 | 1/28/2020 | 5 | 20 | |
| 2 | Site Preparation | Site Preparation | 1/29/2020 | 1/31/2020 | 5 | 3 | |
| 3 | Grading | Grading | 2/1/2020 | 2/10/2020 | 5 | 6 | |
| 4 | Building Construction | Building Construction | 2/11/2020 | 10/31/2020 | 5 | 189 | |
| 5 | Paving | Paving | 11/1/2020 | 11/13/2020 | 5 | 10 | |
| 6 | Architectural Coating | Architectural Coating | 11/14/2020 | 11/27/2020 | 5 | 10 | |

Acres of Grading (Site Preparation Phase): 2.3

Acres of Grading (Grading Phase): 2.3

Acres of Paving: 0.99

Residential Indoor: 140,535; Residential Outdoor: 46,845; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,640 (Architectural Coating – sqft)

OffRoad Equipment

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| Paving | Cement and Mortar Mixers | 1 | 8.00 | 9 | 0.56 |
| Demolition | Concrete/Industrial Saws | 1 | 8.00 | 81 | 0.73 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Cranes | 1 | 8.00 | 231 | 0.29 |
| Building Construction | Forklifts | 2 | 7.00 | 89 | 0.20 |
| Site Preparation | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |
| Demolition | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Demolition | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Grading | Tractors/Loaders/Backhoes | 2 | 7.00 | 97 | 0.37 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Paving Equipment | 1 | 8.00 | 132 | 0.36 |
| Site Preparation | Scrapers | 1 | 8.00 | 367 | 0.48 |
| Building Construction | Welders | 3 | 8.00 | 46 | 0.45 |

Trips and VMT

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

| 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 |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition | 5 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Site Preparation | 3 | 8.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 10.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 8 | 80.00 | 16.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 16.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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 | 2.1262 | 20.9463 | 14.6573 | 0.0241 | | 1.1525 | 1.1525 | | 1.0761 | 1.0761 | | 2,322.3127 | 2,322.3127 | 0.5970 | | 2,337.2363 |
| Total | 2.1262 | 20.9463 | 14.6573 | 0.0241 | | 1.1525 | 1.1525 | | 1.0761 | 1.0761 | | 2,322.3127 | 2,322.3127 | 0.5970 | | 2,337.2363 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.2 Demolition - 2020

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 | 0.0642 | 0.0433 | 0.4805 | 1.4000e-003 | 0.1453 | 1.1100e-003 | 0.1464 | 0.0385 | 1.0200e-003 | 0.0396 | | 139.4707 | 139.4707 | 4.0100e-003 | | 139.5710 |
| Total | 0.0642 | 0.0433 | 0.4805 | 1.4000e-003 | 0.1453 | 1.1100e-003 | 0.1464 | 0.0385 | 1.0200e-003 | 0.0396 | | 139.4707 | 139.4707 | 4.0100e-003 | | 139.5710 |

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 | 2.1262 | 20.9463 | 14.6573 | 0.0241 | | 1.1525 | 1.1525 | | 1.0761 | 1.0761 | 0.0000 | 2,322.3127 | 2,322.3127 | 0.5970 | | 2,337.2363 |
| Total | 2.1262 | 20.9463 | 14.6573 | 0.0241 | | 1.1525 | 1.1525 | | 1.0761 | 1.0761 | 0.0000 | 2,322.3127 | 2,322.3127 | 0.5970 | | 2,337.2363 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.2 Demolition - 2020

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 | 0.0642 | 0.0433 | 0.4805 | 1.4000e-003 | 0.1453 | 1.1100e-003 | 0.1464 | 0.0385 | 1.0200e-003 | 0.0396 | | 139.4707 | 139.4707 | 4.0100e-003 | | 139.5710 |
| Total | 0.0642 | 0.0433 | 0.4805 | 1.4000e-003 | 0.1453 | 1.1100e-003 | 0.1464 | 0.0385 | 1.0200e-003 | 0.0396 | | 139.4707 | 139.4707 | 4.0100e-003 | | 139.5710 |

3.3 Site Preparation - 2020

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 | | | | | 0.8131 | 0.0000 | 0.8131 | 0.0878 | 0.0000 | 0.0878 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.6521 | 19.9196 | 11.2678 | 0.0245 | | 0.7771 | 0.7771 | | 0.7149 | 0.7149 | | 2,372.9062 | 2,372.9062 | 0.7675 | | 2,392.0924 |
| Total | 1.6521 | 19.9196 | 11.2678 | 0.0245 | 0.8131 | 0.7771 | 1.5901 | 0.0878 | 0.7149 | 0.8027 | | 2,372.9062 | 2,372.9062 | 0.7675 | | 2,392.0924 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.3 Site Preparation - 2020

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 | 0.0395 | 0.0267 | 0.2957 | 8.6000e-004 | 0.0894 | 6.8000e-004 | 0.0901 | 0.0237 | 6.3000e-004 | 0.0243 | | 85.8281 | 85.8281 | 2.4700e-003 | | 85.8899 |
| Total | 0.0395 | 0.0267 | 0.2957 | 8.6000e-004 | 0.0894 | 6.8000e-004 | 0.0901 | 0.0237 | 6.3000e-004 | 0.0243 | | 85.8281 | 85.8281 | 2.4700e-003 | | 85.8899 |

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 | | | | | 0.3659 | 0.0000 | 0.3659 | 0.0395 | 0.0000 | 0.0395 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.6521 | 19.9196 | 11.2678 | 0.0245 | | 0.7771 | 0.7771 | | 0.7149 | 0.7149 | 0.0000 | 2,372.9062 | 2,372.9062 | 0.7675 | | 2,392.0924 |
| Total | 1.6521 | 19.9196 | 11.2678 | 0.0245 | 0.3659 | 0.7771 | 1.1429 | 0.0395 | 0.7149 | 0.7544 | 0.0000 | 2,372.9062 | 2,372.9062 | 0.7675 | | 2,392.0924 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.3 Site Preparation - 2020

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 | 0.0395 | 0.0267 | 0.2957 | 8.6000e-004 | 0.0894 | 6.8000e-004 | 0.0901 | 0.0237 | 6.3000e-004 | 0.0243 | | 85.8281 | 85.8281 | 2.4700e-003 | | 85.8899 |
| Total | 0.0395 | 0.0267 | 0.2957 | 8.6000e-004 | 0.0894 | 6.8000e-004 | 0.0901 | 0.0237 | 6.3000e-004 | 0.0243 | | 85.8281 | 85.8281 | 2.4700e-003 | | 85.8899 |

3.4 Grading - 2020

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 | | | | | 6.4286 | 0.0000 | 6.4286 | 3.3541 | 0.0000 | 3.3541 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.9219 | 21.3418 | 9.9355 | 0.0206 | | 0.9902 | 0.9902 | | 0.9110 | 0.9110 | | 1,996.4061 | 1,996.4061 | 0.6457 | | 2,012.5480 |
| Total | 1.9219 | 21.3418 | 9.9355 | 0.0206 | 6.4286 | 0.9902 | 7.4188 | 3.3541 | 0.9110 | 4.2651 | | 1,996.4061 | 1,996.4061 | 0.6457 | | 2,012.5480 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.4 Grading - 2020

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 | 0.0493 | 0.0333 | 0.3696 | 1.0800e-003 | 0.1118 | 8.5000e-004 | 0.1126 | 0.0296 | 7.9000e-004 | 0.0304 | | 107.2851 | 107.2851 | 3.0900e-003 | | 107.3623 |
| Total | 0.0493 | 0.0333 | 0.3696 | 1.0800e-003 | 0.1118 | 8.5000e-004 | 0.1126 | 0.0296 | 7.9000e-004 | 0.0304 | | 107.2851 | 107.2851 | 3.0900e-003 | | 107.3623 |

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 | | | | | 2.8929 | 0.0000 | 2.8929 | 1.5094 | 0.0000 | 1.5094 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.9219 | 21.3418 | 9.9355 | 0.0206 | | 0.9902 | 0.9902 | | 0.9110 | 0.9110 | 0.0000 | 1,996.4061 | 1,996.4061 | 0.6457 | | 2,012.5480 |
| Total | 1.9219 | 21.3418 | 9.9355 | 0.0206 | 2.8929 | 0.9902 | 3.8830 | 1.5094 | 0.9110 | 2.4203 | 0.0000 | 1,996.4061 | 1,996.4061 | 0.6457 | | 2,012.5480 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.4 Grading - 2020

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 | 0.0493 | 0.0333 | 0.3696 | 1.0800e-003 | 0.1118 | 8.5000e-004 | 0.1126 | 0.0296 | 7.9000e-004 | 0.0304 | | 107.2851 | 107.2851 | 3.0900e-003 | | 107.3623 |
| Total | 0.0493 | 0.0333 | 0.3696 | 1.0800e-003 | 0.1118 | 8.5000e-004 | 0.1126 | 0.0296 | 7.9000e-004 | 0.0304 | | 107.2851 | 107.2851 | 3.0900e-003 | | 107.3623 |

3.5 Building Construction - 2020

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 | 2.2879 | 17.4336 | 14.8972 | 0.0250 | | 0.9482 | 0.9482 | | 0.9089 | 0.9089 | | 2,288.8877 | 2,288.8877 | 0.4646 | | 2,300.5014 |
| Total | 2.2879 | 17.4336 | 14.8972 | 0.0250 | | 0.9482 | 0.9482 | | 0.9089 | 0.9089 | | 2,288.8877 | 2,288.8877 | 0.4646 | | 2,300.5014 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.5 Building Construction - 2020

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 | 0.0555 | 1.6845 | 0.4542 | 3.9700e-003 | 0.1024 | 8.4700e-003 | 0.1109 | 0.0295 | 8.1000e-003 | 0.0376 | | 424.6038 | 424.6038 | 0.0299 | | 425.3503 |
| Worker | 0.3948 | 0.2665 | 2.9567 | 8.6100e-003 | 0.8942 | 6.8200e-003 | 0.9010 | 0.2372 | 6.2800e-003 | 0.2434 | | 858.2810 | 858.2810 | 0.0247 | | 858.8986 |
| Total | 0.4503 | 1.9510 | 3.4109 | 0.0126 | 0.9966 | 0.0153 | 1.0119 | 0.2666 | 0.0144 | 0.2810 | | 1,282.8849 | 1,282.8849 | 0.0546 | | 1,284.2489 |

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 | 2.2879 | 17.4336 | 14.8972 | 0.0250 | | 0.9482 | 0.9482 | | 0.9089 | 0.9089 | 0.0000 | 2,288.8877 | 2,288.8877 | 0.4646 | | 2,300.5014 |
| Total | 2.2879 | 17.4336 | 14.8972 | 0.0250 | | 0.9482 | 0.9482 | | 0.9089 | 0.9089 | 0.0000 | 2,288.8877 | 2,288.8877 | 0.4646 | | 2,300.5014 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.5 Building Construction - 2020

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 | 0.0555 | 1.6845 | 0.4542 | 3.9700e-003 | 0.1024 | 8.4700e-003 | 0.1109 | 0.0295 | 8.1000e-003 | 0.0376 | | 424.6038 | 424.6038 | 0.0299 | | 425.3503 |
| Worker | 0.3948 | 0.2665 | 2.9567 | 8.6100e-003 | 0.8942 | 6.8200e-003 | 0.9010 | 0.2372 | 6.2800e-003 | 0.2434 | | 858.2810 | 858.2810 | 0.0247 | | 858.8986 |
| Total | 0.4503 | 1.9510 | 3.4109 | 0.0126 | 0.9966 | 0.0153 | 1.0119 | 0.2666 | 0.0144 | 0.2810 | | 1,282.8849 | 1,282.8849 | 0.0546 | | 1,284.2489 |

3.6 Paving - 2020

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 | 1.1547 | 11.5873 | 11.8076 | 0.0178 | | 0.6565 | 0.6565 | | 0.6051 | 0.6051 | | 1,709.2180 | 1,709.2180 | 0.5417 | | 1,722.7605 |
| Paving | 0.2594 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.4141 | 11.5873 | 11.8076 | 0.0178 | | 0.6565 | 0.6565 | | 0.6051 | 0.6051 | | 1,709.2180 | 1,709.2180 | 0.5417 | | 1,722.7605 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.6 Paving - 2020

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 | 0.0740 | 0.0500 | 0.5544 | 1.6200e-003 | 0.1677 | 1.2800e-003 | 0.1689 | 0.0445 | 1.1800e-003 | 0.0456 | | 160.9277 | 160.9277 | 4.6300e-003 | | 161.0435 |
| Total | 0.0740 | 0.0500 | 0.5544 | 1.6200e-003 | 0.1677 | 1.2800e-003 | 0.1689 | 0.0445 | 1.1800e-003 | 0.0456 | | 160.9277 | 160.9277 | 4.6300e-003 | | 161.0435 |

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 | 1.1547 | 11.5873 | 11.8076 | 0.0178 | | 0.6565 | 0.6565 | | 0.6051 | 0.6051 | 0.0000 | 1,709.2180 | 1,709.2180 | 0.5417 | | 1,722.7605 |
| Paving | 0.2594 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Total | 1.4141 | 11.5873 | 11.8076 | 0.0178 | | 0.6565 | 0.6565 | | 0.6051 | 0.6051 | 0.0000 | 1,709.2180 | 1,709.2180 | 0.5417 | | 1,722.7605 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.6 Paving - 2020

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 | 0.0740 | 0.0500 | 0.5544 | 1.6200e-003 | 0.1677 | 1.2800e-003 | 0.1689 | 0.0445 | 1.1800e-003 | 0.0456 | | 160.9277 | 160.9277 | 4.6300e-003 | | 161.0435 |
| Total | 0.0740 | 0.0500 | 0.5544 | 1.6200e-003 | 0.1677 | 1.2800e-003 | 0.1689 | 0.0445 | 1.1800e-003 | 0.0456 | | 160.9277 | 160.9277 | 4.6300e-003 | | 161.0435 |

3.7 Architectural Coating - 2020

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 | 44.6490 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2422 | 1.6838 | 1.8314 | 2.9700e-003 | | 0.1109 | 0.1109 | | 0.1109 | 0.1109 | | 281.4481 | 281.4481 | 0.0218 | | 281.9928 |
| Total | 44.8911 | 1.6838 | 1.8314 | 2.9700e-003 | | 0.1109 | 0.1109 | | 0.1109 | 0.1109 | | 281.4481 | 281.4481 | 0.0218 | | 281.9928 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.7 Architectural Coating - 2020

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 | 0.0790 | 0.0533 | 0.5913 | 1.7200e-003 | 0.1788 | 1.3600e-003 | 0.1802 | 0.0474 | 1.2600e-003 | 0.0487 | | 171.6562 | 171.6562 | 4.9400e-003 | | 171.7797 |
| Total | 0.0790 | 0.0533 | 0.5913 | 1.7200e-003 | 0.1788 | 1.3600e-003 | 0.1802 | 0.0474 | 1.2600e-003 | 0.0487 | | 171.6562 | 171.6562 | 4.9400e-003 | | 171.7797 |

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 | 44.6490 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2422 | 1.6838 | 1.8314 | 2.9700e-003 | | 0.1109 | 0.1109 | | 0.1109 | 0.1109 | 0.0000 | 281.4481 | 281.4481 | 0.0218 | | 281.9928 |
| Total | 44.8911 | 1.6838 | 1.8314 | 2.9700e-003 | | 0.1109 | 0.1109 | | 0.1109 | 0.1109 | 0.0000 | 281.4481 | 281.4481 | 0.0218 | | 281.9928 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

3.7 Architectural Coating - 2020

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 | 0.0790 | 0.0533 | 0.5913 | 1.7200e-003 | 0.1788 | 1.3600e-003 | 0.1802 | 0.0474 | 1.2600e-003 | 0.0487 | | 171.6562 | 171.6562 | 4.9400e-003 | | 171.7797 |
| Total | 0.0790 | 0.0533 | 0.5913 | 1.7200e-003 | 0.1788 | 1.3600e-003 | 0.1802 | 0.0474 | 1.2600e-003 | 0.0487 | | 171.6562 | 171.6562 | 4.9400e-003 | | 171.7797 |

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

| | 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 | 0.9251 | 4.6151 | 11.2491 | 0.0393 | 3.3119 | 0.0330 | 3.3449 | 0.8861 | 0.0308 | 0.9169 | | 4,003.4129 | 4,003.4129 | 0.2069 | | 4,008.5850 |
| Unmitigated | 1.0142 | 5.2649 | 13.4719 | 0.0487 | 4.1535 | 0.0405 | 4.1939 | 1.1112 | 0.0378 | 1.1490 | | 4,956.3901 | 4,956.3901 | 0.2476 | | 4,962.5792 |

4.2 Trip Summary Information

| Land Use | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---------------------|-------------------------|----------|--------|-------------|------------|
| | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Apartments Mid Rise | 571.90 | 549.54 | 503.96 | 1,910,188 | 1,523,124 |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 571.90 | 549.54 | 503.96 | 1,910,188 | 1,523,124 |

4.3 Trip Type Information

| Land Use | Miles | | | Trip % | | | Trip Purpose % | | |
|---------------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
| | 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 |

4.4 Fleet Mix

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Apartments Mid Rise | 0.551391 | 0.043400 | 0.201050 | 0.120272 | 0.016162 | 0.005864 | 0.021029 | 0.030512 | 0.002059 | 0.001866 | 0.004766 | 0.000706 | 0.000924 |
| Parking Lot | 0.551391 | 0.043400 | 0.201050 | 0.120272 | 0.016162 | 0.005864 | 0.021029 | 0.030512 | 0.002059 | 0.001866 | 0.004766 | 0.000706 | 0.000924 |

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

| | 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 | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| NaturalGas Unmitigated | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

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 | 2692.5 | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| 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 | | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |

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 | 2.6925 | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |
| 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 | | 0.0290 | 0.2481 | 0.1056 | 1.5800e-003 | | 0.0201 | 0.0201 | | 0.0201 | 0.0201 | | 316.7644 | 316.7644 | 6.0700e-003 | 5.8100e-003 | 318.6468 |

6.0 Area Detail

6.1 Mitigation Measures Area

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

No Hearths Installed

| | 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 | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |
| Unmitigated | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

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 | 0.1223 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.3897 | | | | | 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 | 0.2165 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | | 12.7996 | 12.7996 | 0.0124 | | 13.1107 |
| Total | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

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 | 0.1223 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.3897 | | | | | 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 | 0.2165 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | | 12.7996 | 12.7996 | 0.0124 | | 13.1107 |
| Total | 1.7285 | 0.0822 | 7.1218 | 3.8000e-004 | | 0.0392 | 0.0392 | | 0.0392 | 0.0392 | 0.0000 | 12.7996 | 12.7996 | 0.0124 | 0.0000 | 13.1107 |

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Crossroads at Washington - Santa Ana - South Coast Air Basin, Winter

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

User Defined Equipment

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

11.0 Vegetation



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

Air Quality (CEST and EA) – PARTNER

<https://www.hudexchange.info/environmental-review/air-quality>

1. Does your project include new construction or conversion of land use facilitating the development of public, commercial, or industrial facilities OR five or more dwelling units?

Yes → Continue to Question 2.

No → If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide any documents used to make your determination.

2. Is your project’s air quality management district or county in non-attainment or maintenance status for any criteria pollutants?

Follow the link below to determine compliance status of project county or air quality management district:

<http://www.epa.gov/oaqps001/greenbk/>

No, project’s county or air quality management district is in attainment status for all criteria pollutants

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.

Yes, project’s management district or county is in non-attainment or maintenance status for one or more criteria pollutants. → Continue to Question 3.

3. Determine the estimated emissions levels of your project for each of those criteria pollutants that are in non-attainment or maintenance status on your project area. Will your project exceed any of the *de minimis* or *threshold* emissions levels of non-attainment and maintenance level pollutants or exceed the screening levels established by the state or air quality management district?

No, the project will not exceed *de minimis* or threshold emissions levels or screening levels

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Explain how you determined that the project would not exceed *de minimis* or *threshold* emissions.

Yes, the project exceeds *de minimis* emissions levels or screening levels.

→ *Continue to Question 4. Explain how you determined that the project would not exceed de minimis or threshold emissions in the Worksheet Summary.*

4. For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.

[Click here to enter text.](#)

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

Include all documentation supporting your findings in your submission to HUD.

Since the proposed project would include new construction of more than five dwelling units, and the South Coast Air Basin (SCAB) is in non-attainment and maintenance status for criteria pollutants, emissions levels were estimated for the project using the California Emissions Estimator Model (CalEEMod), v. 2016.3.2. CalEEMod is a statewide emissions computer model and comprehensive tool for quantifying air quality impacts associated with both construction and operation of a variety of land use projects. The proposed residential project would increase regional energy demand and generate new vehicle trips, which would both generate air pollutant emissions.

CalEEMod results for the proposed project's impacts to construction and operation air quality are included in Tables 1 and 2 (below). The project's construction and operational emissions would not exceed *de minimis* levels for volatile organic compounds (VOCs), nitrogen oxides (NOx), carbon monoxide (CO), PM_{2.5}, or PM₁₀, the criteria air pollutants for which the SCAB is in nonattainment or maintenance status. Therefore, the project would not contribute to any exceedances of federal air quality standards. The project's total direct and indirect emissions would not conflict with the Clean Air Act.

Table 1

Construction Emissions¹ (Annual, metric tons/yr)

| | ROG | NO _x | PM _{2.5} | PM ₁₀ | CO |
|---|-----------|-----------------|-------------------|------------------|-----------|
| Maximum Total Emissions ² | 0.52 | 2.21 | 0.14 | 0.22 | 2.01 |
| De Minimis Levels ³ | 10 | 100 | 100 | 100 | 100 |
| Exceed De Minimis Levels? | NO | NO | NO | NO | NO |
| <p>¹ Grading phases incorporate anticipated emissions reductions from compliance with SCAQMD Rule 403 to reduce fugitive dust. Architectural coating during construction incorporates compliance with SCAQMD Rule 1113, which requires use of the use of low-VOC paint (50 g/L for non-flat coatings).</p> <p>² In accordance with CalEEMod v. 2016.3.2 User's Guide, the term, Reactive Organic Gas (ROG) is used for the purposes of comparing ROG values to VOC significance thresholds. The User's Guide specifies that both terms refer to precursors to ozone and may be used interchangeably and the CalEEMod reports figures under the header ROG.</p> <p>³ De Minimis levels correspond to the level of nonattainment and maintenance, and are provided by US EPA at https://www.epa.gov/general-conformity/de-minimis-tables Source: CalEEMod v.2016.3.2, results are provided in Appendix C.</p> | | | | | |

Table 2

Operational Emissions¹ (Annual, metric tons/yr)

| | ROG | NO _x | PM _{2.5} | PM ₁₀ | CO |
|--|-----------|-----------------|-------------------|------------------|-----------|
| Maximum Total Emissions ² | 0.47 | 0.89 | 0.17 | 0.59 | 2.94 |
| De Minimis Levels ³ | 10 | 100 | 100 | 100 | 100 |
| Exceed De Minimis Levels? | NO | NO | NO | NO | NO |
| <p>¹ Architectural coating during operation incorporates compliance with SCAQMD Rule 1113, which requires use of low-VOC paint (50 g/L for nonflat coatings).</p> <p>² In accordance with CalEEMod v 2016.3.2 User's Guide, the term, Reactive Organic Gas (ROG) is used for the purposes of comparing ROG values to VOC significance thresholds. The User's Guide specifies that both terms refer to precursors to ozone and may be used interchangeably and the CalEEMod reports figures under the header ROG.</p> <p>³ De Minimis levels correspond to level of nonattainment and maintenance and are provided by US EPA at https://www.epa.gov/general-conformity/de-minimis-tables Source: CalEEMod v.2016.3.2, results are provided in Appendix C.</p> | | | | | |

Appendix D



Cultural Resources Assessment Report



Crossroads at Washington Project

Cultural Resources Assessment Report

prepared for

City of Santa Ana
Housing and Neighborhood Development
20 Civic Center Plaza
Santa Ana, CA 92701

prepared by

Rincon Consultants
250 East 1st Street, Suite 301
Los Angeles, California 90012

August 2019



RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Please cite this report as follows:

Perzel, Rachel and Tiffany Clark

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Executive Summary

Rincon Consultants, Inc. (Rincon) was retained by the City of Santa Ana (City) Housing & Neighborhood Development to conduct a cultural resource assessment for the Crossroads at Washington Project (project) in the city of Santa Ana, Orange County, California. The proposed project involves the construction of an affordable housing development consisting of an 86-unit multi-family residential complex on 2.3 acres. The Area of Potential Effects (APE) for the project includes two contiguous parcels (Assessor Parcel Numbers 398-092-13 and 398-092-14) at 1126 and 1146 East Washington Avenue. Because the City is seeking federal funding for the project, it is considered a federal undertaking and is subject to Section 106 of the National Historic Preservation Act (NHPA). The United States Department of Housing and Urban Development is the lead federal agency for the project.

The cultural resource assessment included a California Historical Resources Information System (CHRIS) records search, Native American and interested party consultation, archival and background research, and a site visit. The cultural resources records search of the CHRIS identified 24 previously conducted cultural resources studies and 42 previously recorded cultural resources within a 0.5-mile radius of the APE. All of these resources consist of historic period built-environment resources, none of which are located within or immediately adjacent to the APE. No previously recorded prehistoric or historic period archaeological resources are located in the record search area.

A search of the Sacred Lands File at the Native American Heritage Commission returned negative results. Rincon conducted outreach with local Native American groups to obtain information on known Native American resources that may be located in the APE or its vicinity. As of August 28, 2019, eight responses have been received. The consultation effort did not indicate the presence of cultural resources with the area of the APE.

Although the land that encompasses the APE is currently vacant, archival research indicates several buildings had been constructed on the property as far back as the early 1960s; all of these buildings were demolished by 1995. An archaeological survey found no remnants of the residences within the APE. No cultural resources (prehistoric or historic) were identified during the field work effort. The area appears to have a relatively low potential for containing substantial buried cultural deposits.

Based on the results of the cultural resource assessment, Rincon recommends a finding of ***no effect to historic properties under Section 106 of NHPA***. Rincon recommends the following best management practice in the event of an unanticipated discovery of cultural resources during project construction. In addition, a summary of existing regulations concerning the unanticipated discovery of human remains is also provided below.

Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be eligible for the National Register of

Historic Places, additional work such as data recovery excavation, Native American consultation, and archaeological monitoring may be warranted to mitigate any adverse effects under the NHPA.

Unanticipated Discovery of Human Remains

If human remains are found, existing regulations outlined in the State of California Health and Safety Code Section 7050.5 state that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code § 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access and provide recommendations as to the treatment of the remains to the landowner.

1 Introduction

Rincon Consultants, Inc. (Rincon) was retained by the City of Santa Ana (City) Housing & Neighborhood Development to conduct a cultural resource assessment for the Crossroads at Washington Project (undertaking) in the city of Santa Ana. The Area of Potential Effects (APE) for the undertaking is located at 1126 and 1146 East Washington Avenue (Figure 1; Figure 2). This report documents the tasks conducted by Rincon, including a cultural resources records search, Native American and interested party consultation, a site visit, and preparation of this report. The study was conducted for compliance with Section 106 of the National Historic Preservation Act (NHPA).

1.1 Project Location and Description

The undertaking is located at 1126 and 1146 East Washington Avenue (Assessor Parcel Numbers [APN] 398-092-13 and 398-092-14) in the city of Santa Ana in Orange County, California (Figure 1). More specifically, it is in Township 5 south, Range 9 west, Section 7 of the United States Geological Survey *Orange, CA* 7.5-minute topographic quadrangle (Figure 2). Located adjacent to Interstate-5, the undeveloped parcels are surrounded by a mix of commercial and residential development.

The proposed undertaking involves the construction of an 86-unit multi-family residential complex totaling approximately 69,400 square feet (sf) of residential and community building space. The proposed buildings would be three stories in height, and proposed units would consist of studios, one-, two-, three and four-bedroom units. The undertaking would include approximately 3,500 square feet of community building space for the leasing/management office and for residential amenities. Recreational amenities that would be provided as part of the project for residents include an outdoor pool with lounge area, tot lot with a shade canopy, an open green area, and dog-run. The undertaking includes a total of 110 parking spaces on site, with 68 standard parking spaces and 42 tandem parking spaces.

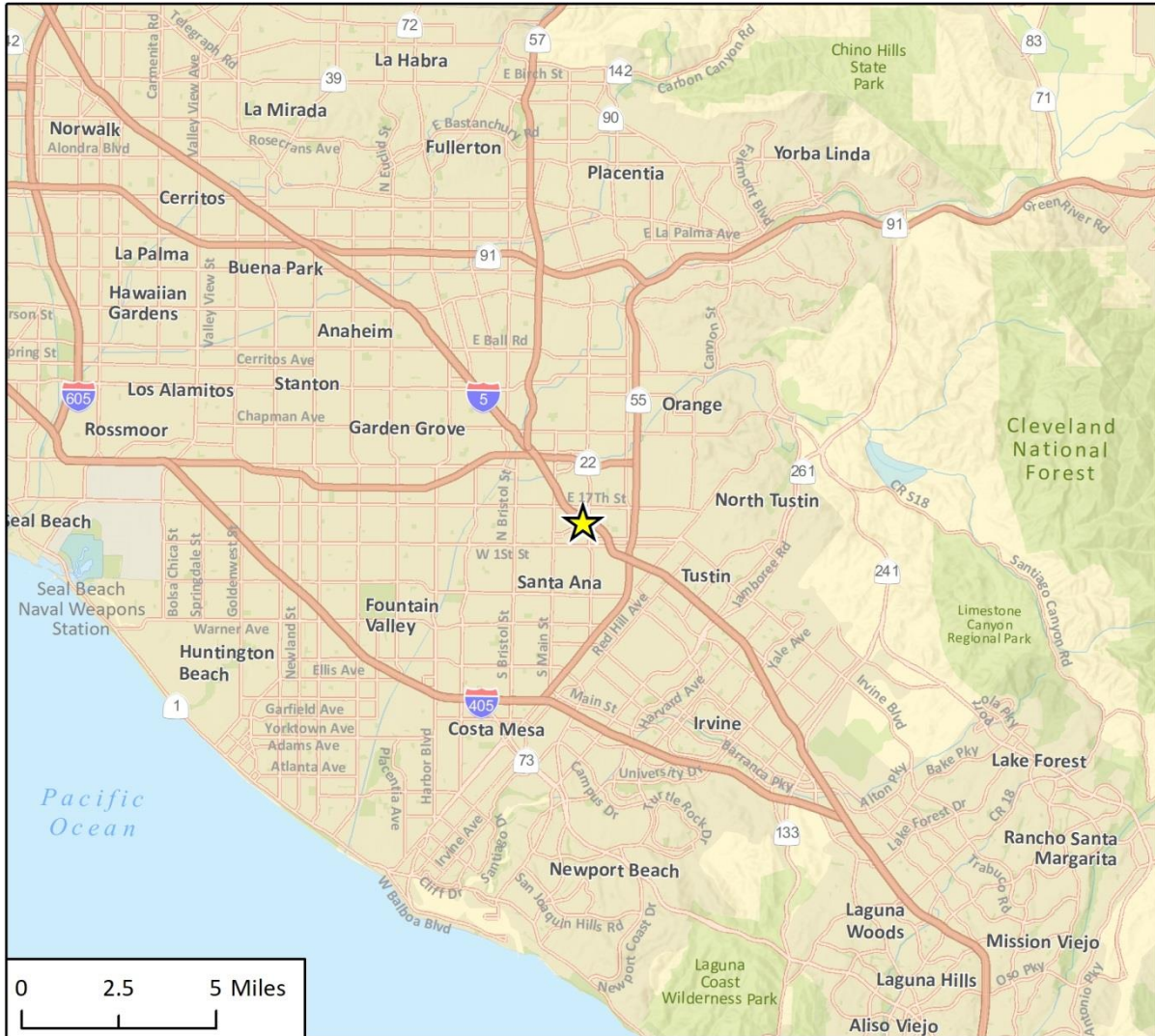
1.2 Area of Potential Effects

36 Code of Federal Regulations (CFR) 800.16(d) defines the APE of a project as the “geographic area or areas within which a project may directly or indirectly cause changes in the character or use of historic properties if any such property exists.” The APE depicts all areas expected to be affected by the proposed undertaking, including staging and construction areas. The three-story residential building proposed by this undertaking is consistent with the existing conditions of the surrounding area. Indirect effects (visual, auditory, and/or atmospheric) are expected to be limited to construction activities and will be temporary in nature. As such, the APE for the current undertaking is limited to the properties on which the undertaking will occur (APNs 398-092-13 and 398-092-14), which total 2.3 acres (Figure 3).

The APE must be considered as a three-dimensional space and as such, should include any vertical components of the undertaking that could result in directly or indirectly altering the character or use of historic properties. The vertical height of the APE extends up to 45 feet above the ground surface. The vertical depth of the APE is 5 feet below the current ground surface.

City of Santa Ana
Crossroads at Washington Project

Figure 1 Project Vicinity Map



Imagery provided by Esri and its licensors © 2019.

★ Project Location

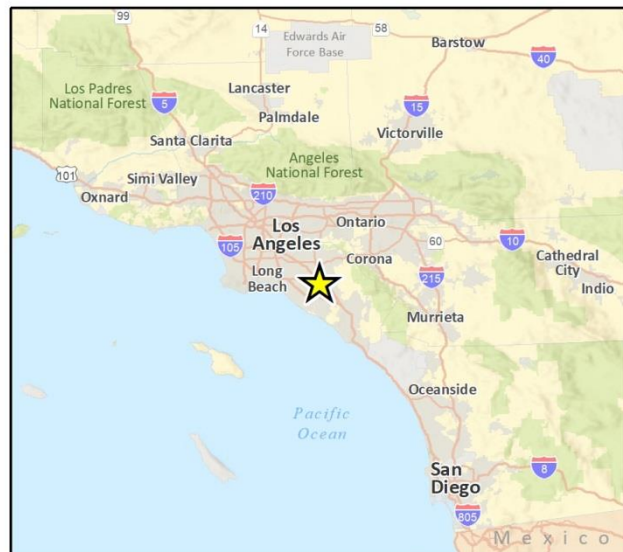
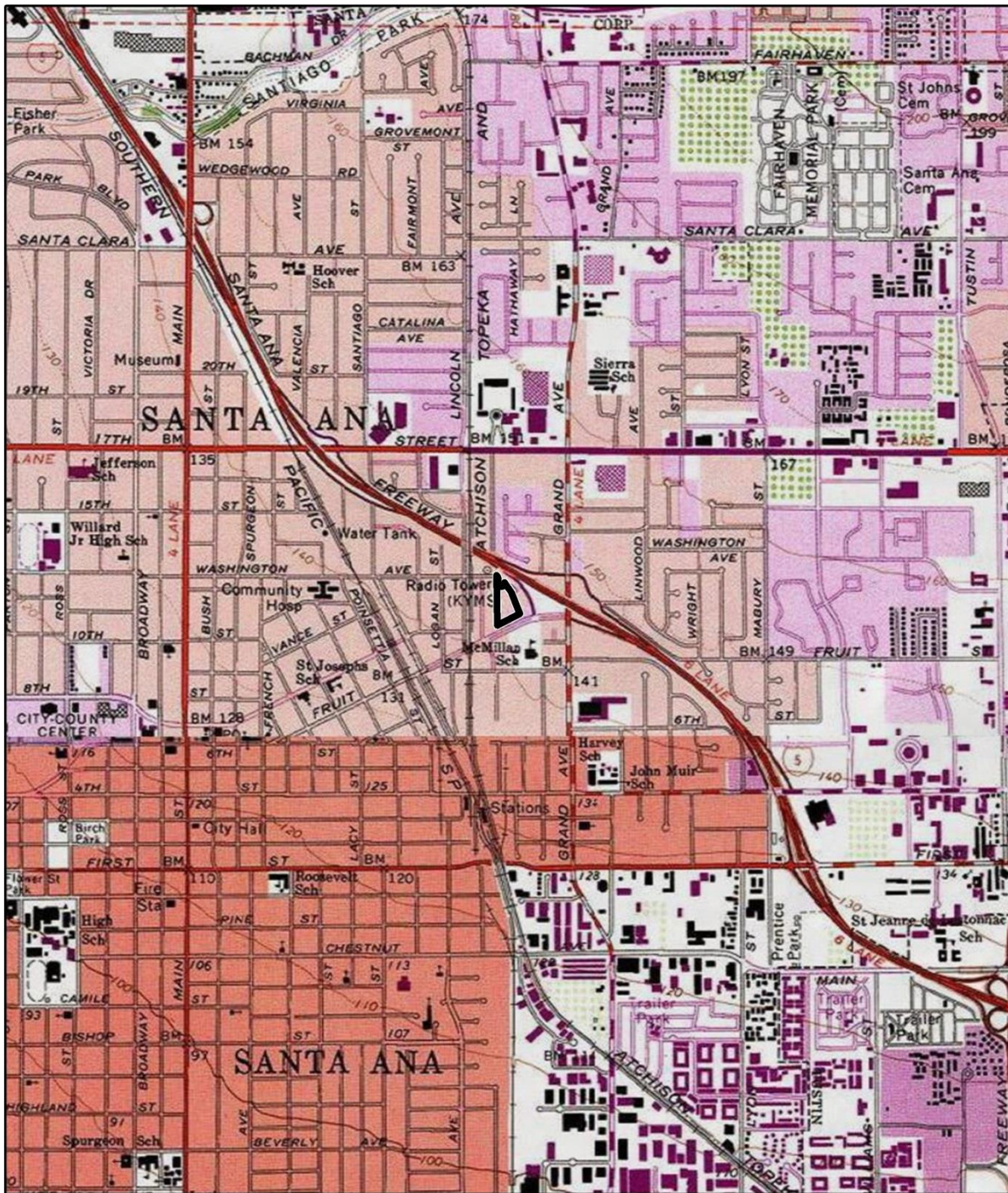


Fig 1 Regional Location - Washington Crossroads

Figure 2 Project Location Map



Imagery provided by National Geographic Society, Esri and its licensors © 2019. Orange Quadrangle. T05S R09W S07. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.



CRFig X Project Location Map

Figure 3 Area of Potential Effects Map



1.3 Personnel

Rincon Archaeological Resources Program Manager and Principal Investigator Tiffany Clark, PhD, Registered Professional Archaeologist (RPA) managed this cultural resources study. Dr. Clark meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historic archaeology (National Park Service 1983). Rincon Architectural Historian and Archaeologist Alexandra Madsen completed the cultural resources record search and conducted the pedestrian survey. Rachel Perzel, Architectural Historian, conducted the Native American and interested party outreach and was the primary author of the report. Geographic Information Systems Analyst Allysen Valencia prepared the figures found in this report. Rincon Principal Christopher Duran, MA, RPA reviewed this report for quality control.

2 Regulatory Setting

This section includes a discussion of the applicable laws, ordinances, regulations, and standards governing cultural resources to which the proposed undertaking should adhere before and during implementation.

2.1 Federal Regulations

2.1.1 National Historic Preservation Act

The proposed undertaking is considered a federal undertaking due to the potential for federal funding and is subject to Section 106 of NHPA. Section 106 applies when a project, activity, or program is funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval. Cultural resources are considered during federal undertakings chiefly under Section 106 of NHPA of 1966 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), and through the National Environmental Policy Act. Properties of traditional, religious, and cultural importance to Native Americans are considered under Section 101 (d)(6)(A) of NHPA, and Section 106 (36 CFR 800.3-800.10). Other federal laws governing cultural resources include the Archaeological Data Preservation Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1989, among others.

Section 106 of NHPA (16 United States Code 470f) requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings (36 CFR 800.1). Under Section 106, the significance is assessed of any adversely affected historic property and mitigation measures are proposed to resolve the adverse effects to an acceptable level. Historic properties are those significant cultural resources listed in or are eligible for listing in the National Register of Historic Places (NRHP). Generally, districts, sites, buildings, structures, and object that possess integrity are eligible for inclusion on the NRHP under the following the criteria (36 CFR 60.4):

- a. Are associated with events that have made a significant contribution to the broad patterns of our history
- b. Are associated with the lives of persons significant in our past
- c. Embody the distinctive characteristics of a type, period, or method of installation, 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
- d. Have yielded, or may be likely to yield, information important in prehistory or history

Ordinarily, cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative in

nature are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

3 Natural and Cultural Setting

3.1 Natural Setting

The APE is approximately 136 to 144 feet above sea level. The area experiences a Mediterranean climate with hot dry summers and cool rainy winters. The APE consists of vacant land with landscaped areas bordering its east and south sides. The surrounding area is urbanized and is characterized by a mix of commercial and residential development.

3.2 Cultural Setting

3.2.1 Prehistoric Context

During the twentieth century, many archaeologists developed chronological sequences to explain prehistoric cultural changes in all or portions of southern California (c.f., Jones and Klar 2007; Moratto 1984). Wallace (1955, 1978) devised a prehistoric chronology for the southern California region based on early studies and focused on data synthesis that included four horizons: Early Man, Milling Stone, Intermediate, and Late Prehistoric. Though initially lacking the chronological precision of absolute dates (Moratto 1984: 159), Wallace's (1955) synthesis has been modified and improved using thousands of radiocarbon dates obtained by southern California researchers over recent decades (Byrd and Raab 2007: 217; Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994). The composite prehistoric chronological sequence for southern California is based on Wallace (1955), Warren (1968), and later studies including Koerper and Drover (1983).

Early Man Horizon (ca. 10,000 – 6000 BCE)

Numerous pre-8000 BCE sites have been identified along the mainland coast and Channel Islands of southern California (c.f., Erlandson 1991; Johnson et al. 2002; Jones and Klar 2007; Moratto 1984; Rick et al. 2001: 609). The Arlington Springs site on Santa Rosa Island produced human femurs dated to approximately 13,000 years ago (Arnold et al. 2004; Johnson et al. 2002). On nearby San Miguel Island, human occupation at Daisy Cave (SMI-261) has been dated to nearly 13,000 years ago and included basketry greater than 12,000 years old, the earliest on the Pacific Coast (Arnold et al. 2004).

Although few Clovis- or Folsom-style fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987), Early Man Horizon sites are associated generally with a greater emphasis on hunting than later horizons. Recent data indicate that the Early Man economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources in coastal areas (e.g., Jones et al. 2002) and on inland Pleistocene lakeshores (Moratto 1984). A warm and dry 3,000-year period called the Altithermal began around 6000 BCE. The conditions of the Altithermal are likely responsible for the change in human subsistence patterns at this time, including a greater emphasis on plant foods and small game.

Milling Stone Horizon (6000–3000 BCE)

The Milling Stone Horizon is defined as “marked by extensive use of milling stones and mullers, a general lack of well-made projectile points, and burials with rock cairns” (Wallace 1955: 219). The dominance of such artifact types indicates a subsistence strategy oriented around collecting plant foods and small animals. A broad spectrum of food resources were consumed including small and large terrestrial mammals, sea mammals, birds, shellfish and other littoral and estuarine species, near-shore fishes, yucca, agave, and seeds and other plant products (Kowta 1969; Reinman 1964). Variability in artifact collections over time and from the coast to inland sites indicates that Milling Stone Horizon subsistence strategies adapted to environmental conditions (Byrd and Raab 2007: 220). Locally available tool stone dominates lithic artifacts associated with Milling Stone Horizon sites; ground stone tools, such as manos and metates, and chopping, scraping, and cutting tools, are common. Kowta (1969) attributes the presence of numerous scraper-plane tools in Milling Stone Horizon collections to the processing of agave or yucca for food or fiber. The mortar and pestle, associated with acorns or other foods processed through pounding, were first used during the Milling Stone Horizon and increased dramatically in later periods (Wallace 1955, 1978; Warren 1968).

Two types of artifacts that are considered diagnostic of the Milling Stone period are the cogged stone and discoidal, most of which have been found on sites dating between 4,000 and 1,000 BCE (Moratto 1984: 149), though possibly as far back as 5,500 BCE (Couch et al. 2009). The cogged stone is a ground stone object that has gear-like teeth on the perimeter and is produced from a variety of materials. The function of cogged stones is unknown, but many scholars have postulated ritualistic or ceremonial uses (c.f., Dixon 1968: 64-65; Eberhart 1961: 367) based on the materials used and their location near to burials and other established ceremonial artifacts as compared to typical habitation debris. Similar to cogged stones, discoidals are found in the archaeological record subsequent to the introduction of the cogged stone. Cogged stones and discoidals were often buried purposefully, or “cached.” They are most common in sites along the coastal drainages from southern Ventura County southward and are particularly abundant at some Orange County sites, although a few specimens have been found inland as far east as Cajon Pass (Dixon 1968: 63; Moratto 1984: 149). Cogged stones have been collected in Riverside County and their distribution appears to center on the Santa Ana River basin (Eberhart 1961), within which the site lies.

Intermediate Horizon (3000 BCE – CE 500)

Wallace’s Intermediate Horizon dates from approximately 3000 BCE - CE 500 and is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred toward greater adaptation to local resources including a broad variety of fish, land mammal, and sea mammal remains along the coast. Tool kits for hunting, fishing, and processing food and materials reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured.

Mortars and pestles became more common during this transitional period, gradually replacing manos and metates as the dominant milling equipment. Many archaeologists believe this change in milling stones signals a change from the processing and consuming of hard seed resources to the increasing reliance on acorn (c.f., Glassow et al. 1988; True 1993). Mortuary practices during the Intermediate typically included fully flexed burials oriented toward the north or west (Warren 1968: 2-3).

Late Prehistoric Horizon (CE 500–Historic Contact)

During Wallace’s (1955, 1978) Late Prehistoric Horizon the diversity of plant food resources and land and sea mammal hunting increased even further than during the Intermediate Horizon. More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small finely worked projectile points associated with the bow and arrow. Steatite containers were made for cooking and storage and an increased use of asphalt for waterproofing is noted. More artistic artifacts were recovered from Late Prehistoric sites and cremation became a common mortuary custom. Larger, more permanent villages supported an increased population size and social structure (Wallace 1955: 223).

Warren (1968) attributes this dramatic change in material culture, burial practices, and subsistence focus to the westward migration of desert people he called the Takic, or Numic, Tradition in Los Angeles, Orange, and western Riverside counties. This Takic Tradition was formerly referred to as the “Shoshonean wedge” (Warren 1968), but this nomenclature is no longer used to avoid confusion with ethnohistoric and modern Shoshonean groups (Heizer 1978: 5; Shipley 1978: 88, 90). The Takic expansion remains a major question in southern California prehistory and has been a matter of debate in archaeological and linguistic research. Linguistic, biological, and archaeological evidence supports the hypothesis that Takic peoples from the Southern San Joaquin Valley and/or western Mojave Desert entered southern California ca. 3,500 years ago to occupy the Los Angeles/Orange County area (Sutton 2009). Modern Gabrieliño/Tongva in western Riverside County are generally considered by archaeologists to be descendants of these prehistoric Uto-Aztecan, Takic-speaking populations that settled along the California coast during the Late Prehistoric Horizon. Sutton argues that surrounding Cupan groups (Serrano, Cahuilla, Cupeño, and Luiseño), were biologically Yuman peoples who were in the area prior to the Takic expansion but adopted Takic languages around 1,500 years ago.

3.2.2 Ethnographic Overview

The APE is located in the traditional territory of the Native American group known as the Gabrieliño, Tongva, or Kizh (Bean and Smith 1978:538; Johnston 1962; Kroeber 1976: Plate 57; McCawley 1996). What the Native Americans who inhabited southern California called themselves has long been a topic of discussion among scholars and living descendants of these people (Johnston 1962; Dakin 1978; McCawley 1996). While the name Gabrieliño was applied by the Spanish to those natives that were associated with the Mission San Gabriel Arcángel (Bean and Smith 1978), that name does not necessarily correlate to how the inhabitants of the region referred to themselves. Today, most contemporary Gabrieliño prefer to identify themselves as Tongva, though some use the name Kizh. Generally, the names Tongva and Kizh are derivatives of placenames or village names in and around Mission San Gabriel, or referents to inhabitants of those villages. The name Tongva is used throughout the remainder of this report as it is currently most commonly used by present day descendants (McCawley 1996).

Tongva territory included a large area in and around Los Angeles County, as well as the southern Channel Islands and coastlines from Aliso Creek in the south to Topanga Creek in the north. Their territory encompassed several biotic zones, including coastal marsh, coastal strand, prairie, chaparral, oak woodland, and pine forest (Bean and Smith 1978; McCawley 1996). The watersheds of the Rio Hondo, the Los Angeles, and the Santa Ana Rivers as well as many tributaries and creeks such as Ballona Creek, Tujunga Wash, Arroyo Seco and others were within the territory of the Tongva. The Tongva territory was bordered by several different Native American groups including

the Serrano to the north and northeast, the Tataviam to the north, the Chumash to the northwest, the Cahuilla to the east, and the Luiseño and Juaneño to the south and southeast.

The Tongva language belongs to the Takic branch of the Uto-Aztecan language family (Campbell 2016), which can be traced to the Great Basin region. This language family includes dialects spoken by the nearby Juaneño and Luiseño but is considerably different from those of the Chumash people living to the north and the Diegueño (including Ipai, Tipai, and Kumeyaay) people living to the south.

Tongva society was organized along patrilineal non-localized clans, a common Takic pattern. Each clan had a ceremonial leader and contained several lineages. The Tongva established permanent villages and smaller satellite camps throughout their territory. At the time of Spanish contact, there were an estimated 5,000 mainland Tongva, and village populations ranged from approximately 50 to 100 people (Bean and Smith 1978). Tongva subsistence was oriented around acorns supplemented by the roots, leaves, seeds, and fruits of a wide variety of plants and animals. Meat sources included large and small mammals, freshwater and saltwater fish, shellfish, birds, reptiles, and insects (Kroeber 1976; Bean and Smith 1978; McCawley 1996; Langenwalter et al. 2001).

The Tongva employed a wide variety of tools and implements to gather and hunt food. The digging stick, used to extract roots and tubers, was frequently noted by early European explorers (Rawls 1984). Other tools included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks. Like the Chumash, the Tongva made oceangoing plank canoes (known as a *ti'at*) capable of holding six to 14 people used for fishing, travel, and trade between the mainland and the Channel Islands. Tule reed canoes were employed for near-shore fishing (Miller 1991; McCawley 1996).

The Tongva lived in circular domed structures made up of thatched tule covering a frame of wooden poles usually of willow. Size estimates vary for these houses, and very few have been identified in archaeological contexts; however, some are said to have been able to house up to 50 people (Bean and Smith 1978). In cases where houses have been identified and recovered archaeologically, extramural features such as hearths and storage pits have been identified (Vargas et al. 2016).

Chinigchinich, the last in a series of heroic mythological figures, was central to Tongva religious life at the time of Spanish contact (Kroeber 1976). The belief in Chinigchinich was spreading south among other Takic-speaking groups at the same time the Spanish were establishing Christian missions. Elements of Chinigchinich beliefs suggest it was a syncretic mixture of Christianity and native religious practices (McCawley 1996). Prior to European contact, deceased Tongva were either buried or cremated, with burial more common on the Channel Islands and the adjacent mainland coast and cremation on the remainder of the coast and in the interior (Harrington 1942; McCawley 1996). However, after pressure from Spanish missionaries, cremation essentially ceased during the post-contact period (McCawley 1996).

3.2.3 Historic Overview

Post-European contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present).

Spanish Period (1769–1822)

Spanish exploration of California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after his initial expedition, Spanish,

Portuguese, British, and Russian explorers sailed the California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 1987). In 1769, Gaspar de Portolá and Franciscan Friar Junípero Serra established the first Spanish settlement in what was then known as Alta (upper) California at Mission San Diego de Alcalá. This was the first of 21 missions erected by the Spanish between 1769 and 1823. It was during this time that initial Spanish settlement of the project vicinity began. Mission San Fernando Rey de España, approximately seven miles to the northeast of the current APE, was founded in 1797 as the 17th mission to be established in California. Mission San Fernando Rey de España's location closed the gap between Mission San Buenaventura on the Ventura coast, and Mission San Gabriel Arcángel in the Los Angeles interior (California Missions Resource Center, n.d.).

Mexican Period (1822–1848)

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810 – 1821) against the Spanish crown reached California in 1822. This period saw the privatization of mission lands in California with the passage of the Secularization Act of 1833. This act federalized mission lands and enabled Mexican governors in California to distribute former mission lands to individuals in the form of land grants. Successive Mexican governors made approximately 700 land grants between 1833 and 1846 (Shumway 2007), putting most of the state's lands into private ownership for the first time. During this era, a class of wealthy landowners known as *rancheros* worked large ranches based on cattle hide and tallow production.

The beginnings of a profitable trade in cattle hide and tallow exports opened the way for larger, commercially driven farms. Land grants owned by the Spanish crown and clergy were distributed to mostly Mexican settlers born in California, or the “Californios.” During this period, the San Fernando Valley was divided into the following ranchos: Rancho Ex-Mission San Fernando, Rancho Cahuenga, Rancho Los Encinos, and Rancho Tajunga. This shift marked the beginning of the rancho system that would “dominate California life for nearly half a century” (Poole 2002:13). Ranchos were largely self-sufficient enterprises (partly out of necessity, given California's geographic isolation), producing goods to maintain their households and operations.

In 1846, the Mexican-American War was initiated following the annexation of Texas by the United States and a dispute over the boundary of the state between the U.S. and Mexico. Governor Pío de Jesus Pico, the last governor of Alta California, began selling off 12 million acres of public land to financially support the war (Los Angeles Almanac 2018a). Mexican forces fought and lost to combined U.S. Army and Navy forces in the Battle of the San Gabriel River on January 8 and in the Battle of La Mesa on January 9 (Nevin 1978). On January 10, leaders of the pueblo of Los Angeles surrendered peacefully after Mexican General Jose Maria Flores withdrew his forces. Shortly thereafter, newly appointed Mexican Military Commander of California Andrés Pico surrendered all of Alta California to U.S. Army Lieutenant Colonel John C. Fremont in the Treaty of Cahuenga (Nevin 1978).

American Period (1848–Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico \$15 million for ceded territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming, and pay an additional \$3.25 million to settle American citizens claims against Mexico. Settlement of southern California

increased dramatically in the early American Period. Many ranchos in the county were sold or otherwise acquired by Americans, and most were subdivided into agricultural parcels or towns.

The discovery of gold in northern California in 1848 led to the California Gold Rush, despite the first California gold being previously discovered in southern California at Placerita Canyon in 1842 (Guinn 1977; Workman 1935: 26). Southern California remained dominated by cattle ranches in the early American period, though droughts and increasing population resulted in farming and more urban professions supplanting ranching through the late nineteenth century. In 1850, California was admitted into the United States and by 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to move into the state, particularly after completion of the transcontinental railroad in 1869.

Local History

The town of Santa Ana was founded in 1869 when William H. Spurgeon purchased 74 acres of land from Jacob Ross, Sr. who had originally acquired 650 acres from the Yorba family (Santa Ana Historical Preservation Society 2019). This original town site encompassed a 24-block area. Throughout the late 19th century, agriculture dominated the Santa Ana area and consisted mainly of citrus and walnuts (Black and O'Neil 2019:2-4).

The city was incorporated in 1886 and was named the county seat in 1889 (PBS & J 2010). By 1910, Santa Ana was the largest city in Orange County with a population of 8,429 (Black and O'Neil 2019:2-4). The city continued to grow throughout the early 20th century. During World War II, the defense industry growth created thousands of jobs in the city leading to a building boom in the 1940s (Gonzalez and Sarmiento 2017). Following the war, Santa Ana's population continued to increase as veterans from the Santa Ana Army Air Base and other nearby military facilities settled in the area with their families (PBS & J 2010).

4 Background and Methods

4.1 Cultural Resources Record Search

On August 13, 2019, Rincon conducted a search of cultural resource records housed at the California Historical Resources Information System, South Central Coastal Information Center (SCCIC) located at the California State University, Fullerton, to identify all previous cultural resources work and previously recorded cultural resources within a 0.5-mile radius of the APE. The search included a review of the NRHP, the California Register of Historical Resources, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, the California State Historic Resources Inventory list, and the Santa Ana Register of Historic Places. The records search also included a review of all available historical USGS 7.5-, 15-, and 30-minute quadrangle maps.

4.1.1 Previous Cultural Resources Studies

The SCCIC records search identified 24 previous studies within a 0.5-mile radius of the APE. None of these studies were conducted within the boundaries of the project APE. A list of previous cultural resource studies and their relation to the project APE is provided in Appendix A (Confidential).

4.1.2 Previously Recorded Cultural Resources

The SCCIC records search identified 42 previously recorded cultural resources within a 0.5-mile radius of the project APE (see Appendix A). These resources included three historic districts: the French Park Historic District, the Logan Barrio Historic District, and Lower French Park Historic District. While the French Park Historic District is listed in the NRHP, the latter two districts are eligible for local listing. The remaining 39 previously documented resources consist of individual historic-era buildings, many of which were recorded as part of the Grant Avenue Street Widening Project (Grimes 1999). None of the aforementioned districts or historic-era buildings are located within or immediately adjacent to the APE. No known prehistoric or historic period archaeological resources are located in the record search area.

4.2 Native American Outreach

Rincon contacted the Native American Heritage Commission (NAHC) to request a Sacred Lands File (SLF) search for the project on August 6, 2019. On August 9, 2019, Rincon also prepared and mailed anticipatory letters to 22 NAHC-listed Native American tribes and individuals known to be affiliated with the project vicinity. The anticipatory letters requested information in writing of any known Native American religious or cultural resources on or immediately adjacent to the project site and informed the Native American groups of the opportunity to consult as part of the Section 106 process. The NAHC responded via email on August 27, 2019, stating that the results of the SLF were negative for specific site information and included a list of Native American contacts, all of which previously had been sent anticipatory letters. Rincon followed up with each contact by phone to document “good faith” efforts to follow-up. Follow-up calls were placed on August 23, 2019 and August 27, 2019. The responses from the Native American outreach efforts are summarized below.

Appendix B includes a copy of the SLF search request and results, NAHC contact list, a copy of the anticipatory letter, and non-confidential responses from the Native American contacts; the appendix also contains a summary of the results of Rincon's scoping efforts in tabular format.

Ms. Lacy Padilla, Archaeological Technician at the Tribal Historic Preservation Office of the Agua Caliente Band of Cahuilla Indians (ACBCI), sent an email on August 20, 2019 responding to the outreach letter. She stated a record check of the Tribal Historic Preservation Office's cultural registry found the project is not located within the tribe's traditional use area. She concluded that the ACBCI defer to other tribes in the area.

In a response received on August 16, 2019 Mr. Andy Salas, Chairperson of the Gabrieleno Band of Mission Indians – Kizh Nation, stated that the tribe would like to engage in Assembly Bill 52 consultation with the lead agency for the project as mandated under the California Environmental Quality Act. The tribe did not request consultation for the purposes of Section 106.

Ms. Deneen Pelton, Administrative Assistant for the Rincon Band of Luiseño Indians, responded in a letter dated August 14, 2019. The letter stated that the project is outside of the Luiseño ancestral territory. Ms. Pelton recommended that local tribe be contacted to determine the protocols for inadvertent discoveries.

In a phone call on August 23, 2019, Ms. Carmen Mojado of the San Luis Rey Band of Mission Indians requested that Rincon call Cami Mojado to discuss the project. Rincon attempted to call Cami Mojado but her voicemail was full and a message could not be left.

In a phone call on August 23, 2019, Mr. Joseph Ontiveros of the Soboba Band of Luiseño Indians stated that the tribe would like to defer to local Native American groups in the Santa Ana area.

Mr. Anthony Morales, Chairperson for the Gabrieleno/Tongva San Gabriel Band of Mission Indians, called on August 24, 2019 and stated that the report is sufficient. He requested to be updated if any cultural materials are discovered during project development.

Mr. Paul Macarro, Cultural Resources Coordinator for the Pechanga Band of Luiseño Indians discussed the project with Rincon staff on August 27, 2019. He stated the project area is outside of the tribe's ancestral territory.

Ms. Joyce Perry, Tribal Manager for the Juaneño Band of Mission Indians Acjachemen Nation-Belardes, discussed the project with Rincon staff on August 27, 2019. Ms. Perry stated she would like the results of the NAHC SLF search before responding. On August 27, 2109, Ms. Perry was informed that the NAHC SLF search results were negative. No further response was received from Ms. Perry.

4.3 Interested Party Consultation

To fulfill the interested party consultation required by Section 106, Rincon prepared and mailed letters to three entities: City of Santa Ana Planning Department, the Santa Ana Historical Preservation Society, and the Orange County Historical Society. Letters were mailed on April 6, 2019 via the United States Postal Service. Two rounds of follow-up emails and/or telephone calls were made throughout the weeks of August 19 and 26, 2019.

Rincon conducted a telephone conversation with Pedro Gomez of the City of Santa Ana Planning Department on August 19, 2019. While Mr. Gomez did not express knowledge of any cultural resources in the area of the APE, he wanted to be sure that Rincon was aware of the City's designated historic districts, the French Park Historic District and the Downtown Historic District, in addition to the locally eligible Logan Barrio Historic District, located in close proximity to the APE. Mr. Gomez directed Rincon to the Santa Ana Register of Historic Places, for future reference regarding historical resources in the City.

While two rounds of follow-up emails and/or calls were made to the Santa Ana Historical Preservation Society and the Orange County Historical Society, Rincon did not receive responses from either entity. Documentation of Rincon's consultation efforts is included in Appendix C.

4.4 Historical Imagery Review

A review of historical maps and aerial photographs indicates that by the late 1940s, the APE and surrounding area were primarily used for agricultural purposes (NETRonline 2019). The 1952 aerial depicts Interstate-5 being constructed northeast of the APE. By 1963, one building appears to be present in the northern portion of the property. This building had been demolished by 1972 and three new buildings had been constructed on the parcel. By the mid-1990s, these three buildings are no longer extant. The APE has remained largely undeveloped since 1995.

5 Field Survey

5.1 Methods

Rincon Architectural Historian and Archaeologist Alexandra Madsen conducted a pedestrian survey of the project APE on August 15, 2019. As the southern portion of the APE (APN 298-092-13) is largely paved and graveled, the pedestrian survey focused on the unpaved portions of the APE located within the northern parcel (APN 298-092-14) (Figure 4). The survey was conducted using transects spaced no more than 10 meters apart.

All exposed ground surface were examined for the following: artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were inspected visually. Copies of survey notes are available upon request. Digital cameras were used to capture photographs of the project site; these are maintained electronically at the Rincon Los Angeles office.

5.2 Results

The project APE consists of two adjacent parcels surrounded by a chain-linked fence and adjacent buildings. A low concrete block/wall-chain link fence runs east-west across the APE at the parcel boundary (Figure 5). The land is currently vacant with no standing buildings or structures. Ground visibility was poor (10 to 20 percent visibility) due to the presence of pavement, gravel, and equipment that is currently being store on the property. In areas with exposed ground surfaces, soils consisted of a reddish-brown sandy silt that exhibited a high level of disturbance. No historic or prehistoric cultural resources were identified in the APE by the field survey.

Figure 4 View of Northern Portion of APE (APN 398-092-14), Facing Southeast



Figure 5 View of Southern Portion of APE (APN 398-092-13), Facing North



6 Findings and Recommendations

The City retained Rincon to complete a cultural resource assessment of the Crossroads at Washington Project in the city of Santa Ana, Orange County. The assessment included development of the APE, a SCCIC records search, Native American and interested party consultation, and a pedestrian survey. The study was conducted in accordance with the requirements of Section 106 of the NHPA.

The results of the cultural resource assessment did not identify any prehistoric or historic cultural resources in the APE. Results of the pedestrian survey revealed surficial sediments throughout the APE were disturbed by prior development on the property. Further, the three-story building proposed under this undertaking is consistent with the existing conditions of the surrounding area and as such, the development will not result in any indirect effects to the surrounding buildings and structures.

An assessment of archaeological sensitivity indicates that the APE contains a relatively low sensitivity for containing intact, subsurface archaeological deposits. The lack of reported prehistoric archaeological remains with a half-mile radius of the project site indicates that the property is not highly sensitive for prehistoric archaeological resources. A review of historical topographic maps and aerial photographs found that the properties were largely undeveloped prior to the 1960s. As such, it is unlikely that historic period archaeological remains dating to the late 19th or early 20th centuries would be present within the APE.

Based on the results of the cultural resource assessment, Rincon recommends a finding of ***no effect to historic properties under Section 106 of NHPA***. Rincon recommends the following best management practice in the event of an unanticipated discovery of cultural resources during project construction. In addition, a summary of existing regulations concerning the unanticipated discovery of human remains is also provided below.

Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) should be contacted immediately to evaluate the find. If the discovery proves to be NRHP eligible, additional work such as data recovery excavation, Native American consultation, and archaeological monitoring may be warranted to mitigate any adverse effects under the NHPA.

Unanticipated Discovery of Human Remains

If human remains are found, existing regulations outlined in the State of California Health and Safety Code Section 7050.5 state that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code § 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the

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NAHC, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access and provide recommendations as to the treatment of the remains to the landowner.

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Appendix A

Record Search Results (Confidential)

Report List

18-07009 Crossroads

| Report No. | Other IDs | Year | Author(s) | Title | Affiliation | Resources |
|------------|------------|------|--------------------------|---|---------------------------------|--|
| OR-00332 | | 1978 | Van Horn, David M. | Surveyed the Logan Area of Santa Ana, California | Archaeological Associates, Ltd. | |
| OR-00814 | | 1982 | Romani, John F. | ARCHAEOLOGICAL SURVEY REPORT for the Route I-5 Santa Ana Transportation Corridor, Route 405 in Orange County to Route 605 in Los Angeles County Pm 21.30/44.38; 0.00/6.85 | Caltrans | |
| OR-02024 | | 1999 | Padon, Beth | Cultural Resource Assessment for Grand Avenue Widening Project City of Santa Ana, Orange County | Discovery Works, Inc. | 30-176575, 30-176576, 30-176577, 30-176578, 30-176579, 30-176580, 30-176581, 30-176582, 30-176583, 30-176584, 30-176585, 30-176586, 30-176587, 30-176588, 30-176589, 30-177013, 30-177014, 30-177015, 30-177016, 30-177017, 30-177018, 30-177019, 30-177020, 30-177021 |
| OR-02388 | | 2001 | Messick, Peter | Monitor Report, Historical Resource at 1038 East 4th Street, Santa Ana, California | Greenwood and Associates | |
| OR-02451 | | 2002 | Huard-Spencer, Christine | Draft Environmental Impact Report for the Proposed Grand Avenue Widening Sch No. 1998051068 Technical Appendices | P&D Consultants, Inc. | |
| OR-02452 | | 2002 | Huard-Spencer, Christine | Draft Focused Environmental Impact Report for the Proposed Grand Avenue Widening Sch No. 1998051068 | P&D Consultatns, Inc. | |
| OR-02466 | | 2002 | Duke, Curt | Cultrual Resource Assessment Cingular Wireless Facility No. Sc 055-02 Orange County, California | LSA Associates, Inc. | |
| OR-02701 | Cellular - | 2002 | Duke, Curt | Cultural Resource Assessment Cingular Wireless Facility No. Sc 055-01 Orange County, California | LSA Associates, Inc. | |
| OR-03081 | | 2004 | Dice, Michael H. | An Archaeological Resource Evaluation of the Patricia Lane Park Project, Near 6th and Patricia Lane, City of Santa Ana, California | Michael Brandman Associates | |
| OR-03082 | | 2004 | Dice, Michael H. | An Archaeological Resource Survey of the Patricia Lane Park Project, With Caltrans' Hpsr (negative) Form. Located at 6th and Patricia Lane, City of Santa Ana, California | Michael Brandman Associates | |
| OR-03303 | | 2000 | Slawson, Dana N. | Historical Resources Assessment, Quonset Hunt, 625 North Pointsettia Street, Santa Ana, California | Greenwood and Associates | 30-176809 |

Report List

18-07009 Crossroads

| Report No. | Other IDs | Year | Author(s) | Title | Affiliation | Resources |
|------------|------------|------|--|--|-----------------------------|---|
| OR-03597 | | 2008 | Casey Tibbet and Bill Bell | Cultural Resources Assessment- 601 and 611-613 East Santa Ana Blvd., Santa Ana, CA | LSA Associates, Inc. | 30-161037, 30-179882 |
| OR-03837 | | 2004 | Taniguchi, Christeen and Dice, Michael | A Historic Resource Evaluation Report for the Santa Ana Art Wall Project Located in an Unsectioned Portion of T.5S R.9W City of Santa Ana, California | MBA Associates | 30-176801, 30-176802 |
| OR-03905 | Cellular - | 2010 | Billat, Lorna | Collocation Submission Packet- OG03X049 OC Register, CA-ORC5859C | EarthTouch, Inc. | 30-001598, 30-176577, 30-176578, 30-176579, 30-176580, 30-176581, 30-176582, 30-176583, 30-176584, 30-176585, 30-176586, 30-176587, 30-176588, 30-176589, 30-176663, 30-176664, 30-176801, 30-176802 |
| OR-03926 | Cellular - | 2010 | Bonner, Wayne | Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate LA33824-D (St. Joseph School), 730 North Garfield Street, Santa Ana, Orange County, California | Michael Brandman Associates | 30-160930, 30-160931, 30-160934 |
| OR-04195 | | 2011 | Rogers, Leslie | Section 106 Consultation for the Santa Ana and Garden Grove Fixed Guideway Corridor Project, Orange County, CA | Federal Transit Authority | 30-001030, 30-001031, 30-001374, 30-001375, 30-001377, 30-001378, 30-001379, 30-001589, 30-160798, 30-160801, 30-160803, 30-160819, 30-160824, 30-160830, 30-160891, 30-161037, 30-161847, 30-176651, 30-176653, 30-176657, 30-176658, 30-176659, 30-176809, 30-176912, 30-176913, 30-176914, 30-176915, 30-176916, 30-176917, 30-176918, 30-176992, 30-176993, 30-176994, 30-176995, 30-177027, 30-177028, 30-177029, 30-177030, 30-177031, 30-177032, 30-177033, 30-177034, 30-179882 |

Report List

18-07009 Crossroads

| Report No. | Other IDs | Year | Author(s) | Title | Affiliation | Resources |
|------------|-----------|------|--|--|-----------------------|--|
| OR-04229 | | 2012 | Wallace, James and Dietler, Sara | Archaeological Survey Report the I-5 (SR-55 to SR57) HOV Lanes Improvement Project County of Orange, California | AECOM | 30-001598, 30-160811, 30-160814, 30-160816, 30-160817, 30-160818, 30-160819, 30-160824, 30-160830, 30-160836, 30-160838, 30-160842, 30-160843, 30-160845, 30-160847, 30-160851, 30-160852, 30-160916, 30-160930, 30-160931, 30-160934, 30-160943, 30-160949, 30-161037, 30-161827, 30-176576, 30-176577, 30-176578, 30-176579, 30-176580, 30-176581, 30-176582, 30-176583, 30-176584, 30-176585, 30-176589, 30-176663, 30-176664, 30-176801, 30-176802, 30-176809, 30-177013, 30-177014, 30-177015, 30-177016, 30-177017, 30-177018, 30-177019, 30-177020, 30-177036, 30-179882 |
| OR-04292 | | 2012 | Meiser, M.K., Wallace, James, and Deitler, Sara | Historic Property Survey Report, improvements to Interstate 5 (I-5) between State Route 55 and State Route 57 | AECOM | 30-001598, 30-160811, 30-160814, 30-160816, 30-160817, 30-160818, 30-160819, 30-160824, 30-160830, 30-160836, 30-160838, 30-160842, 30-160843, 30-160845, 30-160847, 30-160851, 30-160852, 30-160916, 30-160930, 30-160931, 30-160934, 30-160949, 30-161037, 30-161827, 30-176576, 30-176577, 30-176578, 30-176579, 30-176580, 30-176581, 30-176582, 30-176583, 30-176584, 30-176585, 30-176587, 30-176588, 30-176589, 30-176663, 30-176664, 30-176801, 30-176802, 30-176809, 30-177013, 30-177014, 30-177015, 30-177016, 30-177017, 30-177018, 30-177019, 30-177020, 30-177036, 30-179882 |
| OR-04312 | | 2012 | Hass, Hannah, Hunt, Kevin, and Ramirez, Robert | Cultural Resources Study for the Depot at Santiago Project, Santa Ana, Orange County, California | Rincon Consultants | 30-160790, 30-161703, 30-176801, 30-176809, 30-177501, 30-179882 |
| OR-04404 | | 2014 | Bonner, Diane, Wills, Carrie, and Crawford, Kathleen | Cultural Resources Records Search and Site Visit Results for Verizon Wireless Candidate Hathaway, 1111 East 4th Street, Santa Ana, Orange County, California | FirstCarbon Solutions | 30-001598, 30-161703, 30-176575, 30-176576, 30-176577, 30-176578, 30-176579, 30-176580, 30-176663, 30-176801, 30-176802, 30-176805, 30-176809, 30-177013, 30-177014, 30-177015, 30-177016, 30-177017, 30-177036, 30-177501, 30-179882 |

Report List

18-07009 Crossroads

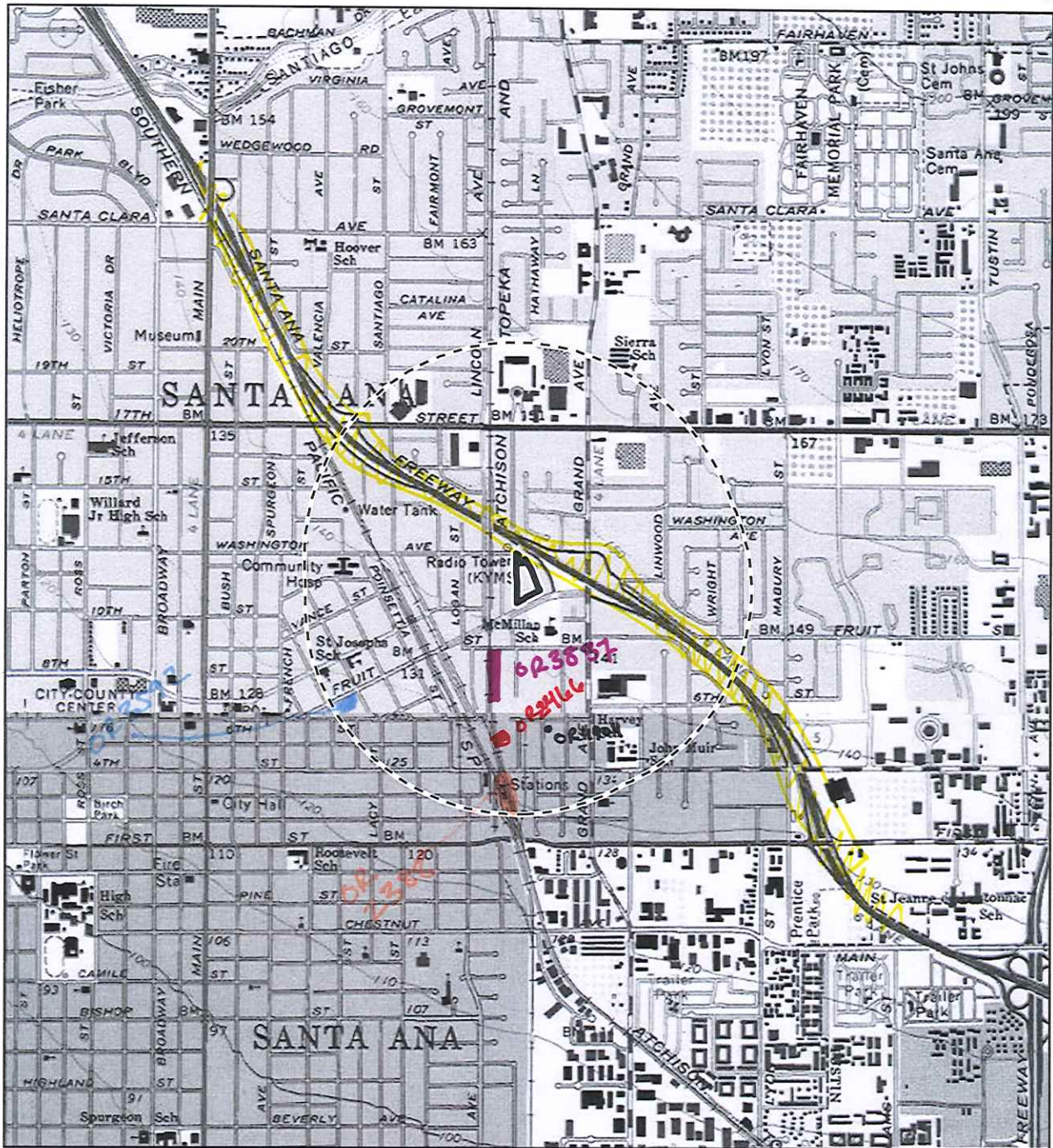
| Report No. | Other IDs | Year | Author(s) | Title | Affiliation | Resources |
|------------|-----------|------|--|---|--|--|
| OR-04427 | | 2014 | Bonner, Diane, Wills, Carrie, and Crawford, Kathleen | Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA02353A (SC055 OC Register) 625 North Grand Avenue, Santa Ana, Orange County, California | EAS | 30-176801, 30-176802, 30-177013, 30-177017, 30-177019, 30-177020, 30-177021, 30-177036 |
| OR-04428 | | 2014 | Wills, Carrie and Crawford, Kathleen | Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate LA02353A (SC055 OC Register) 625 North Grand Avenue, Santa Ana, Orange County, California | EAS | 30-177036 |
| OR-04429 | | 2014 | Bonner, Diane, Wills, Carrie, and Crawford, Kathleen | Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA02024A (CM024 Water Tower) 1405 North French Street, Santa Ana, Orange County, California | EAS | 30-160930, 30-160931, 30-160934, 30-161153, 30-176801, 30-176802 |
| OR-04429A | | 2014 | Bonner, Wayne H. and Kathleen A. Crawford | Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate LA02024A (CM024 Water Tower) 1405 North French Street, Santa Ana, Orange County, California | Environmental Assessment Specialists, Inc. | |





Record Search Report Proximity Sheet

Project Name: 18-07009 Crossroads

| Report Number | Within Project Site | Adjacent to Project Site | Outside of Project Site |
|---------------|---------------------|--------------------------|-------------------------|
| 0R 4429 | | | X |
| 332 | | | X |
| 4312 | | | X |
| 3926 | | | X |
| 2024 | | | X |
| 4427 | | | X |
| 4428 | | | X |
| 3081 | | | X |
| 3082 | | | X |
| 3905 | | | X |
| * 4229 | | X | |
| 4195 | | | X |
| 2701 | | | X |
| 814 | | X | |
| 3303 | | | X |
| 2451 | | | X |
| 2452 | | | X |
| 4292 | | X | |
| 3597 | | | X |



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-  Half-Mile Buffer
-  Area of Potential Effects



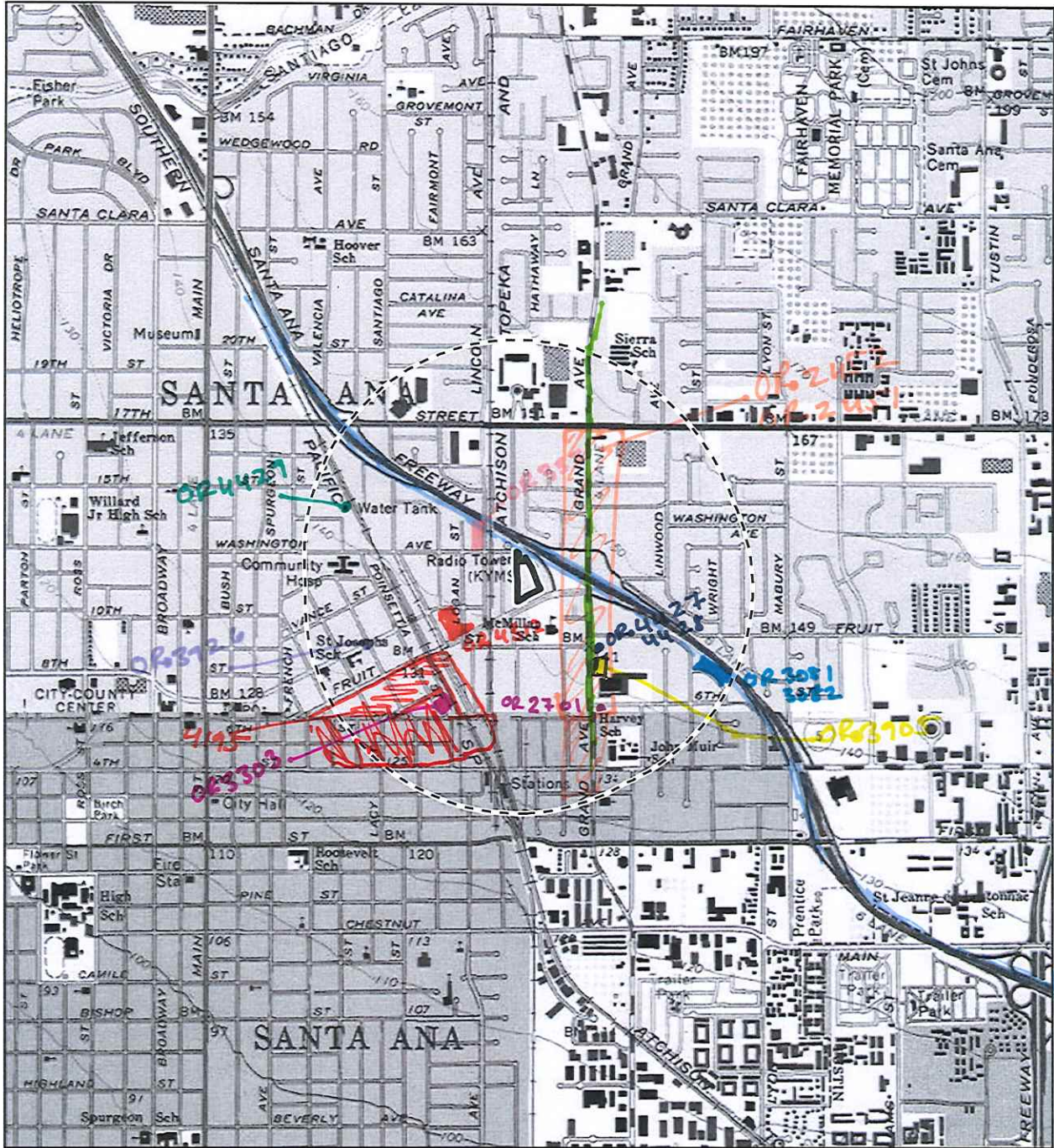
0 1,000 2,000 Feet

0 250 500 Meters



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Records Search Map





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-  Half-Mile Buffer
-  Area of Potential Effects



0 1,000 2,000 Feet

0 250 500 Meters

1:24,000

Records Search Map



Resource List

18-07009 Crossroads at Washington

| Primary No. | Trinomial | Other IDs | Type | Age | Attribute codes | Recorded by | Reports |
|-------------|-----------|--|-------------------------------|----------|--|--|--|
| P-30-160790 | | OHP Property Number - 117079; Resource Name - French Park Historic District; OHP Property Number - 040164; Other - zip 92701 | District | Historic | HP02 (Single family property); HP03 (Multiple family property); HP06 (1-3 story commercial building); HP15 (Educational building); HP31 (Urban open space) | 1998 (Diane Marsh, Historic French Park Association) | OR-03818, OR-04224, OR-04312 |
| P-30-160916 | | OHP Property Number - 040290; Resource Name - Wanzlaff House; Other - zip 92701 | Building, Element of district | Historic | HP02 (Single family property) | 2002 (L. J. Heumann, SAIC) | OR-03818, OR-04229, OR-04292 |
| P-30-161037 | | OHP Property Number - 040411; Resource Name - 411-413 Fruit St, 611-613 E Santa Ana Blvd; Other - zip 92701 | Building, Element of district | Historic | HP03 (Multiple family property) - Duplex; HP04 (Ancillary building) | 2008 (Tibbet, Casey, LSA Associates, Inc.) | OR-03597, OR-04195, OR-04224, OR-04229, OR-04292 |
| P-30-161153 | | OHP Property Number - 040528; Resource Name - Whitney Home; Other - zip 92701 | Building, Element of district | Historic | HP02 (Single family property) | 2002 (L. J. Heumann, SAIC) | OR-03818, OR-04224, OR-04429 |
| P-30-176575 | | Resource Name - 420 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-04404 |
| P-30-176576 | | Resource Name - 424 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-04229, OR-04292, OR-04404 |
| P-30-176577 | | Resource Name - 502 & 504 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04229, OR-04292, OR-04404 |
| P-30-176578 | | Resource Name - 508 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04229, OR-04292, OR-04404 |
| P-30-176579 | | Resource Name - 510 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04229, OR-04292, OR-04404 |

Resource List

18-07009 Crossroads at Washington

| Primary No. | Trinomial | Other IDs | Type | Age | Attribute codes | Recorded by | Reports |
|-------------|-----------|---------------------------------|----------|----------|---------------------------------|--|--|
| P-30-176580 | | Resource Name - 516 N Grand Ave | Building | Historic | HP03 (Multiple family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04229, OR-04292, OR-04404 |
| P-30-176581 | | Resource Name - 620 N Grand Ave | Building | Historic | HP03 (Multiple family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04224, OR-04229, OR-04292 |
| P-30-176582 | | Resource Name - 624 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04224, OR-04229, OR-04292 |
| P-30-176583 | | Resource Name - 626 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04224, OR-04229, OR-04292 |
| P-30-176584 | | Resource Name - 702 N Grand Ave | Building | Historic | HP01 (Unknown) | 1999 (Teresa Grimes, Discovery Works, Inc); 2001 (Beth Padon, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04224, OR-04229, OR-04292 |
| P-30-176585 | | Resource Name - 714 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04224, OR-04229, OR-04292 |
| P-30-176586 | | Resource Name - 730 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04224 |
| P-30-176587 | | Resource Name - 734 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04292 |
| P-30-176588 | | Resource Name - 738 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04292 |
| P-30-176589 | | Resource Name - 742 N Grand Ave | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes, Discovery Works, Inc) | OR-02024, OR-03246, OR-03905, OR-04229, OR-04292 |

Resource List

18-07009 Crossroads at Washington

| Primary No. | Trinomial | Other IDs | Type | Age | Attribute codes | Recorded by | Reports |
|-------------|-----------|---|-----------|----------|---|---|--|
| P-30-176663 | | OHP Property Number - 144278; Resource Name - Atchison, Topeka & Santa Fe RR, Burlington Northern Santa Fe RR; Other - Burlington Northern Santa Fe; Other - Metrolink Railroad; Voided - 30-176664; Other - CRM TECH 789-50H & 951-1H; Other - California Southern Railroad; Voided - 30-176700 | Structure | Historic | HP37 (Highway/trail) - Railroad; HP39 (Other) | 2002 (D. Ballester, CRM Tech); 2002 (Bai Tang and Josh Smallwood, CRM Tech); 2003 (Richard Shepard, BonTerra); 2007 (S. McCormick); 2012 (MK Meiser, AECOM); 2016; 2016 (B. Tang, CRM Tech); 2018 | LA-07871, LA-08158, OR-03383, OR-03517, OR-03519, OR-03551, OR-03555, OR-03573, OR-03747, OR-03797, OR-03822, OR-03835, OR-03864, OR-03866, OR-03905, OR-03910, OR-03916, OR-03919, OR-03929, OR-03942, OR-03983, OR-04020, OR-04045, OR-04058, OR-04074, OR-04096, OR-04131, OR-04154, OR-04156, OR-04169, OR-04182, OR-04186, OR-04217, OR-04229, OR-04257, OR-04290, OR-04292, OR-04331, OR-04367, OR-04374, OR-04385, OR-04404, OR-04457 |
| P-30-176790 | | OHP Property Number - 125334; Resource Name - Kinley House; Other - zip 92701 | Building | Historic | HP02 (Single family property) | 2002 (Leslie Heumann, SAIC) | |
| P-30-176791 | | OHP Property Number - 138462; Resource Name - Elmers House; Other - zip 92701 | Building | Historic | HP02 (Single family property) | 2002 (Leslie Heumann, SAIC) | |
| P-30-176792 | | OHP Property Number - 138466; Resource Name - Kleidosty House; Other - zip 92706 | Building | Historic | HP02 (Single family property) | 2002 (Leslie Heumann, SAIC) | |

Resource List

18-07009 Crossroads at Washington

| Primary No. | Trinomial | Other IDs | Type | Age | Attribute codes | Recorded by | Reports |
|-------------|-----------|---|----------|----------|--|--|--|
| P-30-176801 | | OHP Property Number - 152781; Resource Name - C L Passmore; Other - SAAW #2; Other - Bldg #1 & #2; Other - Orange County Materials Co; Other - General Petroleum Corporation of California; Other - Resources & Development Management Department; Other - zip 92701 | Building | Historic | HP08 (Industrial building) | 2004 (Taniguchi, Christeen, Michael Brandman Associates) | OR-03837, OR-03905, OR-04224, OR-04229, OR-04312, OR-04404, OR-04427, OR-04429 |
| P-30-176802 | | OHP Property Number - 152779; Resource Name - Resources & Development Mgmt Dept; Other - SAAW #1; Other - Resources & Development Mgmt Dept; Other - Bldgs # 3 thru 9; Other - zip 92701 | Building | Historic | HP08 (Industrial building); HP14 (Government building) | 2004 (Taniguchi, Christeen, Michael Brandman Associates) | OR-03837, OR-03905, OR-04224, OR-04229, OR-04292, OR-04404, OR-04427, OR-04429 |
| P-30-176805 | | OHP Property Number - 040525; Resource Name - Logan Barrio; Other - Hawkins Addition | District | Historic | HP02 (Single family property) | 1980 (K. Les, Environmental Coalition) | OR-04404 |
| P-30-176806 | | OHP Property Number - 040457; Resource Name - Lower French Park District; Other - zip 92701; Voided - 30-161083 | District | Historic | HP02 (Single family property) | 1980 (K. Les, Environmental Coalition) | |
| P-30-176809 | | Resource Name - Quonset Hut; Other - zip 92702 | Building | Historic | HP08 (Industrial building) | 2000 (D. Slawson, Greenwood & Associates) | OR-03303, OR-04195, OR-04224, OR-04229, OR-04292, OR-04312, OR-04404 |
| P-30-177013 | | Resource Name - 616-616 1/2 N Grand Ave; Other - zip 92701 | Building | Historic | HP02 (Single family property) | 1999 (Teresa Grimes) | OR-02024, OR-04224, OR-04229, OR-04292, OR-04404, OR-04427 |
| P-30-177014 | | Resource Name - 401 N Grand Ave; Other - zip 92701 | Building | Historic | HP06 (1-3 story commercial building) | 2001 (Teresa Grimes) | OR-02024, OR-04229, OR-04292, OR-04404 |

Resource List

18-07009 Crossroads at Washington

| Primary No. | Trinomial | Other IDs | Type | Age | Attribute codes | Recorded by | Reports |
|-------------|-----------|---|-----------|----------|--------------------------------------|---|--|
| P-30-177015 | | Resource Name - 415 N Grand Ave; Other - zip 92701 | Building | Historic | HP06 (1-3 story commercial building) | 2001 (Teresa Grimes) | OR-02024, OR-04229, OR-04292, OR-04404 |
| P-30-177016 | | Resource Name - 501 N Grand Ave; Other - zip 92701 | Building | Historic | HP03 (Multiple family property) | 2001 (Teresa Grimes) | OR-02024, OR-04229, OR-04292, OR-04404 |
| P-30-177017 | | Resource Name - 706-710 N Grand Ave; Other - zip 92701 | Building | Historic | HP03 (Multiple family property) | 2001 (Teresa Grimes) | OR-02024, OR-04229, OR-04292, OR-04404, OR-04427 |
| P-30-177018 | | Resource Name - 1263 E 14th St; Other - zip 92701 | Building | Historic | HP02 (Single family property) | 2001 (Teresa Grimes) | OR-02024, OR-04229, OR-04292 |
| P-30-177019 | | Resource Name - 1301 E 14th St; Other - zip 92701 | Building | Historic | HP02 (Single family property) | 2001 (Teresa Grimes) | OR-02024, OR-04229, OR-04292, OR-04427 |
| P-30-177020 | | Resource Name - 1301 E 15th St; Other - zip 92701 | Building | Historic | HP02 (Single family property) | 2001 (Teresa Grimes) | OR-02024, OR-04229, OR-04292, OR-04427 |
| P-30-177021 | | Resource Name - 1302 E 15th St; Other - zip 92701 | Building | Historic | HP02 (Single family property) | 2001 (Teresa Grimes) | OR-02024, OR-04427 |
| P-30-177036 | | Resource Name - Orange County Register Bldg; Other - T-Mobile West LLC LA02353A/SC055 OC Register | Building | Historic | HP07 (3+ story commercial building) | 2010 (Brent D. Johnson, Heritage Preservation Consultants); 2014 (K.A. Crawford, Crawford Historic Services) | OR-04224, OR-04229, OR-04292, OR-04404, OR-04427, OR-04428 |
| P-30-177501 | | Resource Name - 915-941 N Santiago St | Building | Historic | HP08 (Industrial building) | 2013 (Kevin Hunt, Rincon Consultants, Inc) | OR-04312, OR-04404 |
| P-30-177519 | | Resource Name - City of Santa Ana Water Tank; Other - T-Mobile West LLC LA02024A/CM024 Water Tower | Structure | Historic | HP11 (Engineering structure) | 2014 (K.A. Crawford, Crawford Historic Services) | |
| P-30-179882 | | Resource Name - 601 E Santa Ana Blvd @ 405 - 407 Fruit St | Building | Historic | HP06 (1-3 story commercial building) | 2008 (Tibbet, Casey, LSA Associates, Inc.) | OR-03597, OR-04195, OR-04224, OR-04229, OR-04292, OR-04312, OR-04404 |



Record Search Resources Proximity Sheet

Project Name: 18-07009 Crossroads at Washington (1)

| Resource Number | Within Project Site | Adjacent to Project Site | Outside of Project Site |
|-----------------|---------------------|--------------------------|-------------------------|
| 160916 | | | X |
| 160790 | | | X |
| * 176791 | | | X |
| 176806 | | | X |
| 176790 | | | X |
| 177018 | | | X |
| 177019 | | | X |
| 177020 | | | X |
| 177021 | | | X |
| 176801 | | | X |
| 177036 | | | X |
| 176802 | | | X |
| 177017 | | | X |
| 177013 | | | X |
| 176589 | | | X |
| 176588 | | | X |
| 176587 | | | X |
| 176586 | | | X |
| 176585 | | | X |

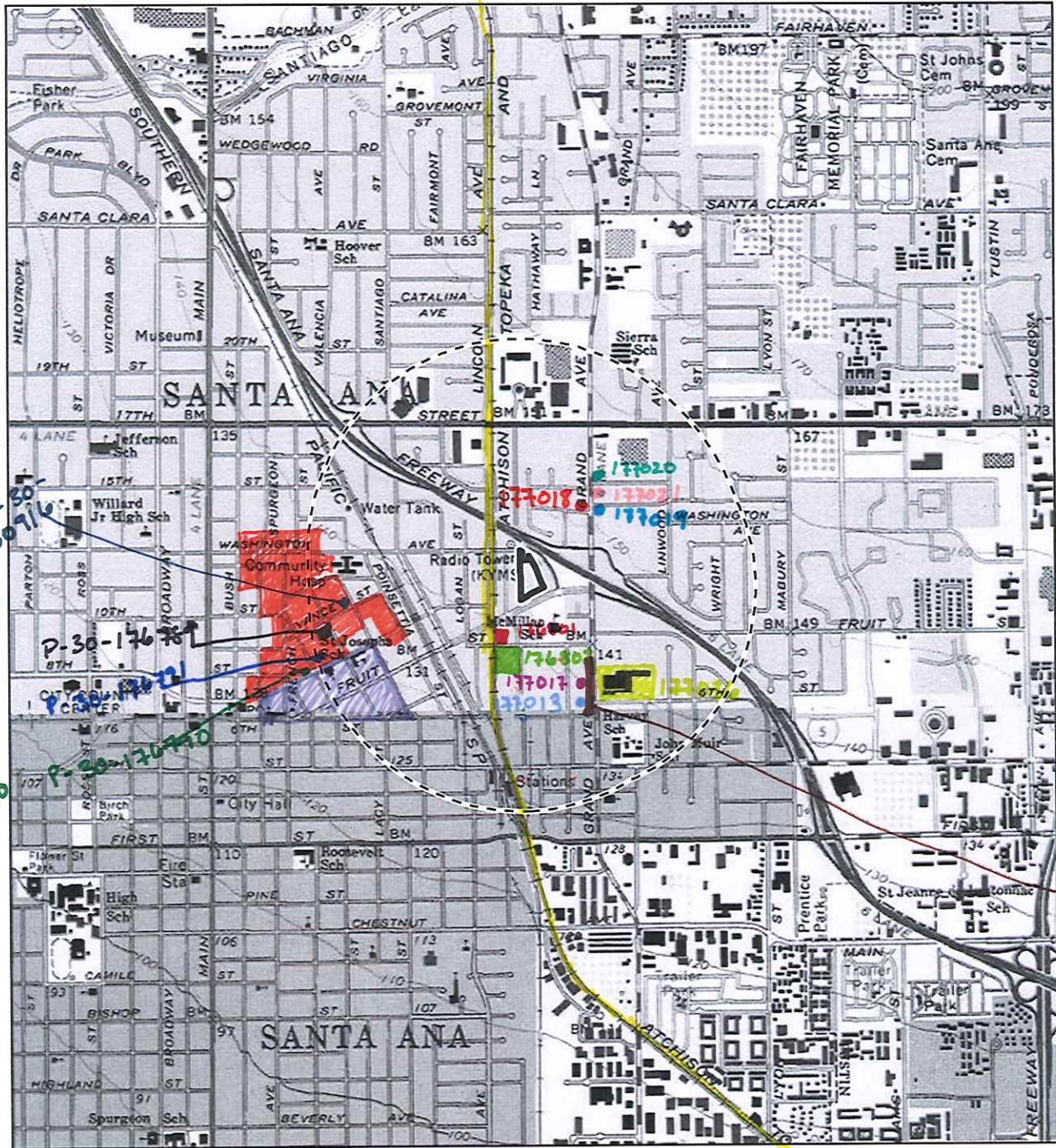


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v2

Record Search Resources Proximity Sheet

Project Name: 18-07009 Crossroads at newington (2)

| Resource Number | Within Project Site | Adjacent to Project Site | Outside of Project Site |
|------------------|---------------------|--------------------------|-------------------------|
| 176584 | | | X |
| 176583 | | | X |
| 176582 | | | X |
| 176581 | | | X |
| 176663 | | | X |
| 176805 | | | X |
| 177501 | | | X |
| 176809 | | | X |
| 177519 | | | X |
| 176792 | | | X |
| 161153 | | | X |
| 161037 | | | X |
| 179882 | | | X |
| 05018 | | | X |
| 177015 | | | X |
| 176580 | | | X |
| 176579 | | | X |
| 176578 | | | X |
| 176577 | | | X |



P-30-160787
 P-30-160790
 P-30-176781
 P-30-176791
 P-30-176790
 P-30-176791
 P-30-176806
 P-30-176790

177018
 177020
 177021
 177021
 177019
 10871
 177036
 176802
 177017
 177018

176581
 176588
 176587
 176586
 176585
 176584
 176583
 176582
 176581

176663

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--- Half-Mile Buffer
 [] Area of Potential Effects



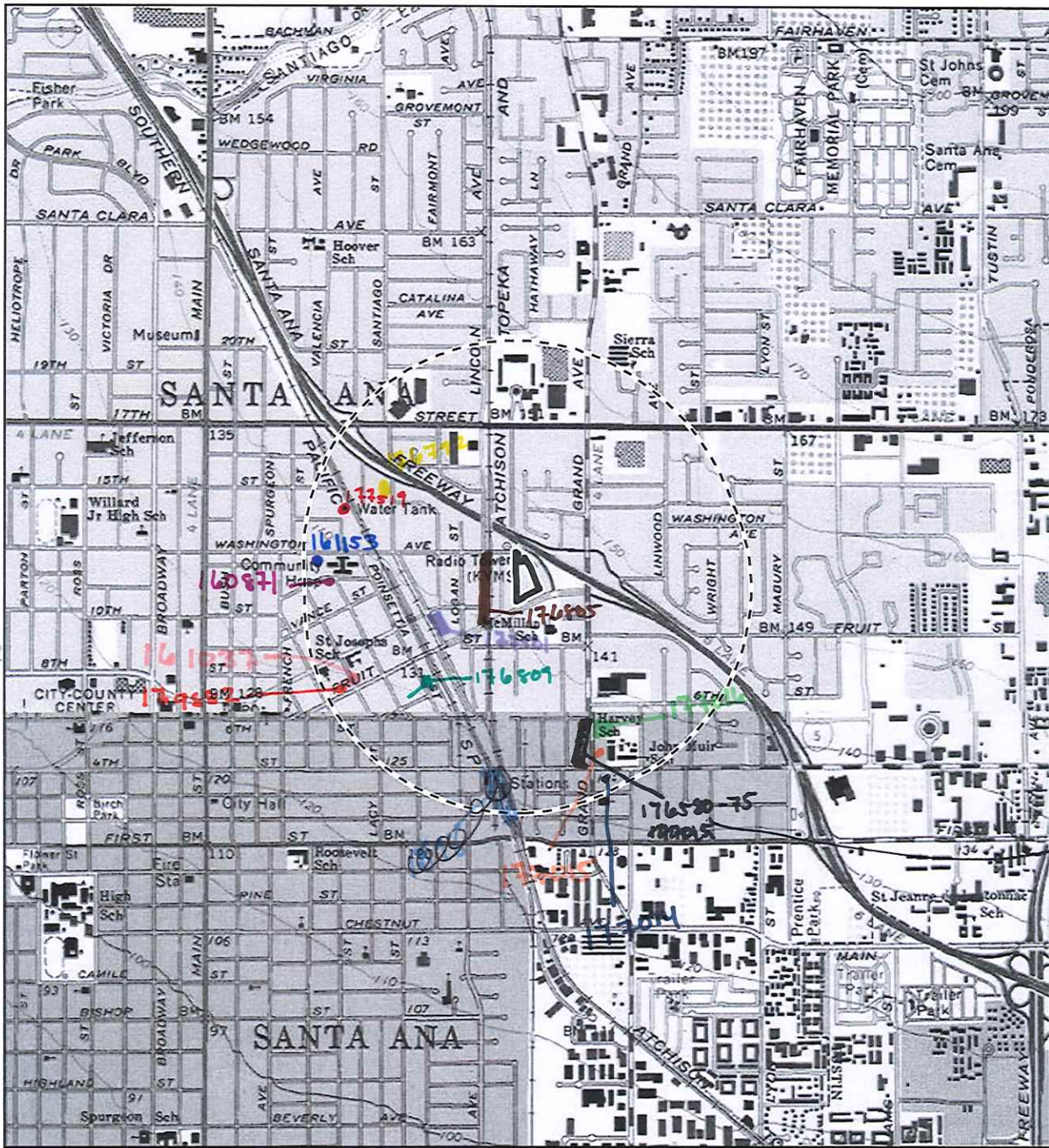
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0 250 500 Meters

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Records Search Map

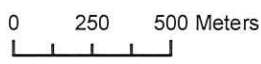
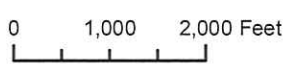
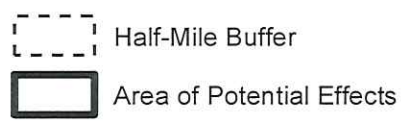
2 of 2



177519
176712
161153
161037
167037
177882

176805
177501
177016
176809
177015
176580
176579
176578
176577
176576
176575
177014

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Records Search Map



Appendix B

Native American Consultation

Crossroads at Washington Project, Santa Ana, Orange County, CA (Project #18-07009)

Native American Contacts Consulted

| Local Group/Government Contact | Rincon Coordination Efforts | Response to Coordination Efforts |
|---|---|---|
| <p>Gabrielino-Tongva Tribe Councilmember Charles Alvarez 23454 Vanowen Street West Hills, CA 91307 (310) 403-6048 roadkingcharles@aol.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left at (310) 403-6048 8/27/2019: Second consultation follow-up call. Voicemail left at (310) 403-6048</p> | <p>8/29/2019: No response received to date</p> |
| <p>Gabrielino Tongva Indians of California Tribal Council Chairperson Robert Dorame P.O. Box 490 Bellflower, CA 90707 (562) 761-6417 gtongva@gmail.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left at (562) 761-6417 8/27/2019: Second consultation follow-up call. Voicemail left at (562) 761-6417</p> | <p>8/29/2019: No response received to date</p> |
| <p>Gabrielino /Tongva Nation Chairperson Sandonne Goad 106 1/2 Judge John Aiso St., #231 Los Angeles, CA 90012 (951) 807-0479 sgoad@gabrielino-tongva.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left at (951) 807-0479 8/27/2019: Second consultation follow-up call. Voicemail left at (951) 807-0479</p> | <p>8/29/2019: No response received to date</p> |
| <p>Gabrieleno/Tongva San Gabriel Band of Mission Indians Chairperson Anthony Morales P.O. Box 693 San Gabriel, CA 91778 (626) 483-3564 GTTribalcouncil@aol.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left at (626) 483-3564</p> | <p>8/24/2019: Mr. Morales responded to Ms. Pfeiffer's voicemail via phone. Mr. Morales stated that the report is sufficient but wants Rincon to keep him posted if any cultural materials are discovered during project development.</p> |
| <p>Gabrieleno Band of Mission Indians - Kizh Nation Chairperson Andrew Salas P.O. Box 393 Covina, CA 91723 (626) 926-4131 admin@gabrielenoidians.org</p> | <p>8/9/2019: Letter sent via USPS</p> | <p>8/16/2019: Response received from Andy Salas, Chairperson, via email requesting Assembly Bill 52 consultation.</p> |

| Local Group/Government Contact | Rincon Coordination Efforts | Response to Coordination Efforts |
|--|--|---|
| <p>Agua Caliente Band of Cahuilla Indians Attn: Jeff Grubbe, Chairperson 5401 Dinah Shore Drive Palm Springs, CA 92264 (760)699-6800</p> | <p>8/9/2019: Letter sent via USPS</p> | <p>8/20/2019: Email received from Lucy Padilla, Archaeologist for the Agua Caliente Band of Cahuilla Indians. Ms. Padilla stated the project is not located in the tribe's Traditional Use Area. Therefore, they are deferring to other tribes in the area. The email serves to conclude their consultation efforts.</p> |
| <p>Agua Caliente Band of Cahuilla Indians Attn: Patricia Garcia-Plotkin, Director Agua Caliente Band of Cahuilla Indians 5401 Dinah Shore Drive Palm Springs, CA 92264 (760) 699-6907 ACBCI-THPO@aguacaliente.net</p> | <p>8/9/2019: Letter sent via USPS</p> | <p>8/20/2019: See response form Lucy Padilla.</p> |
| <p>Juaneño Band of Mission Indians Attn: Sonia Johnston, Chairperson P.O. Box 25628 Santa Ana, CA 92799 No Phone Number Sonia.johnston@sbcglobal.net</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: No Phone Number</p> | <p>8/29/2019: No response received to date</p> |
| <p>Juaneño Band of Mission Indians Acjachemen Nation- Belardes Attn: Joyce Perry, Tribal Manager 4955 Paseo Segovia Irvine, CA 92603 (949)293-8522 kaamalam@gmail.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left at (949)293-8522 8/27/2019: Second consultation follow-up call. Voicemail left at (949) 293-8522 8/27/2019: Voicemail left to inform Ms. Perry of the NAHC Sacred Lands File results</p> | <p>8/27/2019: Ms. Perry responded via phone. Ms. Perry state that she would like to reserve her recommendations until she receives the results of the sacred land files search. 8/29/2019: No response received to date</p> |
| <p>Juaneño Band of Mission Indians Acjachemen Nation Attn: Matias Belardes, Chairperson 32161 Avenida Los Amigos San Juan Capistrano, CA 92675 (949)293-8522 kaamalam@gmail.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left at (949)293-8522 8/27/2019: Second consultation follow-up call. Voicemail left at (949) 293-8522</p> | <p>8/29/2019: No response received to date</p> |

| Local Group/Government Contact | Rincon Coordination Efforts | Response to Coordination Efforts |
|--|--|---|
| <p>Juaneño Band of Mission Indians Acjachemen Nation- Romero Attn: Teresa Romero, Chairperson 31411-A La Matanza Street San Juan Capistrano, CA 92675 (949)488-3484 tromero@juaneno.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left with administrative assistant of the Juaneño Band of Mission Indians Acjachemen Nation 8/27/2019: Second consultation follow-up call. Message left with the Juaneño Band of Mission Indians administrative assistant</p> | <p>8/29/2019: No response received to date</p> |
| <p>La Jolla Band of Luiseño Indians Attn: Fred Nelson, Chairperson 22000 Highway 76 Pauma Valley, CA 92061 (760)742-3771</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voice mailbox is full. 8/27/2019: Second consultation follow-up call. Voicemail left at (760) 742-3771</p> | <p>8/29/2019: No response received to date</p> |
| <p>Pala Band of Mission Indians Attn: Shasta Gaughen, Tribal Historic Preservation Officer PMB 50, 35008 Pala Temecula Road Pala, CA 92059 (760)891-3515 sgaughen@palatribe.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left at (760)891-3515 8/27/2019: Second consultation follow-up call. Voicemail left at (760)891-3515</p> | <p>8/29/2019: No response received to date</p> |
| <p>Pauma Band of Luiseno Indians Attn: Temet Aguilar, Chairperson P.O. Box 369 Pauma Valley, CA 92061 (760)742-1289 beenaecalac@aol.com</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call. Voicemail left at (760)742-1289 8/27/2019: Second consultation follow-up call. Voicemail left at (760) 742-1289</p> | <p>8/29/2019: No response received to date</p> |
| <p>Pechanga Band of Luiseño Indians Attn: Paul Macarro, Cultural Resources Coordinator P.O. Box 1477 Temecula, CA 92593 (951)770-6306 pmacarro@pechanga-nsn.gov</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow up call. Voicemail left at (951) 770-6306 8/27/2019: Second consultation follow-up call made.</p> | <p>8/27/2019: Mr. Macarro responded via phone. Mr. Macarro state that the project is outside of thier ancestral territory and they are going to be responding formally. Mr. Macarro identified the different placenames of the Lusieno and thanked Ms. Pfeiffer for reaching out to him.</p> |
| <p>Pechanga Band of Luiseño Indians Attn: Mark Macarro, Chairperson P.O. Box 1477 Temecula, CA 92593 (951)770-6000 epreston@pechanga-nsn.gov</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow up call. Voicemail left at (951)770-6000 8/27/2019: Second consultation follow up call made. Voicemail left at (951) 770-6000</p> | <p>8/27/2019: See response from Paul Macarro.</p> |

| Local Group/Government Contact | Rincon Coordination Efforts | Response to Coordination Efforts |
|--|--|---|
| <p>Rincon Band of Luiseño Indians Attn: Bo Mazzetti, Chairperson One Government Center Lane Valley Center, CA 92082 (760)749-1051 bomazzetti@aol.com</p> | <p>8/9/2019: Letter sent via USPS</p> | <p>8/14/2019: Deneen Pelton, Administrative Assistant for Cheryl Madrigal, sent a letter stating that the project is not within the Luiseño Aboriginal Territory. The Rincon Band recommended that a tribe within the project area be contract to receive direction on how to handle any inadvertent findings according to their customs and traditions.</p> |
| <p>Rincon Band of Luiseño Indians Attn: Jim McPherson, Tribal Historic Preservation Officer One Government Center Lane Valley Center, CA 92082 (760)749-1051 vwhipple@rincontribe.org</p> | <p>8/9/2019: Letter sent via USPS</p> | <p>8/14/2019: See above response from Deneen Pelton.</p> |
| <p>San Luis Rey Band of Mission Indians Attn: San Luis Rey, Tribal Council (Carmen Mojado) 1889 Sunset Drive Vista, CA 92081 (760)724-8505 cjmojado@slrmissionindians.org</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow up call made.</p> | <p>8/23/2019: Ms. Mojado answered via phone and requested that Ms. Pfeiffer reach out to her daughter Cami (760)917-1736 about the project. Ms. Pfeiffer called Cami at (760)917-1736 but the voicemail box was full and a message could not be left.</p> |
| <p>Soboba Band of Luiseño Indians Attn: Joseph Ontiveros, Cultural Resource Department P.O. Box 487 San Jacinto, CA 92581 (951)663-5279 jontiveros@soboba-nsn.gov</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call made.</p> | <p>8/23/2019: Mr. Ontiveros responded via phone. Mr. Ontiveros stated that since the project was located in the City of Santa Ana he was going to defer to local tribes.</p> |
| <p>Soboba Band of Luiseño Indians Attn: Scott Cozart, Chairperson P.O. Box 487 San Jacinto, CA 92583 (951) 654-2765 jontiveros@soboba-nsn.gov</p> | <p>8/9/2019: Letter sent via USPS 8/23/2019: Consultation follow-up call made. Voicemail left at (951) 654-2765 8/27/2019: Second consultation follow-up call. Voicemail left at (951) 654-2765</p> | <p>8/23/2019: See response from Joseph Ontiveros.</p> |

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: <http://www.nahc.ca.gov>
Twitter: @CA_NAHC



August 26, 2019

Tiffany Clark
Rincon Consultants

VIA Email to: tclark@rinconconsultants.com

RE: Crossroads at Washington Project, Orange County

Dear Ms. Clark:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Steven Quinn".

Steven Quinn
Associate Governmental Program Analyst

Attachment

**Native American Heritage Commission
Native American Contact List
Orange County
8/27/2019**

Agua Caliente Band of Cahuilla Indians

Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

Agua Caliente Band of Cahuilla Indians

Jeff Grubbe, Chairperson
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Gabrieleno Band of Mission Indians - Kizh Nation

Andrew Salas, Chairperson
P.O. Box 393 Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

Gabrieleno/Tongva San Gabriel Band of Mission Indians

Anthony Morales, Chairperson
P.O. Box 693 Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation

Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., Gabrielino
#231
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council

Robert Dorame, Chairperson
P.O. Box 490 Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino-Tongva Tribe

Charles Alvarez,
23454 Vanowen Street Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

Juaneno Band of Mission Indians

Sonia Johnston, Chairperson
P.O. Box 25628 Juaneno
Santa Ana, CA, 92799
sonia.johnston@sbcglobal.net

Juaneno Band of Mission Indians Acjachemen Nation

Matias Belardes, Chairperson
32161 Avenida Los Amigos Juaneno
San Juan Capistrano, CA, 92675
Phone: (949) 293 - 8522
kaamalam@gmail.com

Juaneno Band of Mission Indians Acjachemen Nation - Belardes

Joyce Perry, Tribal Manager
4955 Paseo Segovia Juaneno
Irvine, CA, 92603
Phone: (949) 293 - 8522
kaamalam@gmail.com

Juaneno Band of Mission Indians Acjachemen Nation - Romero

Teresa Romero, Chairperson
31411-A La Matanza Street Juaneno
San Juan Capistrano, CA, 92675
Phone: (949) 488 - 3484
Fax: (949) 488-3294
tromero@juaneno.com

La Jolla Band of Luiseno Indians

Fred Nelson, Chairperson
22000 Highway 76 Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Crossroads at Washington Project, Orange County.

**Native American Heritage Commission
Native American Contact List
Orange County
8/27/2019**

Pala Band of Mission Indians

Shasta Gaughen, Tribal Historic
Preservation Officer
PMB 50, 35008 Pala Temecula Rd. Cupeno
Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@palatribe.com

Pauma Band of Luiseno Indians

Temet Aguilar, Chairperson
P.O. Box 369 Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422
bennaecalac@aol.com

Pechanga Band of Luiseno Indians

Paul Macarro, Cultural Resources
Coordinator
P.O. Box 1477 Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6306
Fax: (951) 506-9491
pmacarro@pechanga-nsn.gov

Pechanga Band of Luiseno Indians

Mark Macarro, Chairperson
P.O. Box 1477 Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

Rincon Band of Luiseno Indians

Bo Mazzetti, Chairperson
One Government Center Lane Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

Rincon Band of Luiseno Indians

Jim McPherson, Tribal Historic
Preservation Officer
One Government Center Lane Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
vwhipple@rincontribe.org

San Luis Rey Band of Mission Indians

San Luis Rey, Tribal Council
1889 Sunset Drive Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

San Luis Rey Band of Mission Indians

1889 Sunset Drive Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

Soboba Band of Luiseno Indians

Scott Cozart, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92583 Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Soboba Band of Luiseno Indians

Joseph Ontiveros, Cultural
Resource Department
P.O. BOX 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Crossroads at Washington Project, Orange County.

EXAMPLE CONSULTATION LETTER



Rincon Consultants, Inc.

250 East 1st Street, Suite 301
Los Angeles, California 90012

213 788 4842 OFFICE
213 908 2200 FAX

info@rinconconsultants.com
www.rinconconsultants.com

August 9, 2019

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Att: Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, California 91778

Subject: Cultural Resources Study for the Crossroads at Washington Project, City of Santa Ana, Orange County, California

Dear Chairperson Morales:

The City of Santa Ana is proposing development of the Crossroads at Washington Project (project) located at 1126 and 1146 East Washington Avenue in the city of Santa Ana, California. Rincon Consultants, Inc. (Rincon) has been retained to conduct a cultural resources study and Environmental Assessment for the project. The proposed project involves the development of an affordable housing community on 2.28 acres of land that is currently vacant. It includes the construction of one residential building, subdivided into three residential portions, with 86 units surrounding two interior courtyard/amenity spaces.

Rincon contacted the Native American Heritage Commission (NAHC) on August 6, 2019 to request a Sacred Lands File search of the project area. Although the results of the NAHC search are pending, this anticipatory letter is being sent to inquire about your knowledge of potential cultural resources within the vicinity that may be impacted by the project. As part of our identification efforts, a records search of the project area and a 0.5-mile radius will be conducted at the South Central Coastal Information Center and followed by a field visit to the project site. This letter serves to inquire about your knowledge of potential cultural resources within the vicinity that may be impacted by the project

This project is being partially financed with federal funding and thus requires conformance to the National Environmental Policy Act and Section 106 of the National Historic Preservation Act (NHPA). We are writing to provide you with an opportunity to be involved in the Section 106 process as a consulting party. The U.S. Department of Housing and Urban Development (HUD) is acting as the lead federal agency for the project. An Area of Potential Effect (APE) map depicting the project area is enclosed with this letter for your reference.



If you have knowledge of cultural resources that may exist within or near the project site or would like to consult as part of the Section 106 process, please contact me at (213)788-4842 x194 or tclark@rinconconsultants.com. Thank you for your assistance.

Sincerely,

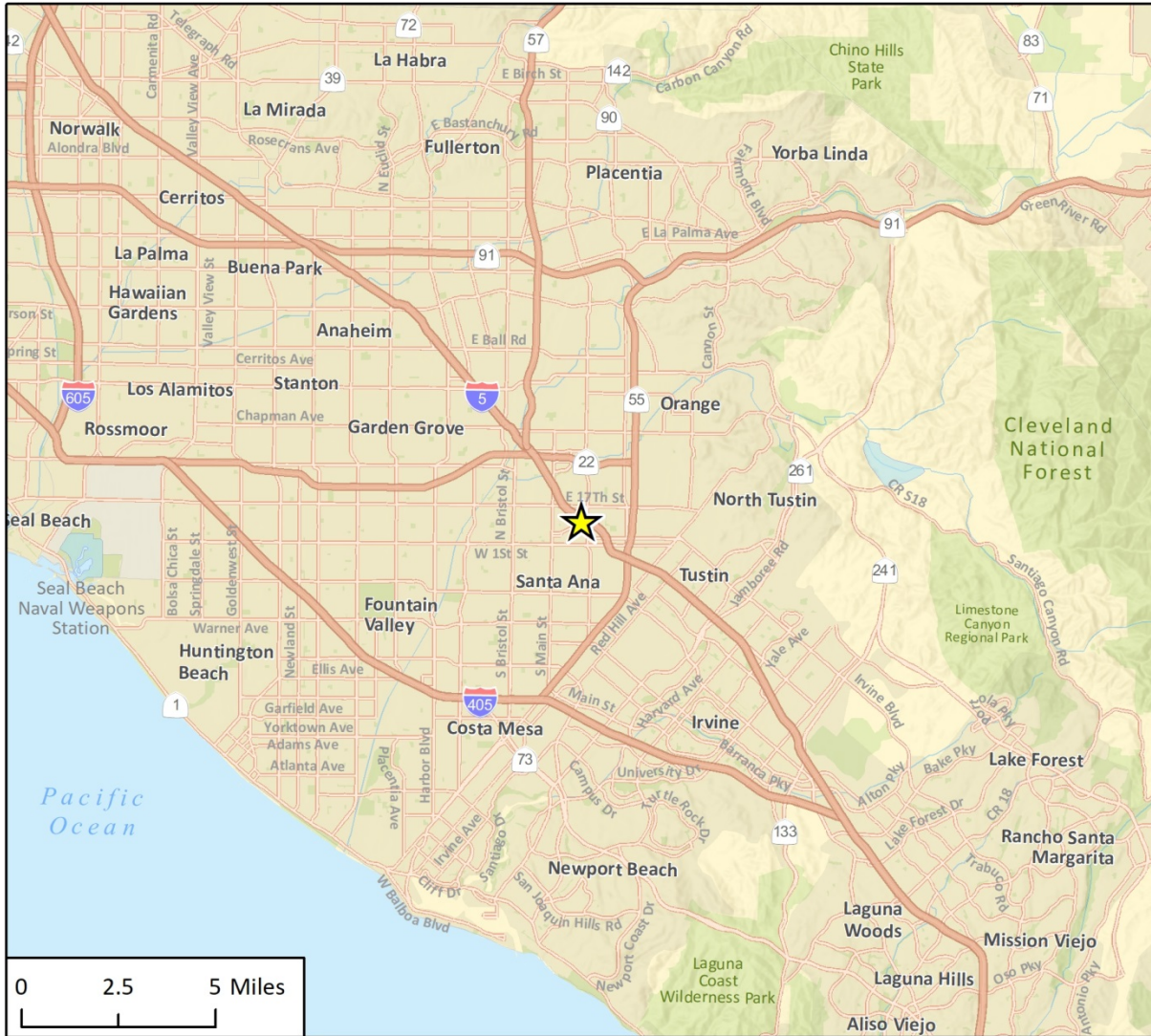
A handwritten signature in black ink that reads "Tiffany Clark". The signature is written in a cursive style.

Tiffany Clark
Senior Archaeologist / Project Manager

Enclosed: Project Vicinity Map
Project Location Map



Crossroads at Washington Project



Imagery provided by Esri and its licensors © 2019.

 Project Location

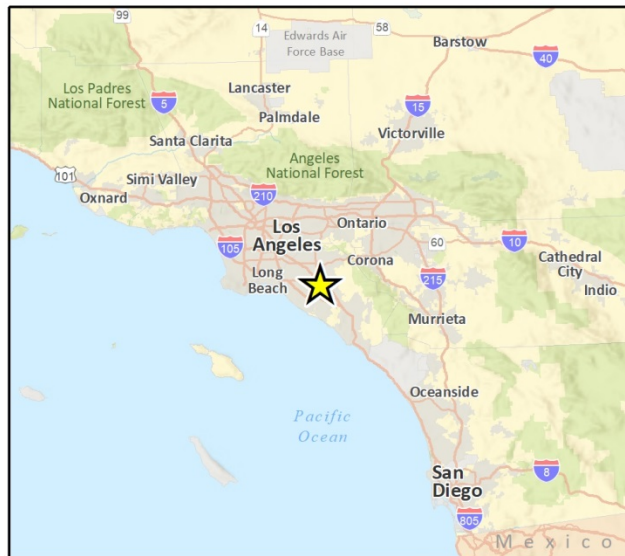


Fig 1 Regional Location - Washington Crossroads





GABRIELENO BAND OF MISSION INDIANS - KIZH NATION

Historically known as The San Gabriel Band of Mission Indians
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

Project Name: The Crossroads at Washington Project, City of Santa Ana, Orange County, CA

Dear Tiffany Clark,

Thank you for your letter dated August 9, 2019 regarding your request for information pertaining to the above project. The above proposed project location is within our Ancestral Tribal Territory; therefore, our Tribal Government engages in AB52 consultation with the lead agency. This government to government consultation is intended to comply with AB52 regulations regarding confidential information. Therefore, as mandated by the State of California under Public Resources Code section 21082.3 (c), we do not share our tribal information with third party businesses. Please inform your project's lead agency to schedule an AB52 consultation with our tribal government at its earliest convenience

Thank you for your time,

Andrew Salas, Chairman
Gabrieleno Band of Mission Indians – Kizh Nation
1 (844) 390-0787

RINCON BAND OF LUISEÑO INDIANS

Cultural Resources Department

One Government Center Lane · Valley Center, California 92082 ·
(760) 297-2330 Fax:(760) 297-2339



August 14, 2019

Tiffany Clark
Rincon Consultants, Inc.
250 East 1st Street, Suite 301
Los Angeles, CA 90012

Re: Crossroads at Washington Project

Dear Ms. Clark:

This letter is written on behalf of the Rincon Band of Luiseño Indians. Thank you for inviting us to submit comments on the above mention project. Rincon is submitting these comments concerning your projects potential impact on Luiseño cultural resources.

The Rincon Band has concerns for the impacts to historic and cultural resources and the finding of items of significant cultural value that could be disturbed or destroyed and are considered culturally significant to the Luiseño people. This is to inform you, your identified location is not within the Luiseño Aboriginal Territory. We recommend that you locate a tribe within the project area to receive direction on how to handle any inadvertent findings according to their customs and traditions.

If you would like information on tribes within your project area, please contact the Native American Heritage Commission and they will assist with a referral.

Thank you for the opportunity to protect and preserve our cultural assets.

Sincerely,

Deneen Pelton, Administrative Assistant for
Cheryl Madrigal, M.A.
Interim Cultural Resources Manager
Cultural Resources Department
Office:760-297-2635 ext. 318|Cell: 760-648-3000
Email: cmadrigal@rincon-nsn.gov

Bo Mazzetti
Tribal Chairman

Tishmall Turner
Vice Chairwoman

Steve Stallings
Council Member

Laurie E. Gonzalez
Council Member

Alfonso Kolb
Council Member

Tiffany Clark

From: Padilla, Lacy (TRBL) <lpadilla@aguacaliente.net>
Sent: Tuesday, August 20, 2019 11:06 AM
To: Tiffany Clark
Subject: Crossroads at Washington Project

Follow Up Flag: Flag for follow up
Flag Status: Flagged

CAUTION: This email originated from outside of Rincon Consultants. Be cautious before clicking on any links, or opening any attachments, until you are confident that the content is safe .

Greetings,

A records check of the Tribal Historic preservation office's cultural registry revealed that this project is not located within the Tribe's Traditional Use Area. Therefore, we defer to the other tribes in the area. This letter shall conclude our consultation efforts.

Thank you,

Lacy Padilla

Archaeologist
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive Palm Springs, CA 92264
D: 760-699-6956 | C: 760-333-5222

Appendix C

Historical Society Consultation

Crossroads at Washington Housing Project (Rincon Project No. 18-07009)

Interested Parties Consulted

| Interested Party | Rincon Consultation Efforts | Response to Consultation Efforts |
|---|---|--|
| <p>Santa Ana Historical Preservation Society 120 Civic Center Dr., West Santa Ana, CA 92701 (714) 547-9645 sahps@sahps.org</p> | <p>8/6/19: Letter sent via U.S. Mail 8/21/19: Left phone message at headquarters mailbox; requested callback. 8/26/19: Emailed digital copy of letter to Louise Hoffman for forwarding to President Allison Young (Weeziedoll@aol.com). Requested Ms. Young's contact information for future use.</p> | <p>No response received</p> |
| <p>Orange County Historical Society President, Chris Jepsen 3101 West Harvard Street Santa Ana, CA 92704 (714) 540-0404 ext. 226 info@orangecountyhistory.org</p> | <p>8/6/19: Letter sent via U.S. Mail 8/21/19: Left message in general mailbox for Chris Jepsen; requested callback. 8/26/19: Emailed digital copy of letter to info@orangecountyhistory.org; requested forwarding to President Chris Jepsen.</p> | <p>No response received</p> |
| <p>City of Santa Ana Pedro Gomez, Associate Planner 20 Civic Center Plaza Santa Ana, California 92701 (714) 647-5842 pgomez@santa-ana.org</p> | <p>8/6/19: Letter sent via U.S. Mail 8/19/2019: Conducted follow-up telephone call. Spoke with Pedro Gomez regarding cultural resources in the City of Sana Ana. While Mr. Gomez did not express any concerns regarding cultural resources in the area of the APE, he wanted to be sure that Rincon was aware of the City's designated historic districts, the French Park Historic District and the Downtown Historic District, in addition to the eligible Logan Barrio Historic District which is located in close proximity to the APE. Mr. Gomez directed Rincon to the Santa Ana Register of Historic Places, for future reference regarding historical resources in the City.</p> | <p>8/16/2019: Rincon received phone message from Pedro Gomez.</p> |



Rincon Consultants, Inc.

250 East 1st Street, Suite 1400
Los Angeles, California 90012

213 788 4842
FAX 908 2200

info@rinconconsultants.com
www.rinconconsultants.com

August 6, 2019

Hally Soboleske, Associate Planner
City of Santa Ana
20 Civic Center Plaza
Santa Ana, California 92701

Subject: Interested Party Consultation for the Crossroads at Washington Housing Project, City of Santa Ana, California.

Dear Ms. Soboleske,

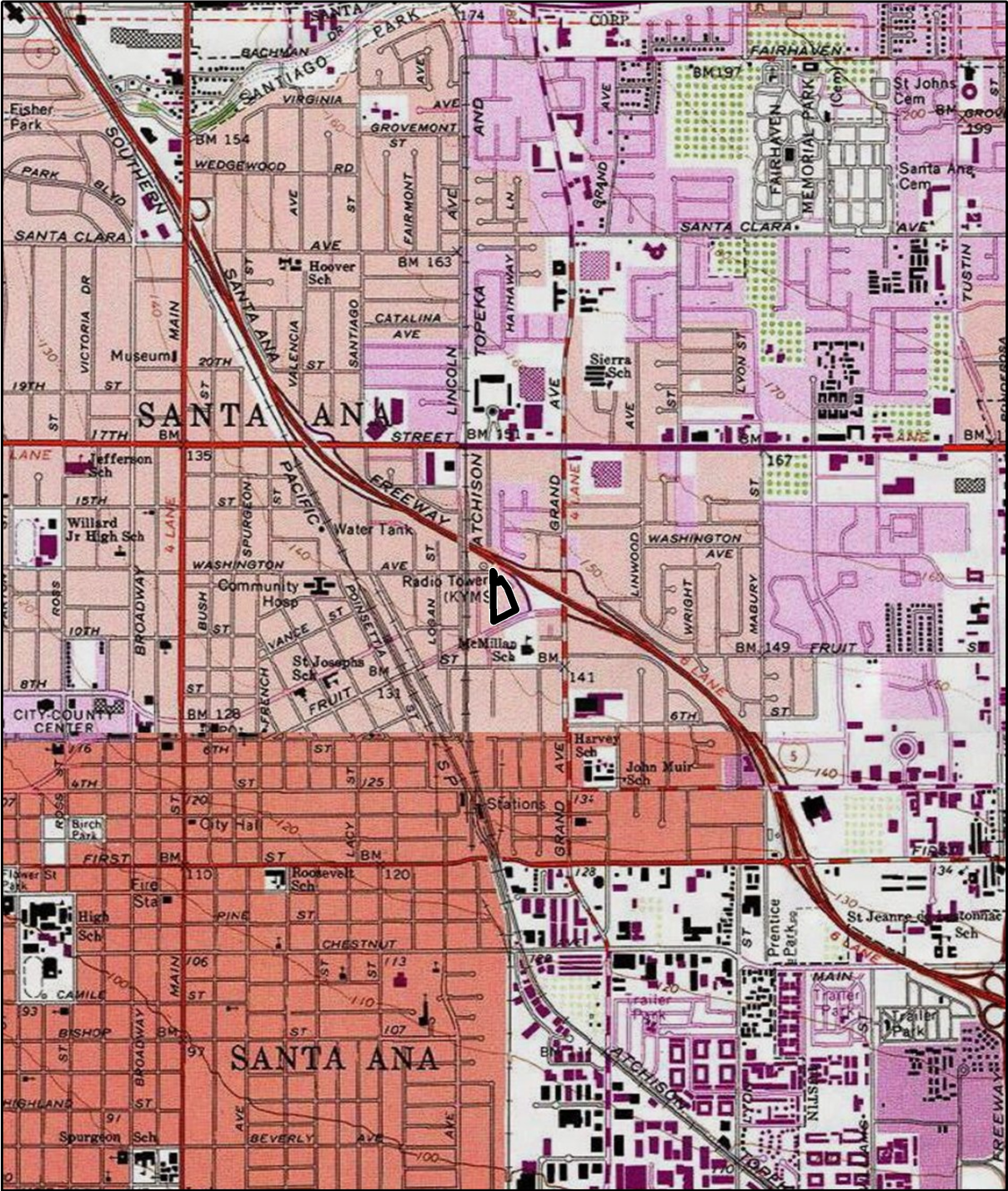
Rincon Consultants, Inc. (Rincon) has been retained to perform an Environmental Assessment for the Crossroads at Washington Housing Project located at 1126 and 1146 East Washington Avenue in the City of Santa Ana, California (project). The 2.28-acre project site consists of two vacant, contiguously-located parcels (APNs 398- 092- 13 and 398- 092- 14). The project consists of the construction of a three-story residential building containing 86 residential units (26 one-bedroom units, 22 two-bedroom units, 17 three-bedroom units, and 5 four-bedroom units), 3,500 square-feet of interior community amenities and leasing offices, and 110 surface parking spaces. The project will be partially financed with federal funding and is therefore subject to the National Environmental Policy Act and Section 106 of the National Historic Preservation Act (Section 106). Rincon is preparing a Section 106-compliant Cultural Resources Study, of which this interested party consultation is a component.

The purpose of this letter is to request your input on potential or known historic resources or other cultural resources in the project area or its vicinity. In conformance with Section 106, we are in the initial phase, "identify[ing] historic properties potentially affected by the undertaking" (36 Code of Federal Regulations Part 880.1 a). Rincon is currently working in the study area to identify any potential cultural resource issues associated with the proposed project. We are writing to provide you with an opportunity to be involved in the Section 106 process as a consulting party. If you or your organization has any knowledge of, or specific concerns regarding cultural resources in the project area, please respond by telephone at 805-644-4455 ext. 138 or by email to rperzel@rinconconsultants.com. Thank you for your assistance.

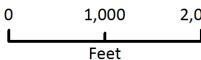
Sincerely,

Rachel Perzel
Architectural Historian

Enclosure: Area of Potential Effect Map



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 Orange Quadrangle. T055 R09W S07. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

 Area of Potential Effects



Rincon Consultants, Inc.

250 East 1st Street, Suite 1400
Los Angeles, California 90012

213 788 4842
FAX 908 2200

info@rinconconsultants.com
www.rinconconsultants.com

August 6, 2019

Orange County Historical Society
C/O Chris Jepsen, President
3101 West Harvard Street
Santa Ana, CA 92704

Subject: Interested Party Consultation for the Crossroads at Washington Housing Project, City of Santa Ana, California.

Dear Mr. Jepsen,

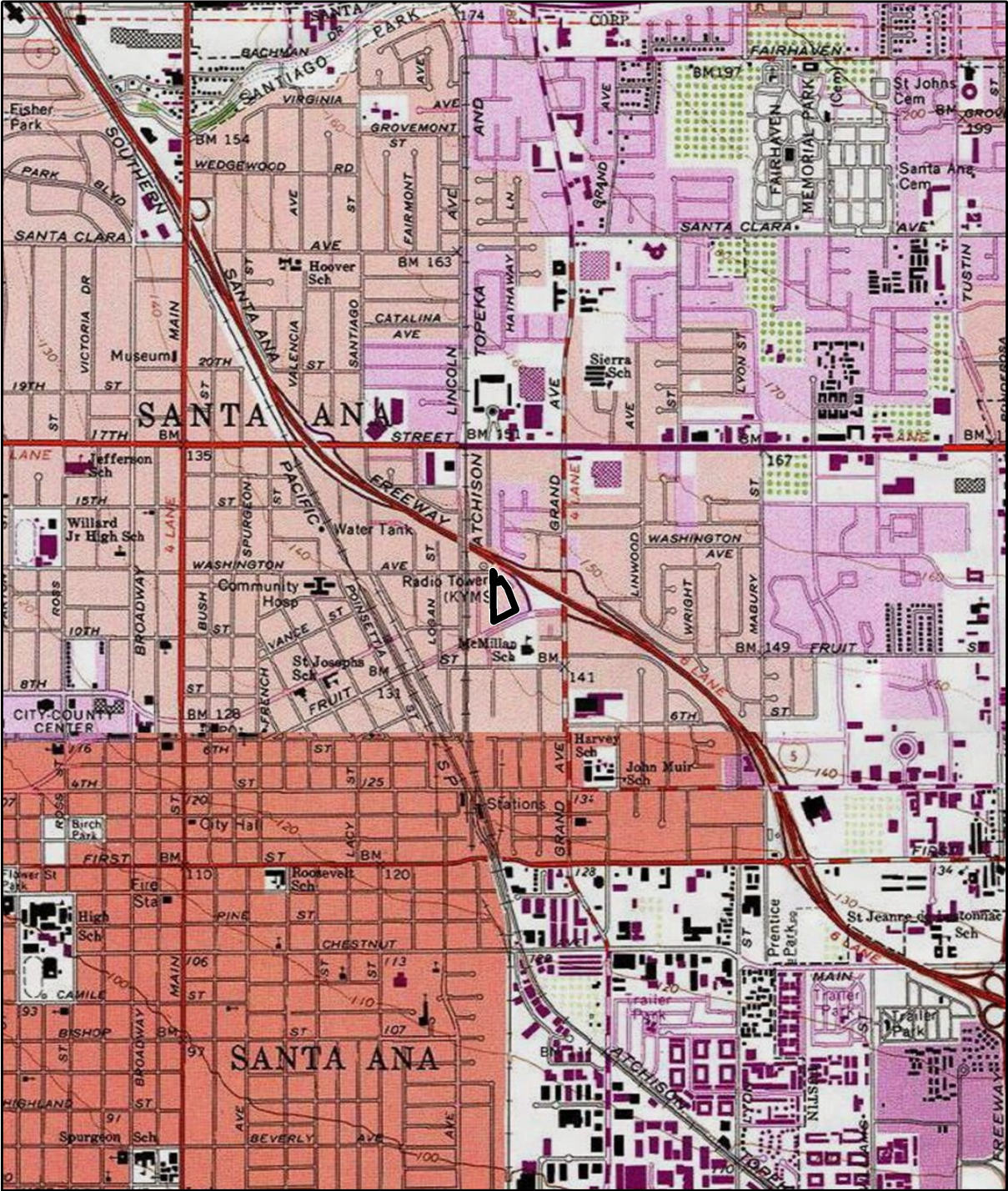
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 Area of Potential Effects



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250 East 1st Street, Suite 1400
Los Angeles, California 90012

213 788 4842
FAX 908 2200

info@rinconconsultants.com
www.rinconconsultants.com

August 6, 2019

Santa Ana Historical Preservation Society
120 Civic Center Dr., West
Santa Ana, CA 92701

Subject: Interested Party Consultation for the Crossroads at Washington Housing Project, City of Santa Ana, California.

To Whom It May Concern,

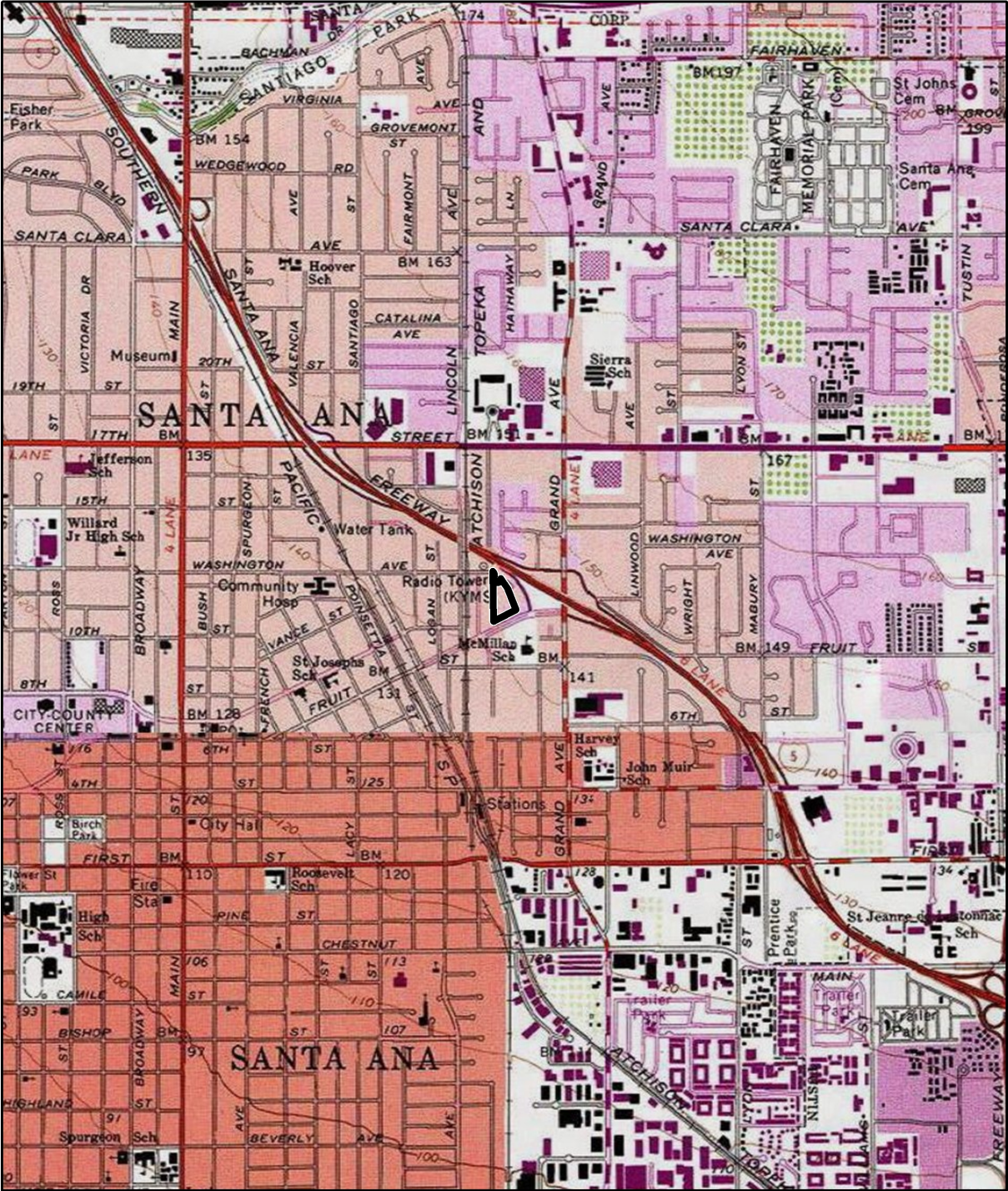
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Enclosure: Area of Potential Effect Map



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 Area of Potential Effects





Appendix E



*HUD Day/Night Noise Level Assessment
Noise Measurement Results
Noise Abatement and Control Worksheet*

DNL Calculator

WARNING: HUD recommends the use of Microsoft Internet Explorer for performing noise calculations. The HUD Noise Calculator has an error when using Google Chrome unless the cache is cleared before each use of the calculator. HUD is aware of the problem and working to fix it in the programming of the calculator.

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the [Day/Night Noise Level Calculator Electronic Assessment Tool Overview \(/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/\)](#).

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

| | |
|--------------------|--------------------------|
| Site ID | Crossroads at Washington |
| Record Date | 8/25/2019 |
| User's Name | Rincon Consultants, Inc. |

| | |
|-----------------------|---------------------|
| Road # 1 Name: | Interstate 5 |
|-----------------------|---------------------|

Road #1

| Vehicle Type | Cars <input checked="" type="checkbox"/> | Medium Trucks <input checked="" type="checkbox"/> | Heavy Trucks <input checked="" type="checkbox"/> |
|------------------------------|---|--|---|
| Effective Distance | 280 | 280 | 280 |
| Distance to Stop Sign | | | |
| Average Speed | 65 | 65 | 65 |
| Average Daily Trips (ADT) | 355300 | 14960 | 3740 |
| Night Fraction of ADT | 10 | 3 | 2 |
| Road Gradient (%) | | | 2 |
| Vehicle DNL | 73.0444 | 67.5382 | 68.5126 |
| Calculate Road #1 DNL | 75.217 | Reset | |

| | |
|------------------------|------------------------|
| Add Road Source | Add Rail Source |
|------------------------|------------------------|

| | |
|---------------------|--|
| Airport Noise Level | |
|---------------------|--|

Loud Impulse Sounds?

Yes No

| | |
|--|--------|
| Combined DNL for all Road and Rail sources | 75.217 |
| Combined DNL including Airport | N/A |
| Site DNL with Loud Impulse Sound | |

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative:** Cancel the project at this location
- **Other Reasonable Alternatives:** Choose an alternate site
- **Mitigation**
 - **Contact your Field or Regional Environmental Officer** (</programs/environmental-review/hud-environmental-staff-contacts/>)
 - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
 - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
 - Incorporate natural or man-made barriers. See *The Noise Guidebook* (</resource/313/hud-noise-guidebook/>)
 - Construct noise barrier. See the **Barrier Performance Module** (</programs/environmental-review/bpm-calculator/>)

Tools and Guidance

[Day/Night Noise Level Assessment Tool User Guide \(/resource/3822/day-night-noise-level-assessment-tool-user-guide/\)](/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

[Day/Night Noise Level Assessment Tool Flowcharts \(/resource/3823/day-night-noise-level-assessment-tool-flowcharts/\)](/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

[Home \(/\)](#) > [Programs \(/programs/\)](#) > [Environmental Review \(/programs/environmental-review/\)](#) > DNL Calculator

DNL Calculator

WARNING: HUD recommends the use of Microsoft Internet Explorer for performing noise calculations. The HUD Noise Calculator has an error when using Google Chrome unless the cache is cleared before each use of the calculator. HUD is aware of the problem and working to fix it in the programming of the calculator.

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the [Day/Night Noise Level Calculator Electronic Assessment Tool Overview \(/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/\)](#).

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

| | |
|--------------------|--------------------------|
| Site ID | Crossroads at Washington |
| Record Date | 8/25/2019 |
| User's Name | Rincon Consultants, Inc. |

| | |
|-----------------------|---------------------------------|
| Road # 1 Name: | East Santa Ana Boulevard |
|-----------------------|---------------------------------|

Road #1

| Vehicle Type | Cars <input checked="" type="checkbox"/> | Medium Trucks <input checked="" type="checkbox"/> | Heavy Trucks <input checked="" type="checkbox"/> |
|------------------------------|---|--|---|
| Effective Distance | 85 | 85 | 85 |
| Distance to Stop Sign | | | |
| Average Speed | 35 | 35 | 35 |
| Average Daily Trips (ADT) | 19950 | 840 | 210 |
| Night Fraction of ADT | 10 | 3 | 2 |
| Road Gradient (%) | | | 2 |
| Vehicle DNL | 62.927 | 57.4209 | 61.5139 |
| Calculate Road #1 DNL | 65.9722 | Reset | |

| | |
|--------------------------------------|----------------------------|
| Railroad #1 Track Identifier: | Metrolink Santa Ana |
|--------------------------------------|----------------------------|

Rail # 1

| | | |
|-------------------|--|---|
| Train Type | Electric <input type="checkbox"/> | Diesel <input checked="" type="checkbox"/> |
|-------------------|--|---|

Effective Distance

Average Train Speed

Engines per Train

Railway cars per Train

Average Train Operations (ATO)

Night Fraction of ATO

Railway whistles or horns? Yes: No: Yes: No:

Bolted Tracks? Yes: No: Yes: No:

Train DNL

Airport Noise Level

Loud Impulse Sounds? Yes No

Combined DNL for all Road and Rail sources

Combined DNL including Airport

Site DNL with Loud Impulse Sound

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative:** Cancel the project at this location
- **Other Reasonable Alternatives:** Choose an alternate site
- **Mitigation**
 - **Contact your Field or Regional Environmental Officer** (</programs/environmental-review/hud-environmental-staff-contacts/>)
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Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (</resource/3822/day-night-noise-level-assessment-tool-user-guide/>)

Day/Night Noise Level Assessment Tool Flowcharts (</resource/3823/day-night-noise-level-assessment-tool-flowcharts/>)

Freq Weight : A
Time Weight : SLOW
Level Range : 40-100
Max dB : 68.9 - 2019/08/08 08:36:36
Level Range : 40-100
SEL : 92.0
Leq : 62.5

| No. s | Date Time | (dB) |
|-------|---------------------|------|
| 1 | 2019/08/08 08:24:09 | 63.1 |
| 2 | 2019/08/08 08:24:12 | 63.5 |
| 3 | 2019/08/08 08:24:15 | 63.3 |
| 4 | 2019/08/08 08:24:18 | 63.1 |
| 5 | 2019/08/08 08:24:21 | 63.3 |
| 6 | 2019/08/08 08:24:24 | 62.7 |
| 7 | 2019/08/08 08:24:27 | 62.5 |
| 8 | 2019/08/08 08:24:30 | 62.4 |
| 9 | 2019/08/08 08:24:33 | 62.2 |
| 10 | 2019/08/08 08:24:36 | 62.7 |
| 11 | 2019/08/08 08:24:39 | 62.9 |
| 12 | 2019/08/08 08:24:42 | 63.3 |
| 13 | 2019/08/08 08:24:45 | 63.7 |
| 14 | 2019/08/08 08:24:48 | 64.0 |
| 15 | 2019/08/08 08:24:51 | 63.5 |
| 16 | 2019/08/08 08:24:54 | 64.0 |
| 17 | 2019/08/08 08:24:57 | 64.5 |
| 18 | 2019/08/08 08:25:00 | 62.9 |
| 19 | 2019/08/08 08:25:03 | 62.5 |
| 20 | 2019/08/08 08:25:06 | 61.7 |
| 21 | 2019/08/08 08:25:09 | 61.6 |
| 22 | 2019/08/08 08:25:12 | 61.3 |
| 23 | 2019/08/08 08:25:15 | 61.6 |
| 24 | 2019/08/08 08:25:18 | 62.6 |
| 25 | 2019/08/08 08:25:21 | 62.6 |
| 26 | 2019/08/08 08:25:24 | 62.3 |
| 27 | 2019/08/08 08:25:27 | 62.4 |
| 28 | 2019/08/08 08:25:30 | 62.4 |
| 29 | 2019/08/08 08:25:33 | 62.3 |
| 30 | 2019/08/08 08:25:36 | 62.1 |
| 31 | 2019/08/08 08:25:39 | 62.4 |
| 32 | 2019/08/08 08:25:42 | 62.2 |
| 33 | 2019/08/08 08:25:45 | 61.8 |
| 34 | 2019/08/08 08:25:48 | 61.7 |
| 35 | 2019/08/08 08:25:51 | 61.8 |
| 36 | 2019/08/08 08:25:54 | 62.0 |
| 37 | 2019/08/08 08:25:57 | 62.5 |
| 38 | 2019/08/08 08:26:00 | 63.2 |
| 39 | 2019/08/08 08:26:03 | 63.3 |
| 40 | 2019/08/08 08:26:06 | 63.2 |
| 41 | 2019/08/08 08:26:09 | 63.3 |
| 42 | 2019/08/08 08:26:12 | 65.1 |
| 43 | 2019/08/08 08:26:15 | 63.0 |
| 44 | 2019/08/08 08:26:18 | 62.3 |
| 45 | 2019/08/08 08:26:21 | 63.0 |
| 46 | 2019/08/08 08:26:24 | 62.9 |
| 47 | 2019/08/08 08:26:27 | 63.3 |
| 48 | 2019/08/08 08:26:30 | 63.2 |
| 49 | 2019/08/08 08:26:33 | 63.0 |
| 50 | 2019/08/08 08:26:36 | 62.4 |
| 51 | 2019/08/08 08:26:39 | 62.0 |
| 52 | 2019/08/08 08:26:42 | 62.3 |
| 53 | 2019/08/08 08:26:45 | 62.8 |
| 54 | 2019/08/08 08:26:48 | 62.2 |
| 55 | 2019/08/08 08:26:51 | 62.0 |
| 56 | 2019/08/08 08:26:54 | 62.5 |
| 57 | 2019/08/08 08:26:57 | 63.1 |
| 58 | 2019/08/08 08:27:00 | 62.9 |
| 59 | 2019/08/08 08:27:03 | 63.2 |
| 60 | 2019/08/08 08:27:06 | 65.0 |
| 61 | 2019/08/08 08:27:09 | 65.2 |
| 62 | 2019/08/08 08:27:12 | 64.4 |
| 63 | 2019/08/08 08:27:15 | 63.7 |
| 64 | 2019/08/08 08:27:18 | 62.5 |
| 65 | 2019/08/08 08:27:21 | 62.7 |
| 66 | 2019/08/08 08:27:24 | 62.5 |
| 67 | 2019/08/08 08:27:27 | 63.0 |
| 68 | 2019/08/08 08:27:30 | 62.8 |
| 69 | 2019/08/08 08:27:33 | 62.4 |
| 70 | 2019/08/08 08:27:36 | 63.1 |
| 71 | 2019/08/08 08:27:39 | 62.9 |
| 72 | 2019/08/08 08:27:42 | 62.1 |
| 73 | 2019/08/08 08:27:45 | 61.8 |
| 74 | 2019/08/08 08:27:48 | 61.5 |
| 75 | 2019/08/08 08:27:51 | 61.2 |
| 76 | 2019/08/08 08:27:54 | 62.5 |
| 77 | 2019/08/08 08:27:57 | 62.3 |
| 78 | 2019/08/08 08:28:00 | 62.1 |
| 79 | 2019/08/08 08:28:03 | 62.8 |
| 80 | 2019/08/08 08:28:06 | 62.9 |
| 81 | 2019/08/08 08:28:09 | 62.8 |
| 82 | 2019/08/08 08:28:12 | 62.6 |
| 83 | 2019/08/08 08:28:15 | 62.0 |
| 84 | 2019/08/08 08:28:18 | 62.0 |
| 85 | 2019/08/08 08:28:21 | 61.3 |

| | | | |
|-----|------------|----------|------|
| 86 | 2019/08/08 | 08:28:24 | 61.0 |
| 87 | 2019/08/08 | 08:28:27 | 61.5 |
| 88 | 2019/08/08 | 08:28:30 | 62.1 |
| 89 | 2019/08/08 | 08:28:33 | 61.7 |
| 90 | 2019/08/08 | 08:28:36 | 62.2 |
| 91 | 2019/08/08 | 08:28:39 | 62.8 |
| 92 | 2019/08/08 | 08:28:42 | 62.8 |
| 93 | 2019/08/08 | 08:28:45 | 63.0 |
| 94 | 2019/08/08 | 08:28:48 | 62.9 |
| 95 | 2019/08/08 | 08:28:51 | 63.4 |
| 96 | 2019/08/08 | 08:28:54 | 63.3 |
| 97 | 2019/08/08 | 08:28:57 | 63.3 |
| 98 | 2019/08/08 | 08:29:00 | 63.6 |
| 99 | 2019/08/08 | 08:29:03 | 63.4 |
| 100 | 2019/08/08 | 08:29:06 | 64.2 |
| 101 | 2019/08/08 | 08:29:09 | 66.0 |
| 102 | 2019/08/08 | 08:29:12 | 64.1 |
| 103 | 2019/08/08 | 08:29:15 | 63.5 |
| 104 | 2019/08/08 | 08:29:18 | 63.5 |
| 105 | 2019/08/08 | 08:29:21 | 63.1 |
| 106 | 2019/08/08 | 08:29:24 | 63.9 |
| 107 | 2019/08/08 | 08:29:27 | 63.5 |
| 108 | 2019/08/08 | 08:29:30 | 62.4 |
| 109 | 2019/08/08 | 08:29:33 | 62.8 |
| 110 | 2019/08/08 | 08:29:36 | 62.8 |
| 111 | 2019/08/08 | 08:29:39 | 62.2 |
| 112 | 2019/08/08 | 08:29:42 | 61.6 |
| 113 | 2019/08/08 | 08:29:45 | 61.8 |
| 114 | 2019/08/08 | 08:29:48 | 61.7 |
| 115 | 2019/08/08 | 08:29:51 | 61.9 |
| 116 | 2019/08/08 | 08:29:54 | 62.2 |
| 117 | 2019/08/08 | 08:29:57 | 62.3 |
| 118 | 2019/08/08 | 08:30:00 | 65.2 |
| 119 | 2019/08/08 | 08:30:03 | 63.1 |
| 120 | 2019/08/08 | 08:30:06 | 61.8 |
| 121 | 2019/08/08 | 08:30:09 | 61.7 |
| 122 | 2019/08/08 | 08:30:12 | 61.9 |
| 123 | 2019/08/08 | 08:30:15 | 62.4 |
| 124 | 2019/08/08 | 08:30:18 | 66.2 |
| 125 | 2019/08/08 | 08:30:21 | 63.3 |
| 126 | 2019/08/08 | 08:30:24 | 63.3 |
| 127 | 2019/08/08 | 08:30:27 | 64.2 |
| 128 | 2019/08/08 | 08:30:30 | 62.7 |
| 129 | 2019/08/08 | 08:30:33 | 62.5 |
| 130 | 2019/08/08 | 08:30:36 | 62.0 |
| 131 | 2019/08/08 | 08:30:39 | 61.1 |
| 132 | 2019/08/08 | 08:30:42 | 61.0 |
| 133 | 2019/08/08 | 08:30:45 | 61.0 |
| 134 | 2019/08/08 | 08:30:48 | 61.0 |
| 135 | 2019/08/08 | 08:30:51 | 61.4 |
| 136 | 2019/08/08 | 08:30:54 | 62.3 |
| 137 | 2019/08/08 | 08:30:57 | 65.6 |
| 138 | 2019/08/08 | 08:31:00 | 65.1 |
| 139 | 2019/08/08 | 08:31:03 | 62.1 |
| 140 | 2019/08/08 | 08:31:06 | 61.4 |
| 141 | 2019/08/08 | 08:31:09 | 62.5 |
| 142 | 2019/08/08 | 08:31:12 | 62.6 |
| 143 | 2019/08/08 | 08:31:15 | 62.8 |
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| 145 | 2019/08/08 | 08:31:21 | 63.0 |
| 146 | 2019/08/08 | 08:31:24 | 62.2 |
| 147 | 2019/08/08 | 08:31:27 | 62.1 |
| 148 | 2019/08/08 | 08:31:30 | 61.4 |
| 149 | 2019/08/08 | 08:31:33 | 62.2 |
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| 151 | 2019/08/08 | 08:31:39 | 62.7 |
| 152 | 2019/08/08 | 08:31:42 | 62.4 |
| 153 | 2019/08/08 | 08:31:45 | 61.9 |
| 154 | 2019/08/08 | 08:31:48 | 62.4 |
| 155 | 2019/08/08 | 08:31:51 | 62.0 |
| 156 | 2019/08/08 | 08:31:54 | 61.7 |
| 157 | 2019/08/08 | 08:31:57 | 62.2 |
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| 159 | 2019/08/08 | 08:32:03 | 61.5 |
| 160 | 2019/08/08 | 08:32:06 | 61.7 |
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| 162 | 2019/08/08 | 08:32:12 | 63.7 |
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| 166 | 2019/08/08 | 08:32:24 | 64.1 |
| 167 | 2019/08/08 | 08:32:27 | 67.4 |
| 168 | 2019/08/08 | 08:32:30 | 63.3 |
| 169 | 2019/08/08 | 08:32:33 | 63.6 |
| 170 | 2019/08/08 | 08:32:36 | 64.7 |
| 171 | 2019/08/08 | 08:32:39 | 63.9 |
| 172 | 2019/08/08 | 08:32:42 | 63.8 |
| 173 | 2019/08/08 | 08:32:45 | 64.5 |
| 174 | 2019/08/08 | 08:32:48 | 63.4 |
| 175 | 2019/08/08 | 08:32:51 | 63.7 |
| 176 | 2019/08/08 | 08:32:54 | 63.3 |
| 177 | 2019/08/08 | 08:32:57 | 62.8 |
| 178 | 2019/08/08 | 08:33:00 | 62.1 |
| 179 | 2019/08/08 | 08:33:03 | 61.7 |
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| 181 | 2019/08/08 | 08:33:09 | 61.7 |
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Max dB : 85.4 - 2019/08/08 09:04:40
Level Range : 40-100
SEL : 99.5
Leq : 70.0

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| 264 | 2019/08/08 | 09:04:34 | 71.9 |
| 265 | 2019/08/08 | 09:04:37 | 84.0 |
| 266 | 2019/08/08 | 09:04:40 | 79.2 |
| 267 | 2019/08/08 | 09:04:43 | 74.0 |
| 268 | 2019/08/08 | 09:04:46 | 74.9 |
| 269 | 2019/08/08 | 09:04:49 | 70.2 |
| 270 | 2019/08/08 | 09:04:52 | 70.3 |
| 271 | 2019/08/08 | 09:04:55 | 77.5 |
| 272 | 2019/08/08 | 09:04:58 | 71.6 |
| 273 | 2019/08/08 | 09:05:01 | 72.6 |
| 274 | 2019/08/08 | 09:05:04 | 68.5 |
| 275 | 2019/08/08 | 09:05:07 | 66.5 |
| 276 | 2019/08/08 | 09:05:10 | 64.7 |
| 277 | 2019/08/08 | 09:05:13 | 64.6 |
| 278 | 2019/08/08 | 09:05:16 | 63.4 |
| 279 | 2019/08/08 | 09:05:19 | 61.2 |
| 280 | 2019/08/08 | 09:05:22 | 61.6 |
| 281 | 2019/08/08 | 09:05:25 | 60.8 |
| 282 | 2019/08/08 | 09:05:28 | 59.2 |
| 283 | 2019/08/08 | 09:05:31 | 57.9 |

| | | | |
|-----|------------|----------|------|
| 284 | 2019/08/08 | 09:05:34 | 57.9 |
| 285 | 2019/08/08 | 09:05:37 | 57.5 |
| 286 | 2019/08/08 | 09:05:40 | 57.1 |
| 287 | 2019/08/08 | 09:05:43 | 59.4 |
| 288 | 2019/08/08 | 09:05:46 | 67.2 |
| 289 | 2019/08/08 | 09:05:49 | 64.3 |
| 290 | 2019/08/08 | 09:05:52 | 60.5 |
| 291 | 2019/08/08 | 09:05:55 | 58.7 |
| 292 | 2019/08/08 | 09:05:58 | 60.4 |
| 293 | 2019/08/08 | 09:06:01 | 58.8 |
| 294 | 2019/08/08 | 09:06:04 | 57.5 |
| 295 | 2019/08/08 | 09:06:07 | 61.9 |
| 296 | 2019/08/08 | 09:06:10 | 73.4 |
| 297 | 2019/08/08 | 09:06:13 | 72.4 |
| 298 | 2019/08/08 | 09:06:16 | 63.0 |
| 299 | 2019/08/08 | 09:06:19 | 59.6 |
| 300 | 2019/08/08 | 09:06:22 | 59.0 |

Noise (EA Level Reviews) – PARTNER

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

| General requirements | Legislation | Regulation |
|---|---|------------------------------|
| HUD’s noise regulations protect residential properties from excessive noise exposure. HUD encourages mitigation as appropriate. | Noise Control Act of 1972 General Services Administration Federal Management Circular 75-2: “Compatible Land Uses at Federal Airfields” | Title 24 CFR 51 Subpart B |
| References | | |
| https://www.hudexchange.info/programs/environmental-review/noise-abatement-and-control | | |

1. What activities does your project involve? Check all that apply:

- New construction for residential use

NOTE: HUD assistance to new construction projects is generally prohibited if they are located in an Unacceptable zone, and HUD discourages assistance for new construction projects in Normally Unacceptable zones. See 24 CFR 51.101(a)(3) for further details.

→ Continue to Question 2.

- Rehabilitation of an existing residential property

NOTE: For major or substantial rehabilitation in Normally Unacceptable zones, HUD encourages mitigation to reduce levels to acceptable compliance standards. For major rehabilitation in Unacceptable zones, HUD strongly encourages mitigation to reduce levels to acceptable compliance standards. See 24 CFR 51 Subpart B for further details.

→ Continue to Question 2.

- A research demonstration project which does not result in new construction or reconstruction, interstate, land sales registration, or any timely emergency assistance under disaster assistance provisions or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section Continue to the Worksheet Summary below.

None of the above

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. Complete the Preliminary Screening to identify potential noise generators in the vicinity (1000' from a major road, 3000' from a railroad, or 15 miles from an airport).

Indicate the findings of the Preliminary Screening below:

There are no noise generators found within the threshold distances above.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing the location of the project relative to any noise generators.*

Noise generators were found within the threshold distances.

→ *Continue to Question 3.*

3. Complete the Noise Assessment Guidelines to quantify the noise exposure. Indicate the findings of the Noise Assessment below:

Acceptable: (65 decibels or less; the ceiling may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

Indicate noise level here: [Click here to enter text.](#)

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide noise analysis, including noise level and data used to complete the analysis.*

Normally Unacceptable: (Above 65 decibels but not exceeding 75 decibels; the floor may be shifted to 70 decibels in circumstances described in 24 CFR 51.105(a))

Indicate noise level here: According to DNL calculations, roadway noise from I-5 would be approximately 75 dBA Ldn at proposed residences along the eastern boundary of the site, and the combined roadway noise from East Santa Ana Boulevard and the Metrolink rail line would be 71 dBA Ldn at proposed residences along the southern boundary of the site.

If project is rehabilitation:

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis.*

If project is new construction:

Is the project in a largely undeveloped area¹?

¹ A largely undeveloped area means the area within 2 miles of the project site is less than 50 percent developed with urban uses and does not have water and sewer capacity to serve the project.

No

→ Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis, and any other relevant information.

Yes

→ The project requires completion of an Environmental Impact Statement (EIS) pursuant to 51.104(b)(1)(i). Work with the RE/HUD to elevate this review to an EIS-level review.

Unacceptable: (Above 75 decibels)

Indicate noise level here: [Click here to enter text.](#)

If project is rehabilitation:

HUD strongly encourages conversion of noise-exposed sites to land uses compatible with high noise levels. Consider converting this property to a non-residential use compatible with high noise levels.

→ Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis, and any other relevant information.

If project is new construction:

The project requires completion of an Environmental Impact Statement (EIS) pursuant to 51.104(b)(1)(i). You may either complete an EIS or provide a waiver signed by the appropriate authority. Indicate your choice:

Convert to an EIS

→ Provide noise analysis, including noise level and data used to complete the analysis.

Continue to Question 4.

Provide waiver

→ Work with the RE/HUD to prepare an Environmental Impact Statement waiver from the Certifying Officer or the Assistant Secretary for Community Planning and Development per 24 CFR 51.104(b)(2) and noise analysis, including noise level and data used to complete the analysis.

Continue to Question 4.

4. HUD strongly encourages mitigation be used to eliminate adverse noise impacts. Work with the RE/HUD to develop mitigation measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation. This

information will be automatically included in the Mitigation summary for the environmental review.

Mitigation as follows will be implemented:

The project design shall incorporate the following measures to reduce potential impacts to future project residents: the windows of all residential units with direct exposure to Interstate 5 and East Santa Ana Boulevard shall be dual pane, laminated or similar with a Sound Transmission Class (STC) rating of at least 35; exterior walls facing the streets shall be constructed of staggered wood studs, or equipped with a resilient channel between the studs and wallboard, or any other wall system with an STC rating of at least 35; exterior balcony doors facing the street shall be of a sound insulating design with an STC rating of at least 35; and all exterior doors and windows shall be installed with proper weather stripping.

→ Provide drawings, specifications, and other materials as needed to describe the project's noise mitigation measures. Continue to the Worksheet Summary.

No mitigation is necessary.

Explain why mitigation will not be made here:

[Click here to enter text.](#)

→ Continue to the Worksheet Summary.

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

Development of the proposed project, including short-term construction and long-term use, would increase on-site ambient noise levels. During construction, noise has the potential to disturb nearby residents. However, pursuant to the City of Santa Ana's noise ordinance (Section 18-314 of the City of Santa Ana Municipal Code), construction activity would be prohibited between the hours of 8:00 pm and 7:00 am Monday through Saturday and is prohibited on Sundays and federal holidays. Therefore, construction activities would not disturb residents during hours of recognized sleep. Long-term operation of the project would generate noise typical of residential development, which would be compatible with the surrounding neighborhood.

According to HUD, review and analysis is required for projects located within 1,000 feet of a major roadway, 3,000 feet of a railroad, or 15 miles of a military or civilian airport. The project itself is a noise-sensitive use because it involves construction of permanent supportive housing. The nearest highway/freeway is the Santa Ana Freeway (I-5), located approximately 140 feet northeast of the project site. Due to this distance, noise from the freeway may affect the project site. The nearest airport is John Wayne Airport, which is located approximately 7.6 miles south. In addition, the project site is not within the airport's noise contour map and would not be exposed to adverse airport noise. The Metrolink rail

line is located approximately 450 feet west from the center of the site and the Santa Ana Metrolink Station is located 0.4 mile southwest of the project site. Therefore, noise from the Metrolink (e.g., train horns) may affect the project site at this distance. The predominant source of noise in the vicinity is traffic on I-5 and East Santa Ana Boulevard.

According to HUD's Site Acceptability Standards, exterior noise below 65 decibels (dBA) DNL is within the "Acceptable Range," exterior noise in the 65 to 75 dBA DNL range is "Normally Unacceptable," exterior noise above 75 dBA DNL is "Unacceptable," and interior noise levels less than 45 dBA DNL are acceptable for residential uses. Project approvals in the "Normally Unacceptable Range" require a minimum of 5 dBA of additional sound attenuation if the day-night average sound level (DNL) is greater than 65 dBA but does not exceed 70 dBA.

Two 15-minute noise measurements were taken at the project site on August 8, 2019 during the morning peak traffic hour between 8:25 AM and 9:10 AM. The measurements were taken at the north end of the project site by the cul-de-sac at the end of East Washington Avenue and at the south end of the project site off of East Santa Ana Boulevard. The noise measurement data is available for reference in Appendix E. The measured ambient noise level on the north end of the project site was recorded at 63 dBA Leq, which captured traffic noise along I-5. In addition, the ambient noise level along East Santa Ana Boulevard was recorded at 70 dBA Leq, which captured traffic noise along East Santa Ana Boulevard, I-5, and activity on the Metrolink rail line.

HUD's Day/Night Noise Level (DNL) Calculator was used to assess roadway noise. Average daily traffic (ADT) data from the Orange County Transportation Authority 2018 Traffic Flow Map was utilized in this study. Based on the configuration of the project site, proposed residences at the eastern boundary of the site would be exposed to noise from I-5 while proposed residences at the southern boundary of the site would be exposed to combined noise from East Santa Ana Boulevard and the Metrolink rail line. According to DNL calculations, roadway noise from I-5 would be approximately 75 dBA Ldn at proposed residences along the eastern boundary of the site, and the combined roadway noise from East Santa Ana Boulevard and the Metrolink rail line would be 71 dBA Ldn at proposed residences along the southern boundary of the site. Based on HUD's Acceptability Standards, proposed residences would be exposed to "Normally Unacceptable" noise levels. Refer to Appendix E for the HUD DNL assessment, along with the HUD Noise Abatement and Control Worksheet.

As indicated by the HUD DNL Calculator model results, exterior noise levels at the project site would potentially be in the "Normally Unacceptable Range" of HUD's Site Acceptability Standards. Therefore, noise attenuation mitigation is needed to ensure that interior noise levels at the proposed residences do not exceed 45 dBA DNL.

Are formal compliance steps or mitigation required?

- Yes
- No

Appendix F

Environmental Justice Screen Report



Save as PDF



EJSCREEN Report (Version 2018)



Blockgroup: 060590744061

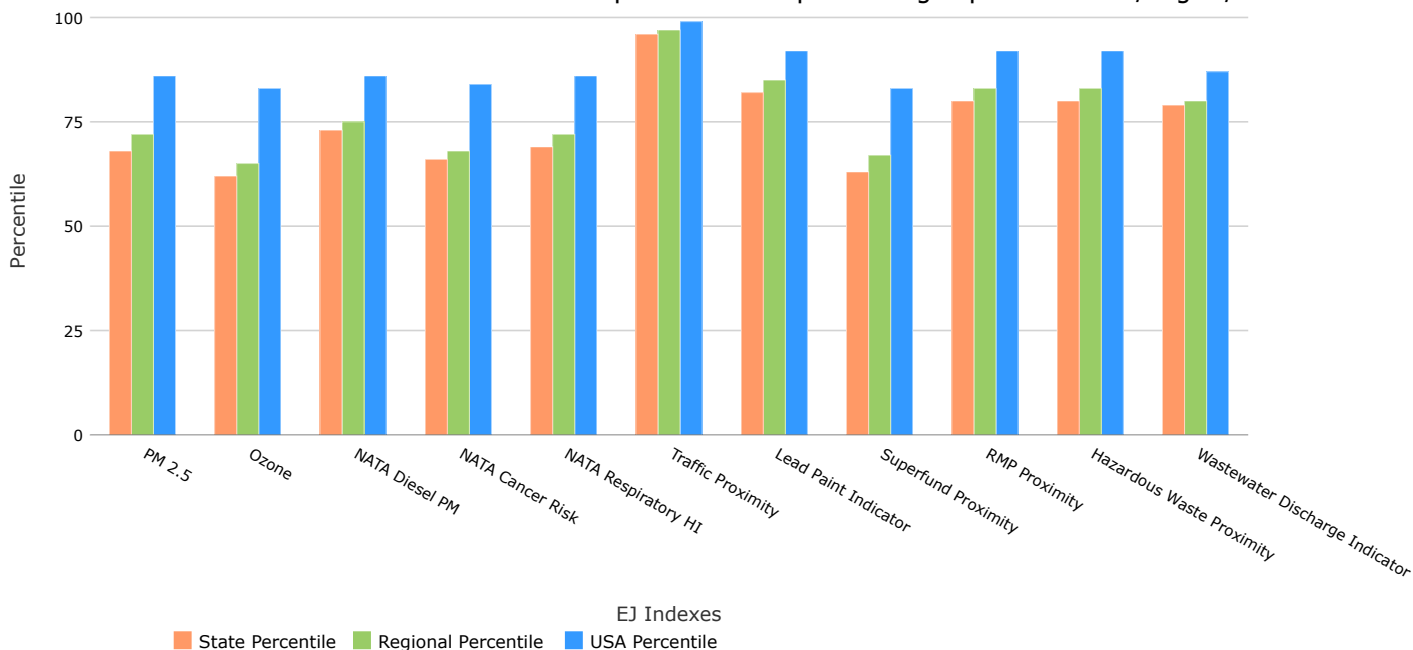
CALIFORNIA, EPA Region 9

Approximate Population: 956

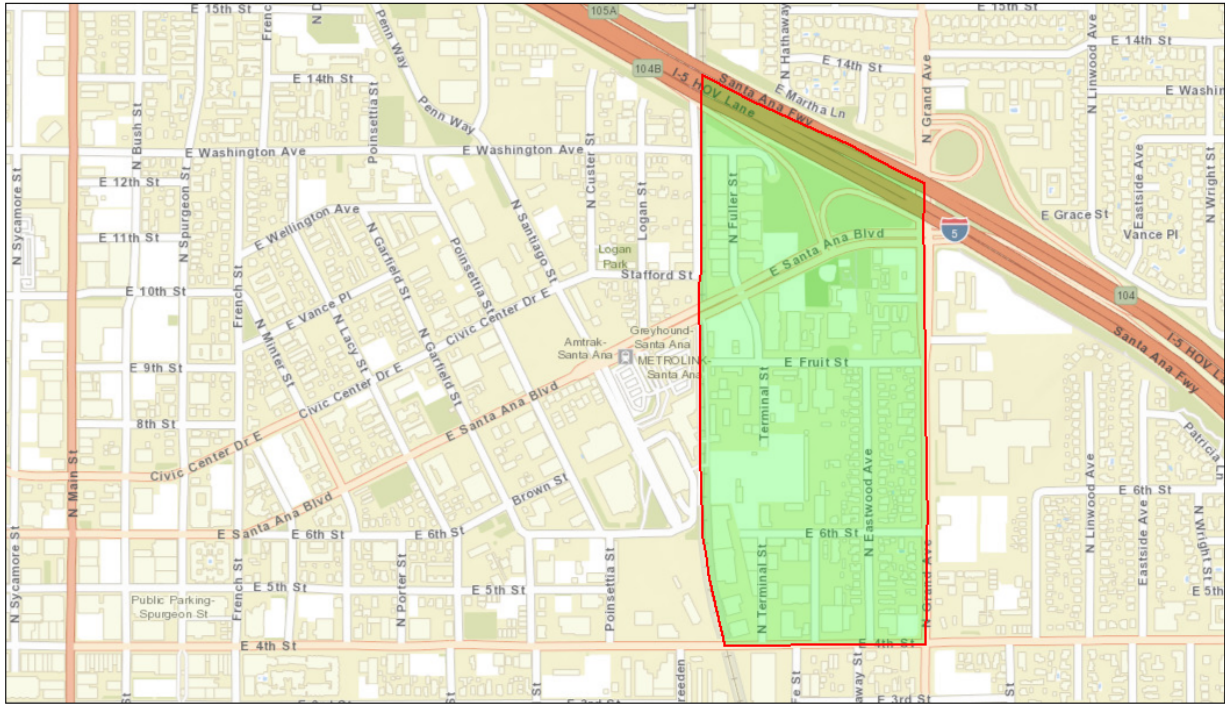
Input Area (sq. miles): 0.13

| Selected Variables | Percentile in State | Percentile in EPA Region | Percentile in USA |
|---|---------------------|--------------------------|-------------------|
| EJ Indexes | | | |
| EJ Index for Particulate Matter (PM 2.5) | 68 | 72 | 86 |
| EJ Index for Ozone | 62 | 65 | 83 |
| EJ Index for NATA* Diesel PM | 73 | 75 | 86 |
| EJ Index for NATA* Air Toxics Cancer Risk | 66 | 68 | 84 |
| EJ Index for NATA* Respiratory Hazard Index | 69 | 72 | 86 |
| EJ Index for Traffic Proximity and Volume | 96 | 97 | 99 |
| EJ Index for Lead Paint Indicator | 82 | 85 | 92 |
| EJ Index for Superfund Proximity | 63 | 67 | 83 |
| EJ Index for RMP Proximity | 80 | 83 | 92 |
| EJ Index for Hazardous Waste Proximity | 80 | 83 | 92 |
| EJ Index for Wastewater Discharge Indicator | 79 | 80 | 87 |

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/US

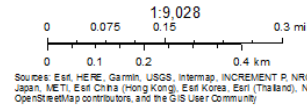


This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.



August 12, 2019

Selected Blockgroup



Sites reporting to EPA

| | |
|--|---|
| Superfund NPL | 0 |
| Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF) | 0 |

| Selected Variables | Value | State Average | Percentile in State | EPA Region Average | Percentile in EPA Region | USA Average | Percentile in USA |
|---|--------|---------------|---------------------|--------------------|--------------------------|-------------|-------------------|
| Environmental Indicators | | | | | | | |
| Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$) | 13.2 | 10.7 | 78 | 10.1 | 82 | 9.53 | 96 |
| Ozone (ppb) | 45.7 | 47.4 | 47 | 48.3 | 38 | 42.5 | 78 |
| NATA* Diesel PM ($\mu\text{g}/\text{m}^3$) | 1.47 | 0.972 | 81 | 0.978 | 80-90th | 0.938 | 80-90th |
| NATA* Air Toxics Cancer Risk (risk per MM) | 50 | 44 | 76 | 43 | 70-80th | 40 | 80-90th |
| NATA* Respiratory Hazard Index | 2.7 | 2.1 | 78 | 2 | 80-90th | 1.8 | 80-90th |
| Traffic Proximity and Volume (daily traffic count/distance to road) | 9000 | 1200 | 98 | 1100 | 98 | 600 | 99 |
| Lead Paint Indicator (% pre-1960s housing) | 0.65 | 0.29 | 84 | 0.24 | 87 | 0.29 | 85 |
| Superfund Proximity (site count/km distance) | 0.074 | 0.17 | 51 | 0.14 | 58 | 0.12 | 63 |
| RMP Proximity (facility count/km distance) | 2 | 1.1 | 84 | 0.97 | 86 | 0.72 | 91 |
| Hazardous Waste Proximity (facility count/km distance) | 5.5 | 3.3 | 79 | 2.8 | 83 | 4.3 | 91 |
| Wastewater Discharge Indicator (toxicity-weighted concentration/m distance) | 0.0011 | 16 | 70 | 12 | 71 | 30 | 68 |
| Demographic Indicators | | | | | | | |
| Demographic Index | 77% | 48% | 88 | 47% | 89 | 36% | 93 |
| Minority Population | 90% | 62% | 79 | 59% | 82 | 38% | 90 |
| Low Income Population | 65% | 35% | 87 | 35% | 87 | 34% | 90 |
| Linguistically Isolated Population | 32% | 9% | 94 | 8% | 95 | 4% | 97 |
| Population with Less Than High School Education | 63% | 18% | 98 | 17% | 98 | 13% | 99 |
| Population under Age 5 | 4% | 6% | 26 | 6% | 26 | 6% | 29 |
| Population over Age 64 | 6% | 13% | 16 | 13% | 16 | 14% | 12 |

*The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not

provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.
