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Supplement to Final EIS/EIR
for the Disposal and Reuse of the Marine Corps Air Station
Tustin, California

Extension of Tustin Ranch Road Between Walnut Avenue and the Future Alignment of Valencia North Loop Road
(State Clearinghouse Number 1994071005)

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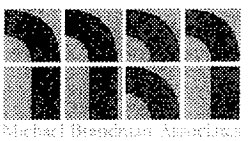

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF EXHIBITS

LIST OF APPENDICES

[1] Appendices for these technical reports are not included in this document; however, they are available for review at the City of Tustin Community Development Department.

SECTION 1:
EXECUTIVE SUMMARY

1.1 - PURPOSE AND SCOPE

In conformance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000, et seq.), this supplemental environmental impact report (SEIR) has been prepared to provide additional environmental information to the Final Environmental Impact Statement/Final Environmental Impact Report (FEIR) for the Disposal and Reuse of Marine Corps Air Station (MCAS) Tustin. The FEIR was certified in accordance with CEQA on January 16, 2001. The use of the FEIR is appropriate as a foundational environmental document for the Extension of Tustin Ranch Road because certain environmental analyses in the FEIR include the area of the Tustin Ranch Road extension.

The decision to prepare a Supplemental EIR is consistent with Section 15163 of the State CEQA Guidelines (Title 14, California Code of Regulations). This Supplemental EIR has been prepared because only minor additions or changes would be necessary to make the previous EIR (i.e., FEIR) adequately apply to the project in the changed situation. The focus of this SEIR is on the environmental effects associated with the proposed project that were not studied in the FEIR. The supplemental environmental information focuses on potential impacts associated with traffic, air quality, and noise. All other issues were evaluated in the initial study and determined to have no impact or less than significant impact with project implementation.

1.2 - PROPOSED PROJECT

The project includes the extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road at former Marine Corps Air Station (MCAS) Tustin.

The proposed roadway is approximately one mile in length and includes an overpass over the Orange County Flood Control District (OCFCD) right-of-way, the Orange County Transportation Authority (OCTA)/Southern California Regional Rail Authority (SCRRA) railroad right-of-way, and Edinger Avenue, and a connector loop road to Edinger Avenue. The proposed roadway will join the existing southern terminus of Tustin Ranch Road at Walnut Avenue. Ultimate roadway improvements at the Tustin Ranch Road/Walnut Avenue intersection are part of the project and may require the acquisition of a nominal amount of additional right-of-way.

1.3 - AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

There are no areas of controversy or environmental issues to be resolved with the implementation of the proposed extension of Tustin Ranch Road.

1.4 - SUMMARY OF ALTERNATIVES

A reasonable range of alternatives was evaluated in the FEIR for the reuse of the MCAS Tustin. These reuse alternatives included:

- **LRA Reuse Alternative** - This alternative was the selected alternative and proposed a variety of housing, employment, recreation, educational, and community support designed to complement the existing urban character of the surrounding area and strengthen the economic base of Tustin and nearby cities.
- **Arterial Grid Pattern/No Core/High Residential Alternative** - This alternative proposed a variety of urban uses with a focus on enhancing housing and cultural opportunities for the residents of Tustin, Irvine and nearby communities.
- **Arterial Loop Pattern/Reserve Area/Low Residential Alternative** - This alternative proposed a variety of urban uses with a focus on enhancing employment and cultural opportunities for the residents of Tustin, Irvine and nearby communities.

None of the above reuse alternatives discussed alternatives to the extension of Tustin Ranch Road. Since no feasible alternatives to the proposed alignment have been identified, this Supplemental EIR will only evaluate as an alternative the buildout of the Reuse Plan without the extension of Tustin Ranch Road.

- No Project/No Extension of Tustin Ranch Road Alternative

Based on the evaluation of the No Project Alternative in Section 8, the proposed project would be environmentally superior.

Following is a description of the No Project Alternative.

1.4.1 - No Project/No Extension of Tustin Ranch Road Alternative

The No Project/No Extension of Tustin Ranch Road Alternative assumes that Tustin Ranch Road would end at its current terminus at Walnut Avenue and would not be extended southerly to Edinger Avenue and into the former MCAS Tustin. The current right-of-way that has been established for over 30 years would remain in a vacant and undeveloped condition.

1.5 - MITIGATION MONITORING AND REPORTING PROGRAM

CEQA requires public agencies to set up monitoring and reporting programs for the purpose of ensuring compliance with those mitigation measures adopted as conditions of approval in order to mitigate or avoid significant environmental effects as identified in the EIR. A mitigation monitoring program, incorporating the mitigation measures set forth in this document as well as the FEIR, will be adopted at the time of certification of the FEIR as supplemented by the SEIR for this project.

1.6 - SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table 1-1 summarizes the potential environmental effects of the proposed project, recommended mitigation measures, and the level of significance after mitigation. After the implementation of the recommended mitigation measures, all environmental effects associated with the Tustin Ranch Road extension project would be reduced to less than significant. However, the FEIR has identified significant unavoidable environmental effects associated with the Reuse Plan, and this project will serve the reuse of MCAS, Tustin, among other uses. When the City approved the Specific Plan for MCAS, Tustin (which was based on the Reuse Plan), the City adopted statements of overriding considerations in accordance with CEQA Section 21081 for the significant impacts associated with aesthetics, air quality, agricultural resources, cultural resources, and traffic/circulation. If this project is approved, new statements of overriding considerations for this project will be required.

Impacts of the project are classified as (1) NS, not significant (adverse effects that are not substantial according to CEQA, but may include mitigation); and (2) S, significant (substantial adverse changes in the environment). Mitigation measures are listed, when feasible for each impact. Section 2.4 identifies other effects, which are not considered significantly different from those addressed in the FEIR, but these are not the focus of Table 1-1. Table 1-1 addresses only traffic/circulation, air quality, noise and cultural resources issues because these are the only issues that include mitigation measures for the proposed extension of Tustin Ranch Road.

Table 1-1: Executive Summary

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
TRAFFIC AND CIRCULATION (SECTION 5.1) **Year 2005 With Tustin Ranch Road**		
The proposed project will result in the redistribution of traffic for the year 2005 and result in one new significant traffic impact at the intersection of Redhill Avenue/Warner Avenue. This intersection will operate at a LOS E during the PM peak hour. (S)	**TC-1.** A westbound shared through/right-turn lane shall be added to the Redhill Avenue/Warner Avenue intersection.	Not Significant.
Development of the Reuse Plan will result in the impact of seven additional intersections in the year 2005. (S)	The FEIR identified mitigation measures to reduce impacts associated with the Reuse Plan for the year 2005. These measures are included in Section 4.12 of the FEIR which is located in Appendix E of this document.	Not Significant.
Year 2020 With Tustin Ranch Road		
The implementation of the Reuse Plan and Tustin Ranch Road will result in the impact of 21 intersections. These intersections were addressed in the FEIR for the year 2020 and are identified in Table 4.12-6 in Appendix E and in Table 4 in Appendix B. (S)	The mitigation measures for the year 2020 are included in Section 4.12 of the FEIR which is located in Appendix E of this document.	Significant traffic impacts will remain at the intersections of Tustin Ranch Road/Walnut Avenue and Jamboree Road/Barranca Parkway. A Statement of Overriding Considerations was adopted by the City with the certification of the FEIR.
AIR QUALITY (SECTION 5.2) **Short-Term Construction-Related Emissions**		
Short-term emissions associated with Tustin Ranch Road will include fugitive dust and other particulate matter, as well as exhaust emissions, generated by earthmoving activities and operation of grading equipment during site preparation and grading. Daily emissions would not exceed the daily construction threshold values recommended by the SCAQMD. (NS)	No significant impacts have been identified for the construction of Tustin Ranch Road, and no mitigation is required. However, the following is an implementation measure that is required to comply with existing rules and regulations established by the SCAQMD to reduce air emissions and preserve air quality: **AQ-1.** During construction of the proposed roadway extension, the following measures will be implemented to comply with existing SCAQMD	Not Significant.

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
	Rules and Regulations: • Rule 1113 that regulates the VOC content of any paints and surface coatings that may be used in construction, • Rule 1108 that that regulates the VOC content of any asphalt used in construction, • SCAQMD Rules 402 and 403 that regulate the control of fugitive dust and visible emissions. • All stationary equipment (e.g., generators and compressors) rated in excess of 50 horsepower is subject to SCAQMD permitting.	
As identified in the FEIR, the development of the Reuse Plan will result in significant short-term construction impacts. (S)	Mitigation measures for short-term construction impacts have been identified in Section 4.13 of the FEIR and are located in Appendix E.	Significant and Unavoidable. A Statement of Overriding Considerations was adopted by the City with the certification of the FEIR.
Long-Term Emissions The construction and operation of a new road does not create new vehicle trips but will cause a redistribution of existing trips. As such, no new long-term emissions are associated with the project. (NS)	No measures are required.	Not Significant.
As identified in the FEIR, the development of the Reuse Plan will result in significant long-term operational emissions. (S)	Mitigation measures for long-term operational impacts have been identified in Section 4.13 of the FEIR and are located in Appendix E.	Significant and Unavoidable. A Statement of Overriding Considerations was adopted by the City with the certification of the FEIR.

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
Carbon Monoxide (CO) Hot Spot Analysis The CO analysis was performed for year 2005 traffic at those intersections that are projected to exceed LOS C. All predicted values are below the State 1-hour standard of 20 ppm. However, the intersection of Jamboree and Barranca shows "with project" 8-hour CO concentrations as high as 11.4 ppm. This value is above the State 8-hour standard of 9.0. However, in accordance with the *Handbook*, in cases where the predicted CO concentration exceeds the 8-hour standard, the project only represents a significant impact if it adds 0.45 ppm to the "without project" value. In this case, the project improves the level of service by diverting vehicles away from this intersection and reduces the projected CO levels. As such, the implementation of Tustin Ranch Road does not present a significant CO impact. (NS)	No measures are required.	Not Significant.
Consistency Analysis The project is included in the listing of planned roadway improvements. No significant air quality impacts are projected for either the construction or operation of the road. Modeling indicates that the project would reduce CO concentrations at one intersection that is projected to be in exceedance of the California 8-hour CO standard and in this respect represents a beneficial impact. As such, the implementation of Tustin Ranch Road is considered to be consistent with the AQMP and does not represent a significant impact. (NS)	No measures are required.	Not Significant.
NOISE (SECTION 5.3) **Short-Term Construction-Related Impacts** The transport of workers and equipment to the construction site would incrementally increase noise levels along site access roadways. Even	No measures are required.	Not Significant.

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
though there would be a relatively high single event noise exposure potential with passing trucks (a maximum noise level of 86 dBA at 50 feet), the increase in noise would be less than 1 dBA when averaged over a 24-hour period, and would therefore have a less than significant impact on noise receptors along the truck routes. (NS)		
Residential units lie to the immediate south and west of the project site, the most proximate of which are on the order of 20 to 50 feet from the roadway easement. Based on an Leq value of 89 dBA as measured at a distance of 50 feet, resultant noise levels could be on the order of 89 to 97 dBA Leq. During the vast majority of the construction period, however, noise levels would be 30 to 40 dBA lower, ranging from 50 to 60 dBA, due to lower power settings and sound attenuation effect provided by longer distances and partial blocking. This range of noise levels is considered acceptable during daytime hours. Ambient noise levels in the project vicinity would increase during the construction phase, but would drop considerably after construction of the proposed roadway is completed. Mandatory adherence to the hours of operation specified in the Municipal Code will ensure that any noise impacts remain less than significant. (NS)	No measures are required.	Not Significant.
The project includes pile driving activities during the construction phase. The project includes 2 abutments with 30 piles each and 3 bents with 36 piles each. The total number of piles will be 168. The distance of the nearest pile in the abutment on the north side of the proposed bridge to the nearest existing residence is 125 feet which would experience a groundborne vibration of 1.7	No measures are required.	Not Significant.

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
millimeters per second. This is less than the Caltrans threshold of 2.0 millimeters per second. (NS)		
Long-Term Operational Impacts		
Adjacent Roadways		
The project would contribute less than 3 dBA CNEL to the year 2005 "without project" levels at the various modeled roadway segments. (NS)	No measures are required.	Not Significant.
The FEIR identified a potential noise impact to residences along Warner Avenue between Harvard Avenue and Culver Drive. The residences adjacent to this street segment would experience noise levels greater than the 65 dB CNEL standard. (S)	A mitigation measure to reduce the noise effect along Warner Avenue between Harvard Avenue and Culver Drive is included in Section 4.14 of the FEIR and is located in Appendix E.	Not Significant.
Adjacent Receptors		
Projected traffic volumes along the Tustin Ranch Road Extension were modeled for 20 residential receptors that lie immediately adjacent to the roadway easement. The analysis included an evaluation of year 2005 traffic noise levels and year 2020 traffic noise levels. In the year 2005, traffic noise levels with the existing residential walls would range from approximately 63 to 68 dBA CNEL. In the year 2020, traffic noise levels with the existing residential walls would range from approximately 65 to 70 dBA CNEL and interior noise levels of approximately 50 to 55 dBA CNEL. (S)	**NR-1.** Prior to opening the proposed segment of Tustin Ranch Road to traffic, the City will install a soundwall that achieves the exterior (i.e., 65 dBA) residential noise standards identified in the City of Tustin Noise Element. The following are the required heights of the soundwall in relation to the elevation of the proposed roadway adjacent to the residential receptors (see Exhibit 5.3-2 for receptor locations). • Receptor 1 — Existing 6-foot wall • Receptors 2 through 4 — Proposed 12-foot wall • Receptors 5 and 6 — Proposed 10-foot wall • Receptors 7 and 8 — Proposed 8-foot wall • Receptors 9 through 15 feet south of Receptor 21 — Proposed 6-foot wall **NR-2.** Receptors 1 through 13 require forced air ventilation (see Exhibit 5.3-2 for receptor locations). If Receptors 1 through 13 do not	Not Significant.

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
	currently have forced air ventilation, the City shall provide forced air ventilation prior to the opening of the proposed segment of Tustin Ranch Road to traffic. **NR-3.** Receptors 14 through 21 that have a second story will require forced air ventilation in the second story. If these residential receptors do not currently have forced air ventilation, the City shall provide forced air ventilation in the second story prior to the opening of the proposed segment of Tustin Ranch Road to traffic. **NR-4.** Prior to the opening of the proposed segment of Tustin Ranch Road to traffic, all second-story windows and/or sliding glass doors in habitable rooms of the residences along the proposed alignment that view the proposed alignment shall be fitted with acoustic-rated window/door assemblies. These assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise level of no more than 45 dBA CNEL. Non-sensitive uses (e.g., bathrooms) do not require such assemblies. **NR-5.** All second-story exterior doors in habitable rooms of the residences along the proposed alignment that view the proposed alignment shall be fitted with solid-core assemblies that are well sealed with weather-stripping. **NR-6.** Prior to opening of the proposed segment of Tustin Ranch Road to traffic, the City will install a 10-foot high wall along the eastern easement of Tustin Ranch Road from Walnut Avenue to the southern property line of the First Baptist Church.	

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
Noise modeling indicated that the year 2005 and 2020 traffic noise levels at the First Baptist Church would result in an exterior noise level of 69.0 and 70.7 dBA Leq(12), respectively and an interior noise level of 49.0 and 50.7 dBA Leq(12), respectively. (S)	**NR-7.** The second-story windows that view the proposed alignment shall be fitted with acoustic-rated window assemblies. The assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise of no more than 45 dBA CNEL.	Not Significant.
Noise modeling indicated that the year 2005 and 2020 traffic noise levels at the offices along the Tustin Ranch Road Extension would result in an exterior noise level of 66.7 and 68.5 dBA Leq(12), respectively and an interior noise level of 46.7 and 48.5 dBA Leq(12), respectively. (NS)	No measures are required	Not Significant.
CULTURAL RESOURCES (INITIAL STUDY/ NOP)		
Due to the presence of shell scatters on the nearby Base, it is possible that buried archaeological resources exist north of Edinger Avenue and that grading activities could potentially impact these resources. (S)	**AR-1.** Prior to issuance of a grading permit, the City of Tustin shall retain, as appropriate, a county-certified archaeologist. If buried resources are found during grading within the portion of the site located north of Edinger Avenue, a qualified archaeologist would need to assess the site significance and perform the appropriate mitigation. The Native American viewpoint shall be considered during this process. This could include testing or data recovery. Native American consultation shall also be initiated during this process.	Not Significant.
The FEIR states that due to the presence of shell scatters on the Base, it is possible that buried archaeological resources exist in the Reuse Plan area and that these resources could be potentially impacted by grading activities. Therefore, the alignment south of Edinger Avenue could contain such resources. (S)	A mitigation measure to reduce impacts to potential archaeological resources is included in Section 4.6 of the FEIR and is located in Appendix E.	Not Significant.

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
The entire Base is underlain by geologic formations that have a high to moderate potential for significant resources. Based on the close proximity of the portion of the project site that is located north of Edinger Avenue, it is anticipated that this area of the site is also underlain by similar geologic formations as the entire Base. Therefore, grading activities associated with the project in the portion of the project site north of Edinger Avenue could result in significant impacts to buried paleontological resources. (S)	**PR-1.** The City of Tustin shall comply with the requirements established in the Paleontological Resources Management Plan (PRMP) prepared for the Base, which details the methods to be used for surveillance of construction grading, assessing finds, and actions to be taken in the event that unique paleontological resources are discovered during construction. **PR-2.** Prior to the issuance of a grading permit, the City shall retain a county-certified paleontologist to conduct salvage excavation of unique paleontological resources if they are found.	Not Significant.
The FEIR states that fossil-bearing geologic formations underlie virtually the entire Base. These formations are from the Pleistocene (2 million years ago to 10,000 years ago) and Recent (10,000 years ago to present) periods and are identified as having moderate to high sensitivity for paleontologic resources. Grading on the Base could potentially impact buried paleontologic resources. (S)	Mitigation measures to reduce impacts to potential archaeological resources are included in Section 4.6 of the FEIR and are located in Appendix E.	Not Significant.

SECTION 2: INTRODUCTION

2.1 - PURPOSE OF THE SUPPLEMENTAL EIR

In conformance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000, et seq.), this supplemental environmental impact report (SEIR) has been prepared to provide additional environmental information to the Final Environmental Impact Statement/Final Environmental Impact Report (FEIR) for the Disposal and Reuse of Marine Corps Air Station (MCAS) Tustin. The FEIR was certified in accordance with CEQA on January 16, 2001. The use of the FEIR is appropriate as a foundational environmental document for the Extension of Tustin Ranch Road because certain analyses in the Final EIS/EIR (FEIR) for the Disposal and Reuse of the Marine Corps Air Station (MCAS) Tustin, California (Reuse Plan) such as traffic/circulation (page 3-119) and noise (page 4-233) include the area of the Tustin Ranch Road extension. In addition, the discussion of traffic and circulation impacts addressed in the FEIR states the need for improvements to the Tustin Ranch Road/Walnut Avenue intersection. These improvements are listed in a mitigation measure on page 4-158 of the FEIR.

The portion of Tustin Ranch Road between Edinger Avenue and Valencia North Loop Road was considered a part of the infrastructure needed to implement the Reuse Plan. The FEIR indicated that this portion of Tustin Ranch Road was an MCAS, Tustin Reuse project responsibility when the cumulative average daily trips reached a threshold of 136,700 trips. Tustin Ranch Road is also planned to subsequently extend through the MCAS Tustin project area; the FEIR has considered and addressed all impacts associated with the extension of the roadway through the base.

The decision to prepare a Supplemental EIR is consistent with Section 15163 of the State CEQA Guidelines (Title 14, California Code of Regulations) as described below and the City shall follow CEQA in processing this supplement:

a) The Lead or Responsible Agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:

    1. Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and

    2. Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

b) The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.

c) A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087 of the State CEQA Guidelines.

d) A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.

e) When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR.

Section 15087 of the State CEQA Guidelines, referenced in item c above, explains that the public review process for the SEIR is the same as a draft EIR. Therefore, the public review period will be 45-days. Although not required under Section 15163 of the State CEQA Guidelines, a Notice of Preparation for the SEIR ("IS/NOP") was prepared and circulated for a 30-day public review between September 8 and October 7, 2003.

The focus of this SEIR is on the environmental effects associated with the proposed project that were not studied in the FEIR. The supplemental environmental information focuses on potential impacts associated with traffic, air quality, and noise.

2.2 - PROJECT BACKGROUND AND HISTORY

The segment of the proposed Tustin Ranch Road Extension from Walnut Avenue to the Orange County Transportation Agency/Southern California Regional Rail Authority railroad right-of-way has been part of the City's planning since at least pre-1973. The dedication of the Tustin Ranch roadway (originally named Jamboree Road) from Walnut Avenue to the railroad right-of-way was a condition of the June 12, 1972 Planning Commission approval of Tentative Tract 7813 (also known as "Peppertree"). Approval of the adjacent Irvine Industrial Complex resulted in subsequent agreements executed between the City of Tustin and The Irvine Company on June 25, 1974, and March 1984 again stipulating the need to improve Tustin Ranch Road. The EIR for The Irvine Industrial Complex (February 1973) and EIR for the re-subdivision of Peppertree (August 1975) also generally described the Tustin Ranch Road right-of-way in the proposed alignment. In addition, on May 9, 1997, the Irvine Company paid the City $195,000 toward the cost of improving the Tustin Ranch Road/Walnut Avenue intersection as a condition of approval of the Planning Area 10 development in Irvine.

In 1996, the City of Tustin approved the Reuse Plan for the Tustin Marine Corps Air Station which contemplated this project. An amendment to the Reuse Plan was approved in 1998. The right-of-way at the former MCAS Tustin (i.e., overpass and interchange) was acquired on May 13, 2002. When the General Plan was amended in 2001 to address the Reuse of MCAS, Tustin, the proposed extension of Tustin Ranch Road from Walnut Avenue to Valencia North Loop Road provided a

necessary link for the ultimate connection of Tustin Ranch Road through MCAS Tustin to Barranca Parkway.

The impacts of the Tustin Ranch Road Extension were evaluated for the cumulative Year 2020 in the FEIR.

2.3 - COMPONENTS OF THE SUPPLEMENTAL EIR ANALYSIS

The analysis of each environmental category within Section 5 of this SEIR, (Environmental Impact Analysis) is organized into the following subsections:

- "Existing Conditions" describes the physical conditions that exist at this time and which may influence or affect the issue under evaluation.
- "Thresholds of Significance" defines the parameters that are used to determine the significance of an environmental effect.
- "Project Impacts" describes the potential environmental changes to the existing physical conditions that may occur if the proposed project is implemented.
- "Cumulative Impacts" describes the potential environmental changes to the existing physical conditions that may occur with the proposed project, together with anticipated growth or other projects in the vicinity of the project site.
- "Mitigation Measures" are those specific measures that may be required of the project by the decision-makers in order to (1) avoid an impact, (2) minimize an impact, (3) rectify an impact by restoration, (4) reduce or eliminate an impact over time by preservation and maintenance operations, or (5) compensate for the impact by replacing or providing substitute resources or environment.
- "Level of Significance After Mitigation" means whether the project's impacts and the project's contribution to cumulative impacts can be reduced to levels that are considered less than significant.

2.4 - EFFECTS FOUND TO BE NOT SIGNIFICANTLY DIFFERENT THAN THOSE ADDRESSED IN THE FEIR

Based on the findings of the IS/NOP, a determination was made that the proposed extension of Tustin Ranch Road would not result in any impacts that would be significantly different from the impacts associated with the following environmental issues evaluated in the FEIR.

- Aesthetics
- Agricultural Resources
- Hydrology and Water Quality
- Land Use and Planning

- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Mineral Resources
- Population and Housing
- Public Services/Utilities
- Recreation

The above environmental issues that were determined not to be significantly different than those analyzed in the FEIR were addressed in the NOP (see Appendix A). The evaluation in the IS/NOP included a review of the current conditions on the project site (i.e., north and south of Edinger Avenue). Since the FEIR's certification in 2001, there have not been any substantial changes in the existing conditions or any new significant environmental impacts associated with the above-described environmental issues.

The following discussion on aesthetics is provided because the additional data regarding the proposed wall heights was available after the preparation of the IS/NOP. The discussion on agriculture is provided because the City of Tustin City Council will need to readopt a Statement of Overriding Considerations for the loss of farmlands for the proposed extension of Tustin Ranch Road. Finally, the information on cultural resources is provided because the cultural resources mitigation measures that were in the FEIR needed to be modified to apply to the proposed extension of Tustin Ranch Road. The modified mitigation measures are provided in Table 1-1.

Aesthetics. The project site is surrounded by residential, institutional, commercial, and industrial uses. The terrain surrounding the project site is relatively flat. The majority of the project site is relatively flat with the area immediately north of the Orange County Flood Control District (OCFCD) flood channel containing a man-made earthen ramp that was constructed in the early 1970's at the same time that Tentative Tract 7813 (also known as "Peppertree") was graded. The earthen ramp was constructed for the future construction of a roadway bridge over the OCFCD channel, Orange County Transportation Authority/Southern California Regional Rail Authority (OCTA/SCRAA) rail right-of-way, and Edinger Avenue.

No scenic resources are located on the project site, and Tustin Ranch Road is not identified as a scenic highway in the Tustin General Plan.

The construction of the extension of Tustin Ranch Road will include soundwalls of varying heights adjacent to the existing residential walls located along the western right-of-way. A series of soundwalls is recommended as mitigation to reduce noise levels to less than significant. Portions of these soundwalls are substantial in height; however, a combination of a masonry wall with ¼ -inch safety glass on top of the masonry wall is recommended to achieve the noise attenuation as well as reduce aesthetic and visual impacts that are typically associated with 100 percent masonry walls. The

use of the safety glass would result in less than significant aesthetic and visual impacts. Starting at the northernmost portion of the site (i.e., southwest corner of Tustin Ranch Road and Walnut Avenue), the project will include a 19-foot high wall adjacent to the first through seventh existing residential lot along Tustin Ranch Road. South of these seven lots, the wall would transition to a height of 16, 12, 10, 8, and 6 feet as it extends further south toward Edinger Avenue (see Table 5.3-12 and Exhibit 5.3-3 for detailed wall locations). The project also includes landscaping along the slope of the earthen ramp to improve the views of the portions of the walls that will be masonry from the residences.

The proposed soundwalls, landscaping, bridge structure, and loop ramp to Edinger Avenue will impede views to the east and southeast from the existing residences within the Peppertree Residential Community. However, these views are not considered sensitive because they do not encompass scenic resources.

Agriculture. The portion of the project site that is south of Edinger Avenue includes State-designated prime farmland. The remainder of the project site does not include State-designated farmland. The loss of prime farmland from implementation of the proposed project will result in a significant impact. This finding is consistent with the finding on farmland impacts described in Section 4.7 of the FEIR, which contemplated the proposed roadway extension (see Figure 1.3-1 of the FEIR). The FEIR discussed various potential mitigation measures such as purchase of off-site agricultural farmland, purchase and improvement of non-agricultural farmland, and protection of existing farmland. Each of these potential mitigation measures was found to be infeasible. Therefore, the City of Tustin City Council adopted a Statement of Overriding Considerations for the loss of farmlands and conversion of Farmland to non-agricultural land, when it approved the FEIR. The loss and conversion of farmlands for the roadway will result in significant and unavoidable impacts discussed in the FEIR. No further evaluation of agricultural resources is required in the Supplemental EIR.

Cultural Resources. The FEIR states that due to the presence of shell scatter at MCAS Tustin, it is possible that buried archaeological resources exist in the Reuse Plan area (portion of the project site south of Edinger Avenue) and that these resources could be potentially impacted by grading activities. Furthermore, since there is a possibility of a shell scatter south of Edinger Avenue, there is also a possibility of shell scatter north of Edinger Avenue. However, since the area north of Edinger Avenue has been graded in the past, the potential for a significant impact is reduced. The mitigation measure provided in the NOP for archaeological resources is adequate to reduce potential impacts to less than significant.

The FEIR also states that fossil-bearing geologic formations underlie virtually the entire area of MCAS, Tustin. These formations are identified as having a high to moderate potential for significant resources. Based on the proximity of the portion of the site north of Edinger Avenue, it is anticipated that the area of the site north of Edinger Avenue is also underlain by similar geologic formations as the entire Base. Grading activities associated with the project could result in significant impacts to buried paleontological resources. The potential for significant paleontological resources north of Edinger Avenue is reduced because the area had been graded in the past. The mitigation measures provided in the NOP for paleontological resources are adequate to reduce potential impacts to less than significant.

2.5 - FOCUS OF SEIR

Based on the findings of the IS/NOP, a determination was made that the SEIR would focus on three environmental topics because these issues were considered potentially significantly different than the same issues that were addressed in the FEIR. The scope of the SEIR includes issues identified by the City of Tustin during the preparation of the IS/NOP for the proposed project, as well as environmental issues raised by agencies and the general public in response to the IS/NOP. The following issues are addressed in this Supplemental EIR:

- Transportation/Traffic
- Air Quality
- Noise

2.6 - PROJECT SPONSORS AND CONTACT PERSONS

The City of Tustin is the lead agency in the preparation of the SEIR. Michael Brandman Associates is the environmental consultant for the project. Preparers of this SEIR are provided in Section 10. Key contact persons are as follows:

Lead Agency/Project Sponsor..... City of Tustin
300 Centennial Way
Tustin, CA 92780
Scott Reekstin
714.573.3016

Environmental Consultant..... Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92780
714.508.4100
Michael E. Houlihan, AICP, Project Director

2.7 - REVIEW OF THE SEIR

This draft SEIR is distributed to responsible and trustee agencies, other affected agencies, and interested parties, as well as all parties requesting a copy of the SEIR in accordance with Public Resources Code 21092(b)(3). The Notice of Completion of the draft SEIR is also distributed as required by CEQA. During the 45-day public review period, the draft SEIR, including technical appendices, and FEIR are available for review at the City of Tustin, Community Development Department, 300 Centennial Way, Tustin, CA.

Written comments on the draft SEIR should be addressed to:

Scott Reekstin, Community
Development Department
300 Centennial Way
Tustin, CA 92780
714.573.3016

Upon completion of the 45-day public review period, written responses to all comments received will be prepared and available for review at least 10 days prior to the public meeting before the City of Tustin City Council, at which time the certification of the FEIR as Supplemented by the SEIR will be considered as adequate for the project. The comments and their responses will be included as part of the Final SEIR for consideration by decision makers.

2.8 - INCORPORATION BY REFERENCE

Environmental and planning documents prepared for development projects within the vicinity of the project site were reviewed in the preparation of this EIR. The following document is hereby incorporated by reference and can be reviewed at the City of Tustin Planning Department:

- *Final Environmental Impact Statement (FEIS)/Final Environmental Impact Report (FEIR) for the Disposal and Reuse of Marine Corps Air Station (MCAS),* Department of the Navy/City of Tustin, certified on January 16, 2001.

SECTION 3:
PROJECT DESCRIPTION

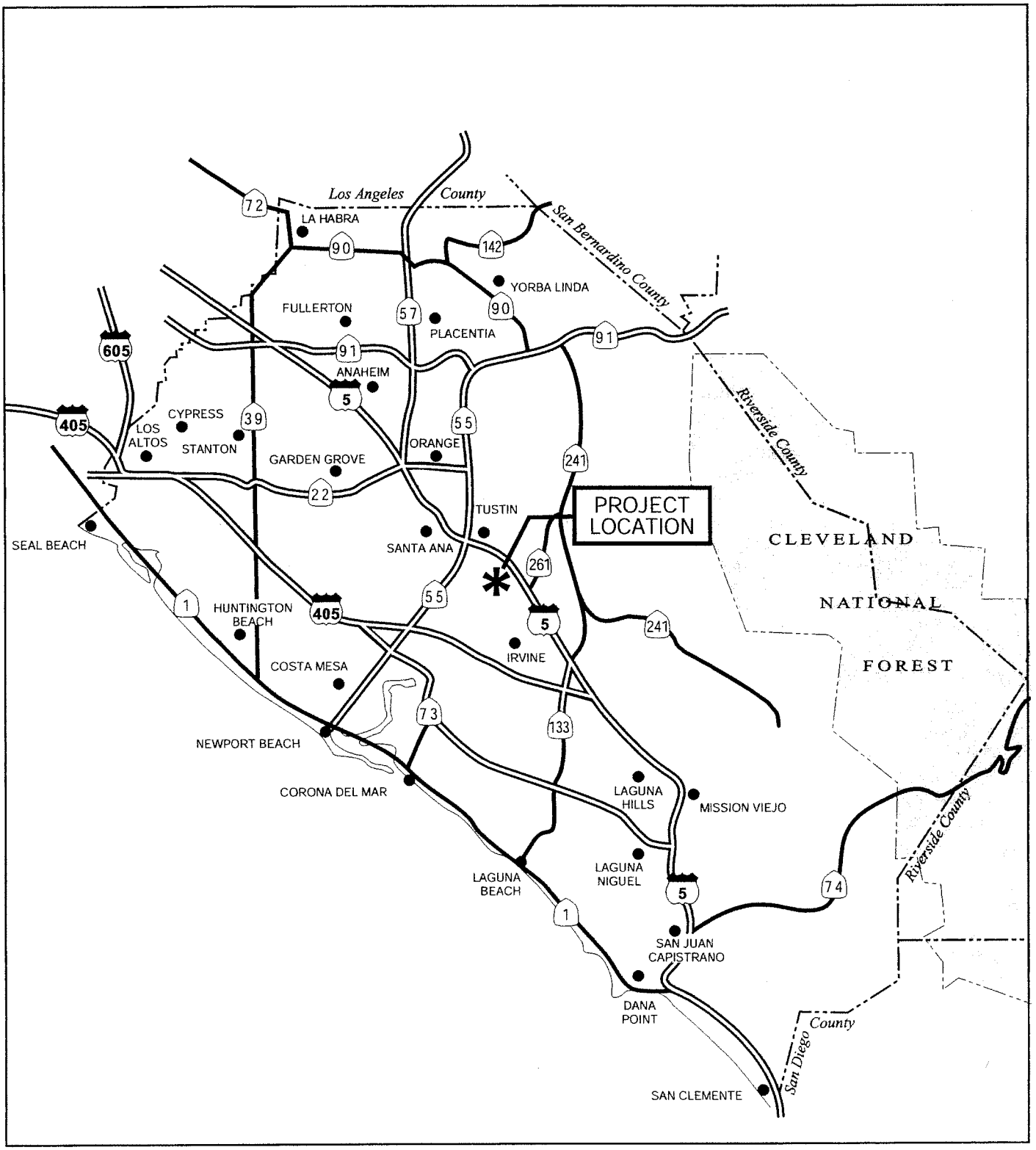
3.1 - PROJECT LOCATION

The project site is located in the southeastern portion of the City of Tustin, which is in central Orange County. The regional location is depicted on Exhibit 3-1. The site encompasses approximately one mile along the proposed alignment of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road (see Exhibits 3-2 and 3-3). The proposed roadway would extend approximately 0.5 of a mile north of Edinger Avenue and approximately 0.5 of a mile south of Edinger Avenue. Regional access to Tustin Ranch Road will be provided by the Santa Ana Freeway (Interstate 5) and the Costa Mesa Freeway (State Route 55), and Edinger Avenue.

3.2 - PROJECT CHARACTERISTICS

To better accommodate long-term local traffic from the buildout of the City, including implementation of the MCAS, Tustin Reuse Plan, the City of Tustin proposes to construct an approximately 5,040-foot (approximately one mile) extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road which is on the former MCAS Tustin. A loop road would then connect this extension with Edinger Avenue. It is proposed to accommodate three traffic lanes in each direction. The proposed roadway would bridge over the Orange County Flood Control District (OCFCD) right-of-way, the Orange County Transportation Authority (OCTA)/Southern California Regional Rail Authority (SCRRA) railroad right of-way, and Edinger Avenue. The bridge width would be between 106-feet just south of the OCFCD right-of-way to about 120-feet south of Edinger Avenue and will include a median between 6 and 12 feet, and a 6-foot sidewalk on the east side of the street, and 8-foot bike lane on the east and west sides of the street. A bus turn-out and stop will also be included on the east and west sides of Tustin Ranch Road immediately south of Walnut Avenue. The bridge will have a minimum clearance of 24-feet above grade.

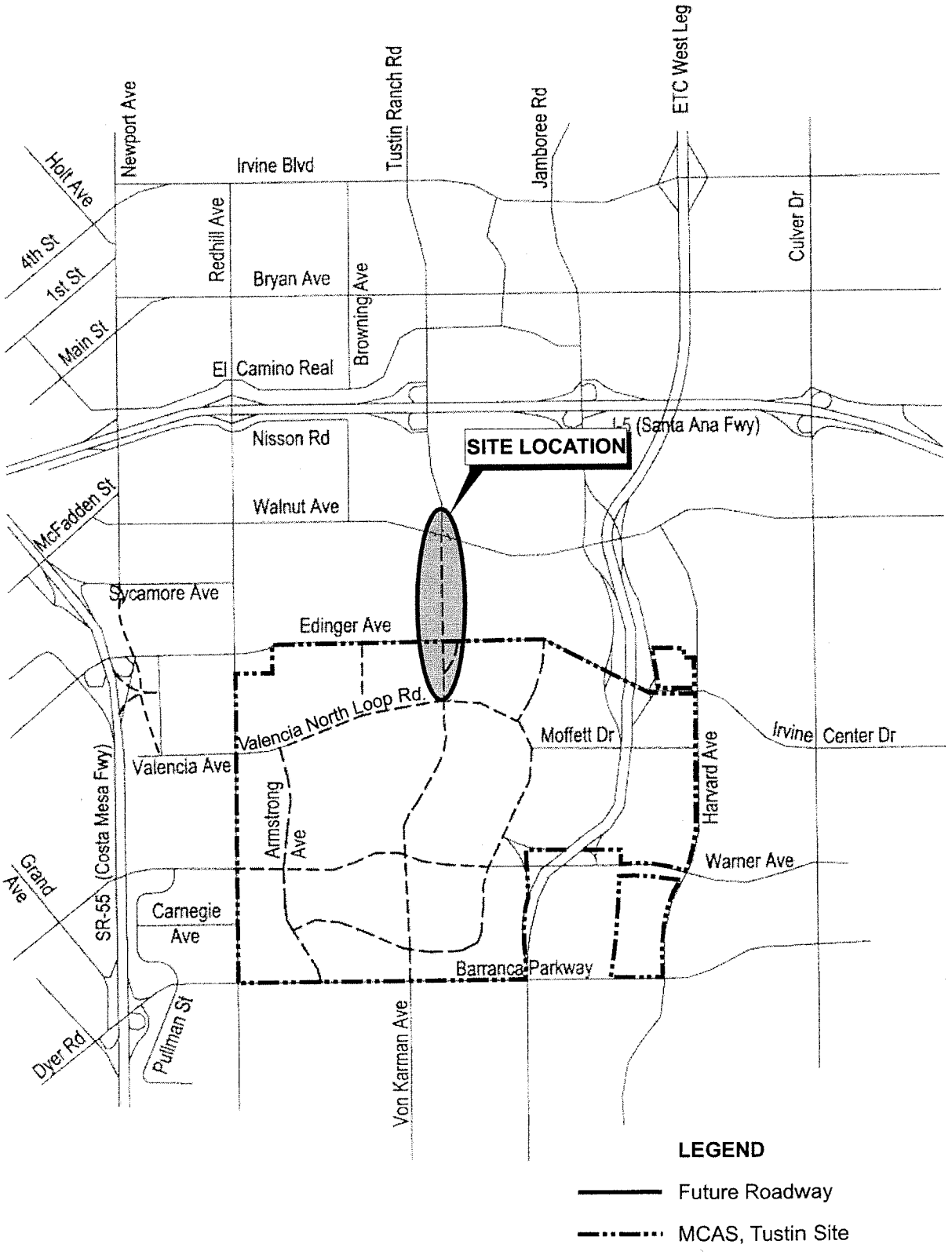
The roadway will include a semi-circular earth ramp and a T-type signalized intersection at Edinger Avenue. The loop ramp configuration would be located in the southeast quadrant of the future intersection of Tustin Ranch Road and Edinger Avenue. The portion of Tustin Ranch Road south of Edinger Avenue to Valencia North Loop Road would be comprised of a 158-190-foot right-of-way consisting of a road width of 98-130 feet (curb-to-curb) with a ten-foot landscaped median, and 30 feet beyond the curb face for sidewalks and parkway landscaping terminating at the top of the slope bank. Tustin Ranch Road will include three traffic through lanes in each direction with additional turning lanes at intersections. Overall right-of-way for the roadway would range between 129 and



Michael Brandman Associates

Exhibit **3-1**

Regional Location Map



SOURCE: Kimley-Horn and Associates, Inc.

NOT TO SCALE

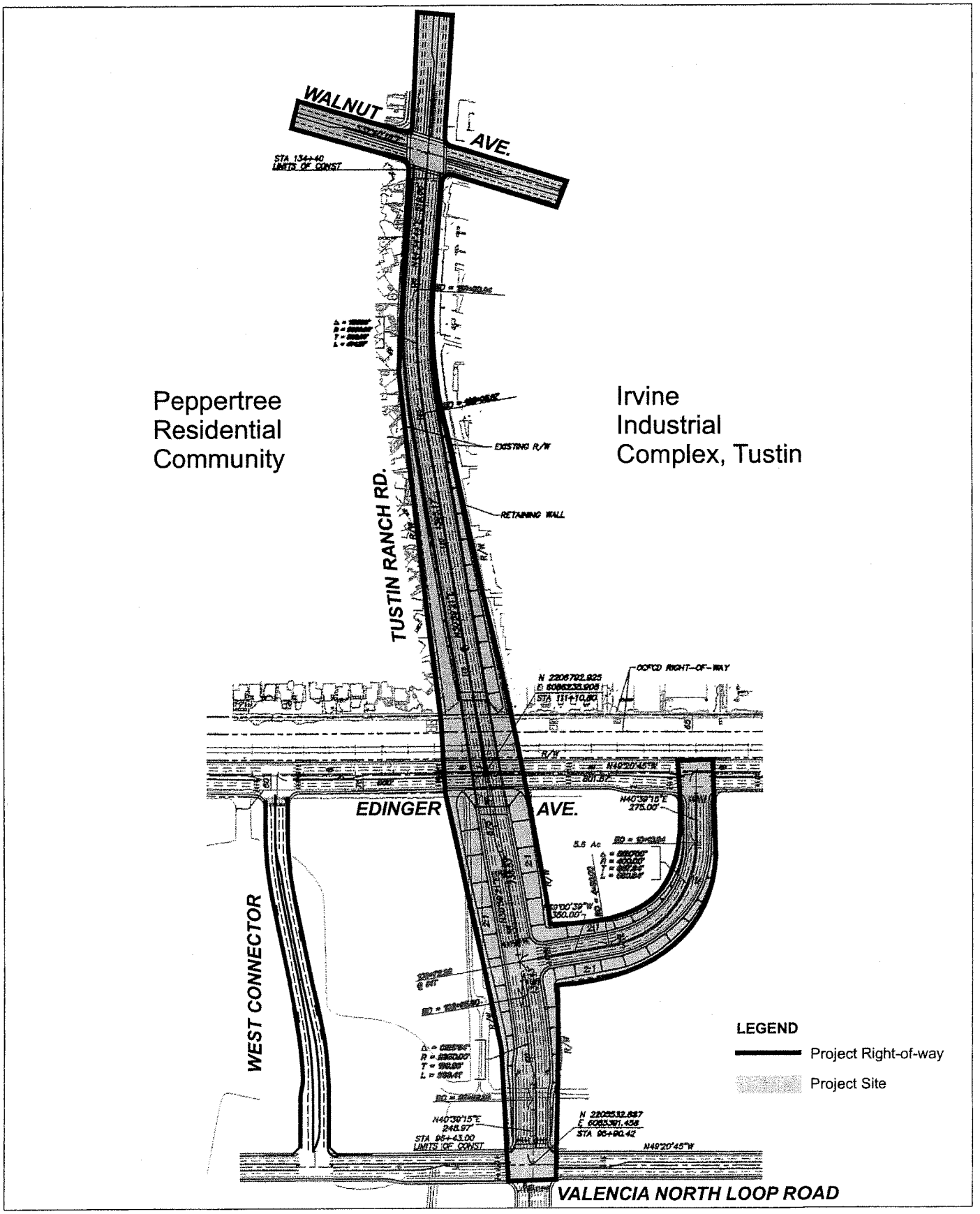
Michael Brandman Associates

Exhibit **3-2**

Vicinity Location Map

00190022 • 03/2004

TUSTIN RANCH ROAD EXTENSION • CITY OF TUSTIN



SOURCE: Moffatt & Nichol Engineers

NORTH

500 250 0 500

SCALE IN FEET

Michael Brandman Associates

Exhibit **3-3**

Site Plan

236 feet and include traffic lanes, curb and gutter, a median between 4 and 24 feet, a sidewalk on the east side of the street ranging between 5 and 9 feet, and 8-foot bike lanes in each direction.

To attenuate traffic noise, a masonry wall will be built along the western edge of the project right-of-way between Walnut Avenue and just north of the OCFCD flood channel adjacent to Edinger Avenue. Depending on the roadway elevation relative to the residences, the wall will range in height between 6 and 12 feet above the proposed roadway surface. A gate will be located just south of the proposed bus pad (about 240 feet south of Walnut Avenue) to provide maintenance access to the area between the soundwall and the wall that runs the length of the residential backyards. In the area of the proposed gate, the soundwall will be separated by the gate. Two soundwalls will be constructed to overlap each other to provide adequate noise attenuation. Other project improvements include a modification of the existing signal at the Tustin Ranch Road/Walnut Avenue intersection and street lights along the west and east sides of Tustin Ranch Road. Walnut Avenue will be modified at the intersection to provide double westbound left-turn lanes. As a result, the Walnut Avenue median will be modified at the intersection and a nominal amount of additional right-of-way along Walnut Avenue may be required. The street lighting is proposed to be shielded and directed toward the roadway surface. A landscaped corridor on both sides of the proposed extension of Tustin Ranch Road is also proposed.

3.3 - PROJECT OBJECTIVES

The following are the objectives of the proposed project.

1. To extend Tustin Ranch Road as mitigation to serve future circulation needs of the approved Reuse Plan for the MCAS Tustin.
2. To construct Tustin Ranch Road to complete a portion of the Circulation Element of the Tustin General Plan.
3. To reduce traffic volumes along adjacent north-south streets such as Jamboree Road and Redhill Avenue.

3.4 - INTENDED USES OF THE SUPPLEMENTAL EIR

This SEIR has been prepared in accordance with CEQA and the California CEQA Guidelines. This report also complies with the rules, regulations, and procedures for implementation of CEQA as adopted by the City Council. The City is responsible for project approvals and supervision. Therefore, the City will serve as the Lead Agency for the proposed project.

The SEIR may be utilized for the following discretionary approvals and permits by the City:

- Approval of Plans and Specifications for the extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road.
- Approval of right-of-way acquisition at the intersection of Tustin Ranch Road and Walnut Avenue.

SECTION 4:
GENERAL DESCRIPTION OF ENVIRONMENTAL SETTING

4.1 - OVERVIEW OF ENVIRONMENTAL SETTING

The future extension of Tustin Ranch Road is located between Walnut Avenue to the north and the future alignment of Valencia North Loop Road to the south on former MCAS, Tustin. The northerly portion of the project site between Walnut Avenue and the OCFCD right-of-way currently contains fill material. The man-made topography of the site near the OCFCD right-of-way is approximately 30 feet higher in elevation than the adjacent residences and industrial uses. The man-made topography gradually slopes down to Walnut Avenue. Approximately 4 to 5 residences are located directly adjacent to the most elevated portion of the fill material. This fill material was placed on the project site in 1977 to form the foundation of the Tustin Ranch Road bridge over the OCFCD right-of-way, OCTA/SCRRA railway right-of-way, and Edinger Avenue. The grading for this part of Tustin Ranch Road was completed at the same time that the grading for the Peppertree Residential Community (Tract Nos. 7813, 7954, 8088, and 8912) was completed. Currently, the portions of the project site between Walnut Avenue and the OCFCD right-of-way and south of Edinger Avenue is fenced off from public access.

Land uses northwest of the project site include single-family dwellings (Laurelwood Residential Community) and northeast of the site are industrial uses. Single-family dwellings (Peppertree Residential Community) are located immediately west of the project site between Walnut Avenue and the OCFCD right-of-way. An existing church and industrial uses are located immediately east of the project site between Walnut Avenue and the OCFCD right-of-way.

South of the OCFCD right-of-way is the OCTA/SCRRA railroad right-of-way and Edinger Avenue. The portion of the site that is south of Edinger Avenue has historically not been used for military purposes, but used as interim agricultural uses. The proposed right-of-way in this area was identified as such in the Reuse Plan approved in October 1996 and FEIR certified in January 2001. The City acquired the deed to the MCAS Tustin portion of the Tustin Ranch Road right-of-way on May 13, 2002.

4.2 - RELATED PROJECTS

Section 15130 of the CEQA Guidelines requires that an EIR discuss the cumulative impacts of a project when the incremental effects of a project are cumulatively considerable. A cumulative impact is defined as an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. Cumulatively considerable means that the

incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. According to the CEQA Guidelines, elements considered necessary to provide an adequate discussion of cumulative impacts of a project include either: (1) list of past, present, and probable future projects producing related or cumulative impacts; or (2) a summary of projections contained in an adopted General Plan or related planning document which is designed to evaluate regional or areawide conditions. In evaluating the cumulative impacts of the project, this SEIR used information from a regional traffic model that was based on General Plan projections.

The FEIR for the Reuse Plan utilized an interim (year 2005) and long-range (year 2020) scenario to determine future project and cumulative impacts. This SEIR includes an evaluation of traffic, air quality and noise. Each of these environmental components are evaluated for the year 2005 and 2020 scenarios which provide a basis for project specific and cumulative impacts associated with the project.

SECTION 5:
ENVIRONMENTAL IMPACT ANALYSIS

This section includes an evaluation of potential significant effects from the development of Tustin Ranch Road that were not analyzed in the FEIR for the Reuse Plan. The FEIR included an analysis of interim development of the Reuse Plan without the development of Tustin Ranch Road as of year 2005. The analysis of each environmental category in this section includes an evaluation of the incremental effects from the addition of the development of Tustin Ranch Road to the year 2005 scenario.

The FEIR included an analysis of potential effects from the development of Tustin Ranch Road with the buildout of the Reuse Plan as of the year 2020 with Tustin Ranch Road assumed. Impacts identified for the area in the vicinity of Tustin Ranch Road are adequately addressed in the FEIR and a summary of the impacts is provided in this SEIR. The introduction to each of the environmental categories addressed in this Section 5 includes a brief summary of the additional information that will be evaluated.

5.1 - TRANSPORTATION/CIRCULATION

This section summarizes the traffic impact study prepared for the proposed project by Kimley-Horn Associates, Inc. in November 2003. This report is located in Appendix B of this document.

The FEIR for the Reuse Plan included a traffic evaluation of implementing interim development of the Reuse Plan without Tustin Ranch Road Extension as of the year 2005. The traffic study prepared for the proposed project includes an evaluation of the effects on transportation/circulation from implementing Tustin Ranch Road Extension as of the year 2005. To determine the traffic effects of implementing Tustin Ranch Road above and beyond those effects identified in the FEIR, a comparative evaluation with and without Tustin Ranch Road was performed for the year 2005.

The FEIR for the Reuse Plan included a traffic evaluation of implementing the Reuse Plan that included the Tustin Ranch Road Extension as of the year 2020. This section includes a brief summary of the significant impacts addressed in the FEIR, and the significant impacts identified in the traffic impact study.

The study area addressed in the traffic impact study is defined as the area that could have resulted in traffic impacts with the implementation of the extension of Tustin Ranch Road. The study area is

bounded by Irvine Boulevard on the north, Barranca Parkway on the south, State Route 55 on the west, and Culver Drive on the east.

5.1.1 - Existing Conditions

Performance Criteria

Level of service (LOS) at the study area intersections is based on the Intersection Capacity Utilization (ICU) methodology as required by the Orange County Congestion Management Program (CMP). For non-CMP or non-Irvine Business Complex (IBC) intersections, the acceptable LOS is D (ICU less than or equal to 0.90). For CMP or IBC intersections, the acceptable LOS is E (ICU less than or equal to 1.00).

Where ICU values are greater than the acceptable LOS, mitigation is required if the increase in ICU is 0.03 or more at CMP locations and more than 0.01 at all other locations. Mitigation is required to bring the intersection back to acceptable LOS or to baseline conditions if baseline conditions were already at unacceptable LOS.

The CMP intersections within the study area for the traffic impact study are:

16. Edinger Ave at SR-55 NB Ramps (moves to Newport Ave under 2005/2020 conditions)
75. Edinger Avenue at SR-55 SB Ramps
91. Jamboree Road at Irvine Boulevard
94. Jamboree Road at I-5 NB Ramps
95. Jamboree Road at I-5 SB Ramps
100. Jamboree Road at Edinger Avenue (grade separated urban interchange)
112. Irvine Boulevard at the ETC West Leg SB Ramps (2005/2020 conditions)
113. Irvine Boulevard at the ETC West Leg NB Ramps (2005/2020 conditions)

None of the IBC intersections fall within the study area for this project.

Existing Traffic Conditions

Information about existing traffic conditions at the study area intersections was taken from the *Marine Corps Air Station (MCAS) Tustin Disposal and Reuse Traffic Study* (Austin-Foust Associates, Inc., November 1999) and represents 1997/1998 traffic conditions. The 1997/1998 traffic conditions which were based on traffic counts conducted in 1997 and 1998 are considered adequate to characterize the 2003 traffic conditions. There have not been significant changed conditions in traffic or land use since the 1997/1998 traffic counts; therefore, subsequent traffic counts were not conducted.

The conclusion that the existing traffic data contained in this document provides an acceptable basis for evaluation of project traffic impacts is supported by professional Traffic Engineering practices and evaluations. Some of the primary Traffic Engineering considerations were as follows. The Tustin Ranch Road Traffic Study references the MCAS (November 1999 study) existing counts, which were actually conducted in 1997/1998; however, Kimley-Horn (the traffic consultant) also reviewed and evaluated the existing traffic counts from the Newport Avenue Extension Study (2000). In some cases, the 2000 counts were significantly lower than the 1997/1998 counts (some cases slightly higher). In addition, City staff reviewed recent citywide traffic counts conducted in December 2003. Overall, Kimley-Horn concluded that the older MCAS existing counts are appropriate for use in the Tustin Ranch Road Traffic Study.

Another factor in the decision to use the MCAS existing traffic counts was for consistency since the MCAS traffic model projections were used for the Tustin Ranch Road Traffic Study.

Traffic forecast data for the analysis has been derived from the Central County Traffic Model (CCTM), a subarea derivation of the Orange County Transportation Agency Model (OCTAM) 2.8 model. This subarea model was prepared using the consistency guidelines for subarea traffic model derivation as prepared by Orange County Transportation Agency. Those guidelines require subarea model derivation from the current version of OCTAM (in this case version 2.8), and specify certain procedures for developing and using the resulting subarea model.

The traffic modeling is pertinent to the decision regarding the existing traffic counts because the modeling of future conditions is expected to be unaffected by the potential differences in the existing counts referenced and potential new counts. The existing traffic counts (either those used in the Study or potential new counts) would be expected to have an insignificant bearing on the traffic model projections used in the Study. It should also be noted that the traffic model projections served as the basis for the evaluation of project traffic impacts. Updated existing traffic counts, therefore, are expected to have an insignificant effect on the traffic modeling and/or the evaluation of project traffic impacts. Overall, new existing traffic counts may be perceived as beneficial, but actually would have limited technical benefit.

The traffic consultant (Kimley-Horn) has verbally confirmed that these evaluations and findings were a part of their considerations when determining the adequacy of the existing traffic counts for use in this document. The "with" and "without" project analyses for the 2005 and 2020 conditions are based on the MCAS traffic model. The traffic model consultant (Austin-Foust) verified that the same model that was used for MCAS was also used for the Tustin Ranch Road Traffic Study, with the only changes being the added analysis conditions (2005-adding the extension and 2020-taking out the

extension). It was further verified with the traffic consultant that new counts would not be expected to change any of the 2005 or 2020 "project" analyses findings.

Existing (1997) Average Daily Traffic Volumes (ADT), as reported in the Austin-Foust study, are provided in Appendix B of this document.

Table 5.1-1 summarizes the Intersection Capacity Utilization (ICU) value and the Level of Service (LOS) at the 64 existing study area intersections. Table 5.1-1 indicates that all of the CMP intersections currently operate at LOS E or better during both peak hours. Table 5.1-1 indicates that the non-CMP intersections currently operate at LOS D or better during both peak hours with the following exceptions:

28. Redhill Avenue/Walnut Avenue - AM LOS = E
29. Redhill Avenue/Sycamore Avenue - AM LOS = E
30. Redhill Avenue/Edinger Avenue - PM LOS = E
98. Jamboree Road SB Ramp/Walnut Avenue - AM LOS = E

Table 5.1-1: Summary of Intersection Capacity Utilization and Level of Service for Existing Traffic Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Irvine Boulevard at:				
17. Old Irvine Boulevard	0.63	B	0.59	A
Newport Avenue at:				
3. Irvine Boulevard	0.83	D	0.78	C
5. 1st Street	0.57	A	0.67	B
6. Bryan Avenue	0.47	A	0.57	A
7. Main Street	0.62	B	0.57	A
8. El Camino Real	0.68	B	0.68	B
9. I-5 NB Ramp	0.49	A	0.54	A
10. I-5 SB Ramp/Nisson Road	0.76	C	0.78	C
12. McFadden Street	0.57	A	0.58	A
13. Walnut Avenue	0.50	A	0.52	A
14. Sycamore Avenue	0.50	A	0.50	A

Table 5.1-1 (Cont.): Summary of Intersection Capacity Utilization and Level of Service for Existing Traffic Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Main Street at:				
18. Bryan Avenue	0.27	A	0.34	A
Redhill Avenue at:				
21. Irvine Boulevard	0.74	C	0.90	D
22. Bryan Avenue	0.60	A	0.63	B
23. El Camino Real	0.64	B	0.62	B
24. I-5 NB Ramps	0.74	C	0.83	D
25. I-5 SB Ramps	0.65	B	0.80	C
28. Walnut Avenue	0.97	E	0.89	D
29. Sycamore Avenue	0.94	E	0.80	C
30. Edinger Avenue	0.83	D	1.00	E
31. Valencia Avenue/Moffett Drive	0.71	C	0.68	B
77. Warner Avenue	0.63	B	0.59	A
78. Barranca Parkway	0.83	D	0.75	C
Browning Avenue at:				
32. Irvine Boulevard	0.64	B	0.64	B
33. Bryan Avenue	0.38	A	0.34	A
34. El Camino Real	0.30	A	0.31	A
36. Walnut Avenue	0.44	A	0.51	A
Tustin Ranch Road:				
37. Irvine Boulevard	0.75	C	0.67	B
38. Bryan Avenue	0.49	A	0.47	A
39. El Camino Real	0.66	B	0.52	A
40. I-5 NB Ramp	0.45	A	0.47	A
41. I-5 SB Ramp	0.55	A	0.51	A
42. Walnut Avenue	0.75	C	0.74	C
Trabuco Road at:				
124. I-5 NB Ramps	0.44	A	0.46	A
Jamboree Road at:				
91. Irvine Boulevard (CMP)	0.75	C	0.76	C
92. Bryan Avenue	0.50	A	0.62	B

Table 5.1-1 (Cont.): Summary of Intersection Capacity Utilization and Level of Service for Existing Traffic Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
93. El Camino Real	0.47	A	0.53	A
94. I-5 NB Ramps (CMP)	0.57	A	0.75	C
95. I-5 SB Ramps (CMP)	0.93	E	0.71	C
98. Walnut Avenue (Jamboree SB)	0.93	E	0.60	A
99. Walnut Avenue (Jamboree NB)	0.37	A	0.80	C
100. Edinger Avenue (CMP)	0.79	C	0.82	D
102. Warner Avenue	0.14	A	0.15	A
103. Barranca Parkway	0.78	C	0.84	D
Harvard Avenue at:				
114. Walnut Avenue	0.36	A	0.37	A
115. Edinger Avenue/Irvine Center Dr	0.57	A	0.49	A
116. Warner Avenue	0.32	A	0.43	A
117. Barranca Parkway	0.57	A	0.64	B
Culver Drive at:				
121. Irvine Boulevard	0.63	B	0.58	A
122. Bryan Avenue	0.78	C	0.64	B
123. I-5 NB On-Ramp/Trabuco Road	0.56	A	0.73	C
125. I-5 SB Ramps	0.69	B	0.84	D
126. Walnut Avenue	0.69	B	0.68	B
127. Irvine Center Drive	0.65	B	0.66	B
128. Warner Avenue	0.74	C	0.67	B
129. Barranca Parkway	0.72	C	0.79	C
Edinger Avenue at:				
75. SR-55 SB Ramps (CMP)	0.77	C	0.98	E
16. SR-55 NB Ramps (CMP)	0.66	B	0.68	B
Grand Avenue at:				
65. SR-55 SB Ramp	0.52	A	0.39	A
Dyer Road at:				
66. Grand Avenue	0.62	B	0.82	D
59. SR-55 SB Ramps/Hotel Terrace Dr	0.63	B	0.80	C
67. SR-55 NB Ramps	0.70	B	0.83	D
68. Pullman Street	0.48	A	0.73	C

Table 5.1-1 (Cont.): Summary of Intersection Capacity Utilization and Level of Service for Existing Traffic Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Barranca Parkway at:				
86. Von Karman Avenue	0.57	A	0.79	C

5.1.2 - Project Transportation/Circulation Impacts

Thresholds of Significance

As noted above, a project would have a significant effect at locations with unacceptable LOS, if the increase in ICU is 0.03 or more at CMP locations and more than 0.01 at all other locations.

Impacts

Year 2005 Traffic Conditions Without Tustin Ranch Road. Information about year 2005 traffic conditions without the extension of Tustin Ranch Road between Walnut Avenue and Valencia North Loop Road at the study area intersections was taken from the Austin-Foust traffic study referenced previously. Year 2005 ADT volumes without the extension of Tustin Ranch Road between Walnut Avenue and Valencia North Loop Road are provided in Appendix B of this document.

A number of committed roadway and intersection improvements were assumed to be in place under the year 2005 traffic conditions (as compared to year 1997 lanes). Details about the improvements are shown on Table 3-4 of the FEIR and are provided in Appendix B of this document. Several of the short-term improvements have already been implemented. The analysis for 2005 traffic conditions assumes that the Edinger interchange realignment is in place, that Newport Avenue is extended to Valencia Avenue, and that Edinger Avenue is widened east of Redhill Avenue. These roadway projects are planned to be constructed beginning in the year 2004.

Table 2 in Appendix B shows the ICU and the LOS at the study area intersections for year 2005 traffic conditions without the extension of Tustin Ranch Road between Walnut Avenue and Valencia North Loop Road. Table 2 indicates that the CMP intersections would operate at LOS E or better with the following exception:

75. Edinger Avenue/SR-55 SB Ramps - PM LOS = F

Table 2 also indicates that the non-CMP intersections would operate at LOS D or better during both peak hours with the following exceptions:

21. Redhill Avenue/Irvine Boulevard - PM LOS = E
154. Redhill Avenue/Carnegie Avenue - PM LOS = E
42. Tustin Ranch Road/Walnut Avenue - PM LOS = F
103. Jamboree Road/Barranca Parkway - PM LOS = F
86. Barranca Parkway at Von Karman Avenue - PM LOS = F

Year 2005 Traffic Conditions With Tustin Ranch Road. This traffic condition was not analyzed in the FEIR. In June 2001, Austin-Foust Associates, Inc. prepared traffic model data information for year 2005 traffic conditions at the study area intersections with the proposed project. Year 2005 ADT volumes with the extension of Tustin Ranch Road between Walnut Avenue and Valencia North Loop Road are provided in Appendix B of this study.

As previously stated, the analyses for 2005 traffic conditions assume that the Edinger interchange realignment is in place, that Newport Avenue is extended to Valencia Avenue, and that Edinger Avenue is widened east of Redhill Avenue. In addition, Valencia North Loop Road is assumed to be in place to connect Valencia Avenue and Moffett Drive. Figure 2 in Appendix B illustrates the street system used for the 2005 analysis.

Table 2 of Appendix B summarizes the ICU and the LOS at the study area intersections for year 2005 traffic conditions with the proposed project and presents a comparison in terms of change in ICU value for the "with" and "without" conditions. Table 2 indicates that the CMP intersections would operate at LOS E or better during both peak hours with the proposed project with the following exception:

75. Edinger Avenue/SR-55 SB Ramps - PM LOS = F

Table 2 of Appendix B further indicates that the non-CMP intersections would operate at LOS D or better during both peak hours with the proposed project with the following exceptions:

21. Redhill Avenue/Irvine Boulevard - PM LOS = E
77. Redhill Avenue/Warner Avenue - PM LOS = E
42. Tustin Ranch Road/Walnut Avenue - PM LOS = E
103. Jamboree Road/Barranca Parkway - PM LOS = F
86. Barranca Parkway/Von Karman Avenue - PM LOS = F

Table 5.1-2 summarizes the ICU/LOS for the deficient intersections listed above. It indicates the intersections where the implementation of Tustin Ranch Road has a significant impact above and

beyond the effects evaluated in the FEIR. The Table summarizes the ICU/LOS with the mitigation approved in the FEIR for the Reuse Plan (if applicable), and summarizes the ICU/LOS with additional proposed mitigation, if necessary.

Table 5.1-2 indicates that the proposed project does not have an incremental significant traffic impact on the intersections of Edinger/SR-55 Ramps, Redhill/Irvine, Tustin Ranch/Walnut, Jamboree/Barranca, or Barranca/Von Karman. At these intersections, the ICU values either do not change or the ICU values decrease with the change in traffic patterns due to the proposed project. At the CMP intersection of Edinger/SR-55 SB Ramps, the increase in ICU is below the significant impact criteria (i.e. less than 0.03).

Table 5.1-2 indicates that the proposed project would have incremental significant traffic impacts during the afternoon peak hour at one intersection; Redhill Avenue at Warner Avenue. This impact would occur even though Tustin Ranch Road would provide a parallel route to Redhill Avenue north of Valencia Avenue. Since Tustin Ranch Road would not be in place south of Valencia North Loop Road, only a partial parallel route would be in place, resulting in additional turning movements along Redhill Avenue. The impacts are attributed to increased turning movements. Compared to the analysis in the FEIR, this is a new traffic impact. The proposed mitigation measure is identified below in Section 5.1.4.

The FEIR identified seven intersections that would be significantly affected by cumulative development in the year 2005. These intersections are as follows.

86. Von Karman/Barranca Parkway - PM LOS = F
103. Jamboree Road/Barranca Parkway - PM LOS = F
47. Main Street/Warner Avenue - PM LOS = F
48. Main Street/Dyer Road - PM LOS = F
61. Grand Avenue/Edinger Avenue - PM LOS = E
72. Ritchey/Edinger Avenue - PM LOS = E
75. SR-55 SB Ramps/Edinger Avenue - PM LOS = F

Table 5.1-2 also indicates that the construction of Tustin Ranch Road in the year 2005 would improve conditions at several intersections, but not sufficiently to eliminate the mitigation in Section 4.12 of the FEIR (see Appendix E).

Table 5.1-2: Summary of Deficient Intersections, Level of Impact, and Mitigation for Year 2005 Traffic Conditions with and without Tustin Ranch Road Extension between Walnut Avenue and Valencia North Loop Road

Intersection	Without Tustin Ranch Rd				With Tustin Ranch Road				Diff in ICU			ICU/LOS after EIR/EIS Mitigation		ICU/LOS after Added Mitigation	
	AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	Significant Impact?	AM	PM	AM	PM
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS							
Redhill Avenue at:															
21. Irvine Boulevard	0.68	B	0.97	E	0.68	B	0.97	E	0.00	0.00	NO [a]	NA	NA	NA	NA
77. Warner Avenue	0.72	C	0.90	D	0.71	C	0.96	E	-0.01	0.06	NO-AM [b] YES - PM	NA	NA	0.71/C	0.80/D
Tustin Ranch Road at:															
42. Walnut Avenue	0.78	C	1.15	F	0.68	B	0.94	E	-0.10	-0.21	NO [a]	NA	NA	NA	NA
Jamboree Road at:															
103. Barranca Parkway	0.82	D	1.08	F	0.81	D	1.06	F	-0.01	-0.02	NO [a]	0.82/D	1.05/F	NA	NA
Edinger Avenue at:															
75. SR-55 SB Ramps (CMP)	0.90	D	1.27	F	0.92	E	1.27	F	0.02	0.00	NO [c]	0.83/D	1.07/F	NA	NA
Barranca Parkway at:															
86. Von Karman Avenue	0.62	B	1.07	F	0.62	B	1.05	F	0.00	-0.02	NO [a]	0.62/B	0.70/B	NA	NA

[a] The proposed project does not have a significant traffic impact at this intersection because there is either no change in ICU or there is a decrease in ICU during the deficient peak hour.
[b] The proposed project does not have a significant traffic impact during the morning peak hour because the ICU and LOS are at acceptable levels.
[c] This is a CMP intersection with an acceptable LOS of E. The proposed project does not have a significant traffic impact at this intersection because the ICU and LOS during the morning peak hour are at acceptable levels and there is no change in ICU during the afternoon peak hour.
NA = Not applicable

Year 2020 Traffic Conditions with Tustin Ranch Road. The year 2020 traffic conditions with Tustin Ranch Road were analyzed in the FEIR. New significant impacts would not occur under the year 2020 traffic conditions that were not identified in the FEIR.

The significant impacts that were addressed in the FEIR for the year 2020 are identified in Table 4.12-6 in Appendix E in this SEIR and the ICU and LOS for each of intersections are reiterated in Table 4 in Appendix B of this SEIR. Following is the list of significantly impacted intersections of the MCAS Reuse Project for the year 2020 with Tustin Ranch Road.

15. Newport Avenue/Edinger - PM LOS = E
30. Redhill Avenue/Edinger Avenue - PM LOS = E
42. Tustin Ranch Road/Walnut Avenue - AM/PM LOS = F/F
77. Redhill Avenue/Warner Avenue - PM LOS = E
103. Jamboree Road/Barranca Parkway - AM/PM LOS = F/F
75. Edinger Avenue/SR-55 Ramps - PM LOS = F
66. Dyer Road/Grand Avenue - PM LOS = F
86. Barranca Parkway/Von Karman Avenue - PM LOS = F
53. Hutton Centre/MacArthur Boulevard - PM LOS = E
61. Grand Avenue/Edinger Avenue - PM LOS = E
63. Grand Avenue/Warner Avenue - PM LOS = E
70. Lyon Street/Edinger Avenue - PM LOS = F
202. Standard Avenue/Edinger Avenue - PM LOS = E
81. Redhill Avenue/Main Street - PM LOS = F
89. Von Karman/Michelson - PM LOS = F
106. Jamboree Road/Alton Parkway - AM/PM LOS = E/F
118. Harvard Avenue/Alton Parkway - AM LOS = E
128. Culver Drive/Warner Avenue - PM LOS = E
79. Redhill Avenue/Alton Parkway - PM LOS = F

5.1.3 - Cumulative Impacts

The preceding analysis includes cumulative traffic volumes due to growth in the project area both for initial project completion (year 2005) and for a long-term scenario (year 2020). Thus the impacts addressed in Section 5.1.2 for the project are also considered cumulative impacts.

5.1.4 - Mitigation Measures

Mitigation measures are recommended for those intersections where the proposed project has a significant traffic impact as defined in Section 5.1.2, Thresholds of Significance. The measures recommended in the FEIR are also required and are presented in Appendix E.

Year 2005 Traffic Conditions with the Proposed Project

Under year 2005 traffic conditions with the extension of Tustin Ranch Road between Walnut Avenue and Valenica North Loop Road, there would be a significant traffic impact at the Redhill Avenue/Warner Avenue intersection that is an additional impact compared to the results of the FEIR:

77. Redhill Avenue/Warner Avenue - PM LOS = E

The following mitigation measure would result in a LOS D during the afternoon peak hour which is considered an acceptable LOS at the impacted intersection.

TC-1 A westbound shared through/right-turn lane shall be added to the Redhill Avenue/Warner Avenue intersection.

The FEIR identified mitigation measures to reduce impacts associated with the Reuse Plan for the year 2005. These measures are included in the FEIR's transportation and circulation section which is located in Appendix E of this document.

Year 2020 Traffic Conditions with the Proposed Project

As stated previously, no new significant impacts would result with the addition of Tustin Ranch Road Extension in the year 2020 that were not identified in the FEIR. The mitigation measures for the year 2020 are included in Section 4.12 of the FEIR which is located in Appendix E of this document.

5.1.5 - Level of Significance After Mitigation

As discussed in the FEIR, significant traffic impacts will remain at the intersections of Tustin Ranch Road/Walnut Avenue and Jamboree Road/Barranca Parkway under full buildout year 2020 conditions with extension of Tustin Ranch Road. With the additional mitigation measure recommended for the intersection of Redhill Avenue at Warner Avenue, the intersection will operate at an acceptable LOS in the year 2005, and the impact would be less than significant.

5.2 - AIR QUALITY

This section summarizes the air quality analysis prepared by Synectecology in November 2003. This report is contained in its entirety as Appendix C of this document.

The FEIR included an air quality study that evaluated the interim development of the Reuse Plan without Tustin Ranch Road Extension for the year 2005. The FEIR adequately evaluated impacts of the Reuse Plan for the year 2005. The air quality study prepared for the proposed project evaluates the potential significant impacts associated with the development of Tustin Ranch Road for the year 2005. The primary focus of the analyses is construction impacts and carbon monoxide (CO) "hot spot" concentration impacts at intersections for the year 2005. These analyses determine the incremental effects that will occur above and beyond the effects identified in the FEIR for the year 2005.

The FEIR adequately evaluated construction impacts from full development of the Reuse Plan for the year 2020, but did not include an evaluation of construction impacts for the extension of Tustin Ranch Road. The FEIR also evaluated CO "hot spot" concentration impacts. The primary focus of the year 2020 analysis for the project is the evaluation of construction impacts on air quality and a re-evaluation of the CO "hot spot" concentrations at intersections.

5.2.1 - Existing Conditions

Atmospheric Setting

The Tustin Ranch Road Extension project area lies in the South Coast Air Basin (SCAB or Basin) that includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The distinctive climate of the SCAB is determined by its terrain and geographical location. The Basin is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

Temperature

The annual average temperature varies little throughout the 6,600 square-mile Basin. However, with a less pronounced oceanic influence, the inland portion shows greater variability in the annual minimum and maximum temperatures. Temperatures in the project area average about 62°F with average summer temperatures in the low-70s and winters in the low-50s.

Rainfall

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast with slightly heavier shower activity in the east and over the mountains. Rainfall averages around 13 inches per year in the project area.

Humidity

Although the Basin has a semi-arid climate, the air near the surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by off-shore winds, the ocean effect is dominant. Periods of heavy fog, especially along the coastline, are frequent; and low stratus clouds, often referred to as "high fog" are a characteristic climatic feature. Annual average humidity ranges from a high of about 72 percent at the coast to about 58 percent in the east.

Wind

Wind patterns across the south coastal region are characterized by westerly and southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season. Typical summer winds in the project area range from 5 to 13 miles per hour during the day and 4 to 5 miles per hour during the night.

Between the periods of dominant air flow, periods of air stagnation may occur, both in the morning and evening hours. Whether such a period of stagnation occurs is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high pressure systems over the Basin, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally have a duration of a few days before predominant meteorological conditions are reestablished.

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the "mixing height." This mixing height can change under conditions when the top of the inversion does not change. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer, and the generally good air quality in the winter in the project area.

Regulatory Setting

Criteria Air Pollutants

The quality of the ambient air is affected by pollutants emitted into the air from stationary and mobile sources. Stationary sources can be divided into two major subcategories: point sources and area sources. Point sources consist of one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial processing plants. Area sources are widely distributed and produce many small emissions.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources are a combination of emissions from automobiles, trucks, and indirect sources. Indirect sources are sources that by themselves may not emit air contaminants; however, they indirectly cause the generation of air pollutants by attracting vehicle trips or consuming energy. Examples of indirect sources include an office complex or commercial center that generates commuter trips and consumes energy resources through the use of electricity for lighting and natural gas for space heating. Indirect sources also include actions proposed by local governments, such as redevelopment districts and private projects involving the development of either large buildings or tracts. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law. These regulated air pollutants are known as "criteria air pollutants" and are categorized as primary and secondary pollutants. Primary criteria air pollutants are those that are emitted directly from sources. Carbon monoxide (CO); reactive organic gases (ROG); nitrogen oxides (NOx); sulfur dioxide (SO_2); and most fine particulate matter (PM_{10}), including lead (Pb) and fugitive dust; are primary criteria air pollutants. Secondary criteria air pollutants are those pollutants formed by chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

Both the State of California and the federal government have established health based Ambient Air Quality Standards (AAQS) for six criteria air pollutants. As shown in Table 5.2-1, these pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter (PM_{10}), and lead. $PM_{2.5}$ particulate matter has also recently been added to this listing; however, the SCAQMD does not currently have daily criterion levels with which to assess impacts. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. In addition to primary and secondary ambient air quality standards, the State of California has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing

periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three.

Ozone. O_3 is one of a number of substances called photochemical oxidants that are formed when reactive organic gases (ROG) and nitrogen oxides (NOx), both byproducts of the internal combustion engine, react in the presence of ultraviolet sunlight. O_3 is present in relatively high concentrations in the SCAB, and the damaging effects of photochemical smog are generally related to the concentrations of ozone. O_3 may pose its worst health threat to those who already suffer from respiratory diseases. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. Ozone levels peak during the summer and early fall months.

Carbon Monoxide. CO is a colorless, odorless, toxic gas that is produced by incomplete combustion of carbonous substances (e.g., gasoline or diesel fuel). The primary adverse health effect associated with CO is the interference of normal oxygen transfer to the blood that may result in tissue oxygen-deprivation.

Table 5.2-1: Ambient Air Quality Standards

Air Pollutant	California	Federal	
	Concentration	Primary (>)	Secondary (>)
Ozone	0.09 ppm, 1-hr. avg. >	0.08 ppm, 8-hr. avg. 0.12 ppm, 1-hr. avg.	0.08 ppm, 8-hr. avg. 0.12 ppm, 1-hr. avg.
Carbon Monoxide	9 ppm, 8-hr. avg. >[a] 20 ppm, 1-hr. avg. >	9 ppm, 8-hr. avg.[b] 35 ppm, 1-hr. avg. >	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg. >
Nitrogen Dioxide	0.25 ppm, 1-hr. avg. >[c]	0.053 ppm, annual avg.[d]	0.053 ppm, annual avg.[e]
Sulfur Dioxide	0.05 ppm, 24-hr. avg.≥with ozone ≥ 0.10 ppm, 1-hr. avg. or TSP ≥ 100 µg/m^3, 24-hr. avg.0.25 ppm, 1-hr. avg.>[e]	0.03 ppm, annual avg. 0.14 ppm, 24-hr. avg.	0.50 ppm, 3-hr. avg.
Suspended Particulate Matter (PM_{10})	30 µg/m^3, annual geometric mean> 50 µg/m^3, 24-hr. avg. >[f]	50 µg/m^3, annual [g] arithmetic mean 150 µg/m^3, 24-hr. avg.	50 µg/m^3, annual [g] arithmetic mean 150 µg/m^3, 24-hr. avg.
Suspended Particulate Matter ($PM_{2.5}$)	No Standard	15 µg/m^3, annual [g] arithmetic mean 65 µg/m^3, 24-hr. avg.	15 µg/m^3, annual [g] arithmetic mean 65 µg/m^3, 24-hr. avg.
Sulfates	25 µg/m^3, 24-hr. avg. ≥	No Standard	No Standard
Lead	1.5 µg/m^3, 30-day avg. ≥	1.5 µg/m^3, calendar quarter	1.5 µg/m^3, calendar quarter
Hydrogen Sulfide	0.03 ppm, 1-hr. avg. ≥	No Standard	No Standard

Table 5.2-1 (Cont.): Ambient Air Quality Standards

Air Pollutant	California	Federal	
	Concentration	Primary (>)	Secondary (>)
Vinyl Chloride	0.010 ppm, 24-hr. avg. ≥	No Standard	No Standard
Visibility Reducing Particles	In sufficient amount to reduce the visual range to less than 10 miles at relative humidity less than 70%, 8-hr. avg. (9am-5pm)[h]	No Standard	No Standard

[a] Effective December 15, 1982. The standards were previously 10 ppm, 12-hour average and 40 ppm, 1-hour average.
[b] Effective September 13, 1985, standard changed from > 10 mg/m^3 (≥ 9.3 ppm) to > 9ppm (≥ 9.5 ppm).
[c] Effective March 9, 1987, standard changed from ≥ .25 ppm to > .25 ppm.
[d] Effective July 1, 1985, standard changed from > 100 μg/m^3 (> .0532 ppm) to > .053ppm (> .0534 ppm).
[e] Effective October 5, 1984. The standard was previously .5 ppm, 1-hour average.
[f] Effective August 19, 1983. The standards were previously 60 μg/m^3 TSP, annual geometric mean, and 100 μg/m^3. TSP, 24-hour average.
[g] Effective July 1, 1987. The standards were previously: Primary- Annual geometric mean TSP > 75 μg/m^3, and a 24-hour average TSP > 260 μg/m^3. Secondary- Annual geometric mean TSP > 60 μg/m^3, and a 24-hour average TSP > 150 μg/m^3.
[h]. Effective October 18, 1989. The standard was previously "In sufficient amount to reduce the prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation", and was based on human observation rather than instrumental measurement.

Fine Particulate Matter. PM_{10} consists of finely-divided solids or liquids such as soot, dust, aerosols, fumes, and mists with an aerodynamic diameter of 10 microns (i.e., ten one-millionths of a meter or 0.0004 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on the arid landscape also contributes significantly to the local PM_{10} loading. PM_{10} may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Nitrogen Dioxide. NO_2 is a byproduct of fuel combustion. The principle form of NO_2 produced by combustion is nitric oxide (NO), but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NOx. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis.

Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm). NO_2 absorbs blue light; the result of which is a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10}.

Sulfur Dioxide. SO_2 is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO_2. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.

Lead. Pb in the atmosphere occurs as particulate matter. In the past, the combustion of leaded gasoline was the primary source of lead emissions in the SCAB. Other sources of lead include the manufacturing of batteries, paint, ink, ceramics, and ammunition, and secondary lead smelters. With the phase-out of leaded gasoline, secondary lead smelters and battery recycling and manufacturing facilities are becoming lead emission sources of greater concern. Prolonged exposure to atmospheric lead poses a serious threat to human health.

Reactive Organic Gases. ROGs are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by ROG, but rather by reactions of ROG to form secondary air pollutants including ozone.

Fugitive Dust. Fugitive dust poses primarily two public health and safety concerns. The first concern is that of respiratory problems attributable to the suspended particulates in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong wind storms by acting as an abrasive material agent (much like sandblasting activities).

Attainment Status

Areas that meet the ambient air quality standards are either classified as "attainment" areas while areas that do not meet these standards are classified as "non-attainment" areas. The severity of the classifications for non-attainment include and range in order from: marginal, moderate, serious, severe, and extreme. The attainment status for the SCAB is included in Table 5.2-2.

Table 5.2-2: Attainment Status for the SCAB

Pollutant	State Status	Federal Status
Ozone	Extreme Non-attainment	Extreme Non-attainment
PM_{10}	Serious Non-attainment	Serious Non-attainment
CO	Serious Non-attainment in LA County	Serious Non-attainment
NO2	Attainment	Attainment/Maintenance

The Basin is also designated as attainment of the CAAQS for SO_2, lead, and sulfates. Areas that are extreme non-attainment of the ozone standard must meet attainment by November 15, 2010. Areas considered as serious non-attainment of the CO and PM_{10} standards must reach attainment by December 31 of the years 2000 and 2006, respectively, or as expeditiously as possible.

Ambient Pollutant Levels

The project site is located in the western portion of Source/Receptor Area (SRA) 19 (Saddleback Valley) one of 38 noted areas under SCAQMD jurisdiction. The communities within an SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations. Existing levels of ambient air quality and historical trends and projections in the project area are best documented by measurements made by the monitoring site located in SRA 19 at El Toro. These values are presented in Table 5.2-3. Note that the El Toro station does not monitor NO_2. However, NO_2 levels have not exceeded State or federal standards in Orange County in the last 5 years. El Toro measurements have shown that ozone levels continue to exceed the California and national hourly standards, though the number of violations of the more stringent State standard has decreased over the past few years.

Table 5.2-3: Air Quality Monitoring Summary for the El Toro Monitoring Station[1]

State and Federal Pollutant/Standard	1997	1998	1999	2000[2]	2001
Ozone (O_3)					
State 1-hour > 0.09	8	15	2	3	10
Federal 1-hour > 0.12 ppm	2	2	0	1	1
Federal 8-hour > 0.08 ppm	2	3	0	2	2
Max. 1-hour conc. (ppm)	0.13	0.12	0.10	0.13	0.13
Max. 8-hour conc. (ppm)	0.10	0.08	0.06	0.11	0.10
Carbon Monoxide (CO)					
State 8-hour > 9.1 ppm	0	03	0	0	0
State 1-hour > 20 ppm	0	03	0	0	0
Federal 8-hour > 9.5 ppm	0	03	0	0	0
Federal 1-hour > 35 ppm	0	03	0	0	0
Max. 1-hour conc. (ppm)	5	63	4	5	3
Max. 8-hour conc. (ppm)	3.6	3.13	2.5	2.3	2.4
Inhalable Particulates (PM_{10})[3]					
State 24-hour > 50 $\Phi g/m^3$	4/562	6/59	6/60	1/31	5/57
Federal 24-hour > 150 ($\Phi g/m^3$)	0/562	0/59	0/60	0/31	0/57
Max. 24-hour conc. ($\Phi g/m^3$)	862	70	111	60	60

Source: Air Quality Data. SCAQMD 1998, 1999, 2000, 2001, and 2002

[1] Number of days standards were exceeded and maximum levels during such violations with the exception of inhalable particulates (PM_{10}), all values are based on 365 days per year.

[2] Less than 12 full months of data and may not be representative.

[3] Violations per number of samples.

With regard to particulate matter, no trend is readily apparent. While no violations of the federal standard were noted, the State standard for PM_{10} was exceeded 22 of the 263 times (approximately 8

percent) in the last 5 years that it was monitored. Suspended particulate matter (both total suspended particulates [TSP] and PM_{10}) is a mixture of natural and manmade materials that include soil particles, biological materials, sulfates, nitrates, organic compounds, and lead. Smaller particles (PM_{10}) are created by the combustion of fossil fuels, but are also given off from tire wear and brake dust. Of the other pollutants, particularly those related to vehicular source emissions, CO levels have exceeded neither the State nor federal 1- or 8-hour standards in the last 5 years of monitoring.

5.2.2 - Project Air Quality Impacts

The project includes the construction and operation of an approximately 5,040-foot roadway extension through the City of Tustin. The operations of roadway projects, such as that proposed, do not create new trips, and typically help to alleviate traffic congestion resulting in long-term beneficial air quality impacts through a reduction in emissions. On the other hand, these types of projects can create a redistribution of traffic patterns that ultimately result in the creation (or reduction) of CO impacts if they create (or remove) pockets of congestion near sensitive receptor locations. In accordance with the *Traffic Study*, this air quality study examines the potential for year 2005 and 2020 impacts.

Thresholds of Significance

Construction Phase - Thresholds of Significance

Separate threshold standards have been recommended for assessing construction-term impacts. The following significance thresholds for air quality have been established by the SCAQMD on a daily basis for construction emissions:

- 75 pounds per day for ROG,
- 100 pounds per day for NOx,
- 550 pounds per day for CO,
- 150 pounds per day for PM_{10}, and
- 150 pounds per day of SOx

During construction, if any of the identified daily air pollutant thresholds are exceeded by the proposed project, then the project's air quality impacts may be considered significant.

Operational Phase - Thresholds of Significance (Primary Effects)

Specific criteria air pollutants have been identified by the SCAQMD as pollutants of special regional concern. Based upon this categorization, the following significance thresholds for operational emissions have been established by the SCAQMD for project operations:

- 55 pounds per day of ROG
- 55 pounds per day of NOx

- 550 pounds per day of CO
- 150 pounds per day of PM_{10}, and
- 150 pounds per day of SOx

Projects within the SCAB with daily operation-related emissions that exceed any of the above emission thresholds may be considered significant.

The SCAQMD indicates in Chapter 6 of their *Handbook* that they consider a project to be mitigated to a less than significant level if its primary effects are mitigated below the thresholds provided above.

Operational Phase - Thresholds of Significance (Secondary Effects)
The SCAQMD recommends that "additional indicators" should be used as screening criteria with respect to air quality. Additional factors relevant to the project at hand identified in the *Handbook* include the following significance criteria:

- interference with the attainment of the federal or State ambient air quality standards by either violating or contributing to an existing or projected air quality violation, or
- generation of vehicle trips that cause a CO "hot spot"

Again, the SCAQMD indicates in Chapter 6 of their *Handbook* that they consider a project to be mitigated to a less than significant level if its secondary effects are mitigated below the thresholds provided above.

Impacts

Construction Impacts

Construction represents a short-term impact on air quality. Construction is anticipated to proceed in two discrete phases. Initially, the area would be graded. Expected equipment is based on projections included in the URBEMIS7G computer model distributed by the CARB. The model indicates that one grader, one track loader, and one wheel loader are used for every 10 acres graded. The model also assumes that as much as 25 percent of the site is graded at any one time and allocates this equipment accordingly. The largest portion of the site to be graded continuously is the area north of the proposed bridge between the OCFCD flood channel and Walnut Avenue. This portion of the road would have a length of approximately 0.5 mile or about 2,540 feet. The average width of disturbance is approximately 180 feet for a total area of approximately 475,200 square feet or 11 acres. As such, it is estimated that as much as 3 acres are disturbed on a daily basis requiring one grade, one wheel loader, and one track loader. This analysis also adds a water truck or miscellaneous piece of equipment for compliance with SCAQMD Rule 403. After the grading phase, equipment would be

used to place pilings. Based on experience with similar projects, it is anticipated that these would be "cast-in-drilled-hole" piles. Major pieces of construction equipment are then anticipated to include a drill rig to bore the holes, a crane to set forms, a front-end loader for road-work on the approaches, and a paver to apply the asphalt. Other miscellaneous, minor pieces could also be used, but the analysis assumes no downtime and total daily use would not be expected to differ substantially from that presented here.

Several truck trips would also be required for the delivery of materials such as concrete and asphalt. For construction purposes, the URBEMIS7G model associates truck use and worker commutes with square footage of building. However, no guidance is presented for roadway work. For the purposes of this analysis, it is assumed that 10 truck trips would be required on a daily basis. Additionally, 20 workers are assumed to travel in vehicles powered by gasoline. All equipment is assumed to be powered by diesel and operate for 8 hours per day. Emissions for this equipment were calculated in accordance with the SCAQMD *CEQA Air Quality Handbook* and are included in Table 5.2-4. Note that based on the presumed equipment use, daily emissions would not exceed the daily construction threshold values recommended by the SCAQMD, and the impact is less than significant.

Table 5.2-4: Total Daily Construction Emissions (lb/day)

Source	CO	NOx	ROG	SOx	PM_{10}
Grading					
Track Loaders	1.6	6.6	0.8	0.6	0.5
Wheel Loaders	4.6	15.2	1.8	1.5	1.4
Motor Graders	1.2	5.7	0.3	0.7	0.5
Water Truck (Miscellaneous)	5.4	13.5	1.2	1.1	1.1
Worker Trips	13.0	1.6	1.3	0.0	0.0
Haul Trucks	2.3	3.2	0.3	0.2	0.2
Dust	—	—	—	—	15.0
Total Daily Grading	28.1	45.8	14.3	4.1	36.2
SCAQMD Daily Threshold	550	100	75	150	150
Exceeds Threshold?	No	No	No	No	No
Bridge and Roadway Construction					
Drill Rig	25.0	30.0	2.5	2.5	1.9
Crane	6.0	15.3	2.0	1.3	1.0
Loader	7.6	16.0	1.4	1.4	1.0
Paver	3.0	9.9	0.4	0.9	0.4
Worker Trips	13.0	1.6	1.3	0.0	0.0

Table 5.2-4 (Cont.): Total Daily Construction Emissions (lb/day)

Source	CO	NOx	ROG	SOx	PM_{10}
Haul Trucks	2.3	3.2	0.3	0.2	0.2
Asphalt	—	—	1.5	—	—
Total Daily Construction	56.9	76.0	9.4	6.3	4.5
SCAQMD Daily Threshold	550	100	75	150	150
Exceeds Threshold?	No	No	No	No	No

Operational Impacts

Vehicle Emissions

As noted, the construction and operation of a new road does not create new vehicle trips but will cause a redistribution of existing (or future without project) trips. (In actuality, the operation of new roads helps to reduce traffic congestion, easing vehicle emissions.) As such, no new long-term emissions are associated with the project above and beyond those addressed in the FEIR. The impacts identified in the FEIR are provided in Appendix E. Any potential long-term impacts are then from the redistribution of traffic and the potential to create "hot spots" proximate to sensitive receptor locations. The SCAQMD thresholds discussed previously were used to assess the potential significance of these operational impacts.

The FEIR addressed long-term operational impacts on air quality for the development of the Reuse Plan. The FEIR identified that the CO, NOx, and ROC net operational emissions would exceed SCAQMD significance criteria in each of the five phases identified for the Reuse Plan.

CO Hotspot Analysis

As noted, an impact is potentially significant if the project produces emissions or adds measurably to emissions levels in excess of the State or Federal Ambient Air Quality Standards. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create "pockets" of CO called "hot spots." These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. Note that the federal levels are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition will occur based on the State standards prior to exceedance of the federal standard.

Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersection locations. Typically, the level of service (LOS) at an intersection producing a hot spot is at D or worse during the peak hour. To demonstrate the potential for the project to create hot spots, CALINE4 modeling was performed using the

procedures outlined in the Caltrans CO Protocol. As a worst-case scenario, the analysis includes the volumes of traffic for existing, and Years 2005 and 2020. Modeling methodology is included in Appendix D.

Table 5.2-5 presents the CO analysis performed for year 2005 traffic at those intersections than are projected to exceed LOS C. The table presents a point located at a distance of 10 feet from the worst of the four corners of the busiest of the two peak hour periods. The 10-foot value is used to represent any potential placement of receptors, whether existing or not, and is specified in the CO Protocol. Note that all predicted values are below the State 1-hour standard of 20 ppm. However, the intersection of Jamboree and Barranca shows "with project" 8-hour CO concentrations as high 11.4 ppm. This value is above the State 8-hour standard of 9.0. However, in accordance with the *Handbook*, in cases where the predicted CO concentration exceeds the 8-hour standard, the project only represents a significant impact if it adds 0.45 ppm to the "without project" value. In this case, the project improves the level of service by diverting vehicles away from this intersection and reduces the projected CO levels. As such, the project does not present a significant CO impact. This conclusion is consistent with the finding in the FEIR for year 2005.

Table 5.2-5: Year 2005 CO Microscale Analysis[1]

Intersection	Related Projects Plus Project Peak-Hour Volume	1-Hour CO (ppm)	8-Hour CO (ppm)
Redhill @ Irvine	5,870	11.5	7.5
Redhill @ Edinger	7,260	12.5	8.2
Redhill @ Warner	6,140	13.4	8.8
Redhill @ Carnegie	4,780	10.8	7.0
Redhill @ Barranca	6,200	11.6	7.6
Tustin Ranch @ Irvine	6,190	11.7	7.7
Tustin Ranch @ El Camino Real	3,820	9.8	6.3
Tustin Ranch @ Walnut	5,490	11.6	7.6
Tustin Ranch @ Loop Ramp	3,690	11.8	7.7
Jamboree @ Barranca[2]	10,670/10,490	17.2/17.0	11.5/11.4
Culver @ Warner	5,240	10.6	6.9
Grand @ Dyer	4,460	13.2	8.7
Von Karman @ Barranca	4,330	10.6	6.9

[1] As measured at a distance of 10 feet from the corner of the intersection predicting the highest value. CO values include background concentrations of 7.2 and 4.5 ppm for 1- and 8-hour concentrations, respectively. Eight-hour concentrations are based on a persistence factor of 0.7 of the 1-hour concentration.
[2] Without and with project, respectively.

Although CO concentrations were evaluated in the FEIR, this analysis was carried out to the year 2020 for all intersections that exceed LOS C. This analysis included more intersections than the FEIR analysis. The results of this analysis are included in Table 5.2-6. The model indicates that even though traffic volumes are increased, by this point in time vehicle emissions will be further reduced due to more stringent tailpipe standards and the removal of older, higher polluting vehicles from the fleet mix. Note that by this point in time, no intersections are projected to exceed either the State 1- or 8-hour standards, and again, no significant CO impacts are projected. This conclusion is consistent with the finding in the FEIR for the year 2020.

Table 5.2-6: Year 2020 CO Microscale Analysis[1]

Intersection	Related Projects Plus Project Peak-Hour Volume	1-Hour CO (ppm)	8-Hour CO (ppm)
Newport @ El Camino Real	4,380	8.2	5.6
Newport @ Sycamore	4,830	8.4	5.7
Newport @ Edinger	9,560	11.9	8.1
Redhill @ Irvine	6,450	8.5	5.8
Redhill @ Bryan	3,670	7.6	5.1
Redhill @ Walnut	4,710	8.0	5.4
Redhill @ Edinger	8,970	9.9	6.7
Redhill @ Warner	6,710	8.4	5.7
Redhill @ Carnegie	4,460	7.1	4.8
Redhill @ Barranca	6,830	8.5	5.8
Tustin Ranch @ Irvine	7,440	10.1	6.9
Tustin Ranch @ Bryan	5,260	8.8	6.0
Tustin Ranch @ El Camino Real	5,140	9.2	6.3
Tustin Ranch @ Walnut	6,530	9.7	6.6
Tustin Ranch @ Loop Ramp	5,280	8.7	5.9
Tustin Ranch @ Warner	5,850	8.8	6.0
Jamboree @ Irvine	7,010	9.3	6.3
Jamboree @ El Camino Real	6,910	8.6	5.8
Jamboree (NB) @ Walnut	3,610	8.6	5.8
Jamboree @ Barranca	12,380	12.2	8.4
Culver @ Irvine	7,280	8.8	6.0
Culver @ Bryan	5,700	8.9	6.0
Culver @ Irvine Center Drive	10,000	10.2	7.0
Culver @ Warner	6,210	9.3	6.3

Table 5.2-6 (Cont.): Year 2020 CO Microscale Analysis[1]

Intersection	Related Projects Plus Project Peak-Hour Volume	1-Hour CO (ppm)	8-Hour CO (ppm)
Culver @ Barranca	7,210	8.7	5.9
Edinger @ Loop Ramp	6,180	9.5	6.5
Grand @ Dyer	6,220	10.2	7.0
Von Karman @ Barranca	9,425	9.4	6.4
Armstrong @ Warner	5,640	7.9	5.3

[1] As measured at a distance of 10 feet from the corner of the intersection predicting the highest value. CO values include background concentrations of 5.7 and 3.8 ppm for 1- and 8-hour concentrations, respectively. Eight-hour concentrations are based on a persistence factor of 0.7 of the 1-hour concentration.

Consistency with the AQMP

An impact is also potentially significant if the project is not consistent with the applicable air quality plan; or in this case, the AQMP. A consistency determination plays an essential role in local agency project review by linking local planning and uniquely individual projects to the AQMP in the following ways. It fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. Moreover, it provides the local agency with ongoing information assuring local decision-makers that they are making real contributions to clean air goals contained in the AQMP. Only new or amended General Plan elements, Specific Plans, and significant projects need to undergo a consistency review. This is because the AQMP strategy is based on projections from local General Plans. Therefore, projects that are consistent with the local General Plan are considered consistent with the air quality-related regional Plan.

The project would not require a General Plan Amendment and is, in fact, already included in the listing of planned roadway improvements in the General Plan. Furthermore, no significant air quality impacts are projected for either the construction or operation of the road. Modeling actually indicates that the project would reduce CO concentrations at one intersection that is projected to be in exceedance of the California 8-hour CO standard and in this respect represents a beneficial impact. As such, the project is considered to be consistent with the AQMP and in this respect, does not represent a significant impact.

5.2.3 - Cumulative Impacts

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even

larger area. Accordingly, the cumulative analysis for the project's air quality must be generic by nature.

The project area is out of attainment for CO, ozone, and PM_{10} particulate matter. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the SCAB. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, the greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects.

In accordance with the SCAQMD methodology, any project that produces emissions less than the criteria values does not add significantly to the cumulative impact. As such, the project represents less than a significant cumulative impact.

With respect to emissions that exceed State and federal standards, a CO hot spot analysis was performed for year 2005 and 2020 traffic when project and area build-out, respectively, are expected. The results of this analysis show that cumulative projects could create a significant CO hot spot at the intersection of Jamboree and Barranca. The project, however, reduces the number of vehicles through this intersection and reduces the projected CO concentrations. As such, the project represents a beneficial cumulative impact. No other intersections are projected to exceed the State CO standards and, therefore, the project does not add to any significant cumulative impacts.

5.2.4 - Mitigation Measures

No significant air quality impacts have been identified for the construction of Tustin Ranch Road, and no mitigation is required. However, the following is an implementation measure that is required to comply with existing rules and regulations established by the SCAQMD to reduce air emissions and preserve air quality:

AQ-1 During construction of the proposed roadway extension, the following measures will be implemented to comply with existing SCAQMD Rules and Regulations:

- Rule 1113 that regulates the VOC content of any paints and surface coatings that may be used in construction,
- Rule 1108 that that regulates the VOC content of any asphalt used in construction,
- SCAQMD Rules 402 and 403 that regulate the control of fugitive dust and visible emissions.

- All stationary equipment (e.g., generators and compressors) rated in excess of 50 horsepower is subject to SCAQMD permitting.

In addition to the above measure, mitigation measures were identified in the FEIR for the development of the Reuse Plan. These measures are identified in the air quality section of the FEIR which is located in Appendix E.

5.2.5 - Level of Significance After Mitigation

No significant impacts on existing air quality would occur from developing Tustin Ranch Road. However, as stated in the FEIR, significant and unavoidable air quality impacts would occur with the development of the MCAS Tustin Specific Plan/Reuse Plan. The Tustin City Council has previously adopted a Statement of Overriding Considerations related to the significant and unavoidable air quality impacts that would occur with the development of the MCAS Tustin Specific Plan/Reuse Plan.

5.3 - NOISE

This section summarizes the noise study prepared by Synectecology in November 2003. This study is contained in its entirety in Appendix D.

The FEIR included a noise study that evaluated the interim development of the Reuse Plan without Tustin Ranch Road Extension for the year 2005. The FEIR adequately evaluated impacts of the Reuse Plan for the year 2005. The noise study prepared for the proposed project evaluates the potential significant impacts associated with the development of Tustin Ranch Road for the year 2005. To determine the noise effects of implementing Tustin Ranch Road on the roadway segments surrounding the project site, a comparative evaluation with and without Tustin Ranch Road was performed for the year 2005. The noise study identifies the incremental effect of implementing Tustin Ranch Road for the year 2005, and these incremental effects are those that are above and beyond the effects addressed in the FEIR.

The FEIR adequately evaluated the effects of full development of the Reuse Plan with Tustin Ranch Road for the year 2020 on the roadways surrounding the project site. No further analysis for the year 2020 is required; however, the noise study prepared for the project identified the effects that are associated with the development of the Tustin Ranch Road extension for the year 2020. The noise study prepared for the project determined that the noise effects for the year 2020 on the roadways surrounding the project site are consistent with the findings in the FEIR. The noise study did not re-evaluate the Reuse Plan's effect on Warner Avenue between Harvard Avenue and Culver Drive. Except for this street segment, no significant noise impacts along roadways surrounding the Tustin Ranch Road project site were identified.

In addition to the noise analysis along the roadways surrounding the project site, the noise study for the proposed project evaluated the potential noise impacts on adjacent residential, church, and office uses from constructing and operating the extension of Tustin Ranch Road. The noise analysis evaluated the noise impacts on these adjacent residential, church, and offices uses for the years 2005 and 2020 because these impacts were not addressed in the FEIR.

5.3.1 - Existing Conditions

Noise Definitions

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions. Changes of 1 to 3 dBA are detectable under quiet, controlled

conditions and changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernable to most people in an exterior environment. A change of 10 dBA is usually perceived as a doubling or halving of noise.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all but are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Noise Measurement Scales

Several rating scales (or noise "metrics") exist to analyze adverse effects of noise, including traffic-generated noise, on a community. These scales include the equivalent noise level (Leq), the community noise equivalent level (CNEL), and the day-night noise level (Ldn). Leq is a measurement of the sound energy level averaged over a specified time period (usually 1 hour). Leq represents the amount of variable sound energy received by a receptor over a time interval in a single numerical value. For example, a 1-hour Leq, designated as Leq(h), noise level measurement represents the average amount of acoustic energy that occurred in that hour. Other values of concern include the Lmin and Lmax. These are the minimum and maximum root-mean-square values recorded over a brief period; typically of 1 second.

Unlike the Leq metric, the CNEL noise metric is based on 24 hours of measurement. CNEL also differs from Leq in that it applies a time weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when quiet time and sleep disturbance is of particular concern). Noise occurring during the daytime period (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise produced during the evening time period (7:00 p.m. to 10:00 p.m.) is penalized by 5 dBA, while nighttime (10:00 p.m. to 7:00 a.m.) noise is penalized by 10 dBA. The Ldn noise metric is similar to the CNEL metric except that the period from 7:00 p.m. to 10:00 p.m. receives no penalty.

Both the CNEL and Ldn metrics yield approximately the same 24-hour value (within 1 dBA) with the CNEL being the more restrictive (i.e., higher) of the two.

Another descriptor for noise, the percentile sound level, is the statistical A-weighted noise level exceeded a given percentage of the time during a specified measurement period. Percentile sound levels are used to define the ambient environment. For example, the L_{50} is the level exceeded 50 percent of the time and can be used to approximate the average sound level. The L_{90} is exceeded 90 percent of the time and can be used to describe the quietness of an area or to quantify the contribution to the time-varying noise environment from continuously operated noise sources. Percentile values are frequently used to demonstrate compliance with local regulation for continual or stationary noise sources. For example, the City's noise ordinance states that a given value is not to be exceeded for a period of 15 minutes in any hour. This 15-minute period represents 25 percent of the hour, or an L_{25} value.

Federal Guidelines and Standards

The Federal Highway Administration (FHWA) has developed noise standards which are typically used for federally funded roadway projects or projects that require either federal or Caltrans review. These noise standards are based on Leq and L_{10} values. (Note that L_{10} is typically about 3 dBA greater than the Leq value.) The FHWA values are the maximum desirable values by land use type and area based on a "trade-off" of what is desirable and what is reasonably feasible. These values recognize that in many cases lower noise exposures would result in greater community benefits. FHWA design noise levels are included in Table 5.3-1.

Table 5.3-1: FHWA Design Noise Levels

Activity Category	Design Noise Levels[1]		Description of Activity Category
	Leq (dBA)	L_{10} (dBA)	
A	57 (exterior)	60 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	70 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties, or activities not included in Categories A or B, above
D	—	—	Undeveloped lands.
E	52 (interior)	55 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

[1] Either Leq or L_{10} (but not both) design noise levels may be used on a project.

State Guidelines and Standards

The California Department of Health Services' (DHS) Office of Noise Control has studied the correlation of noise levels and their effects on various land uses. As a result, the DHS has established four categories for judging the severity of noise intrusion on specified land uses.

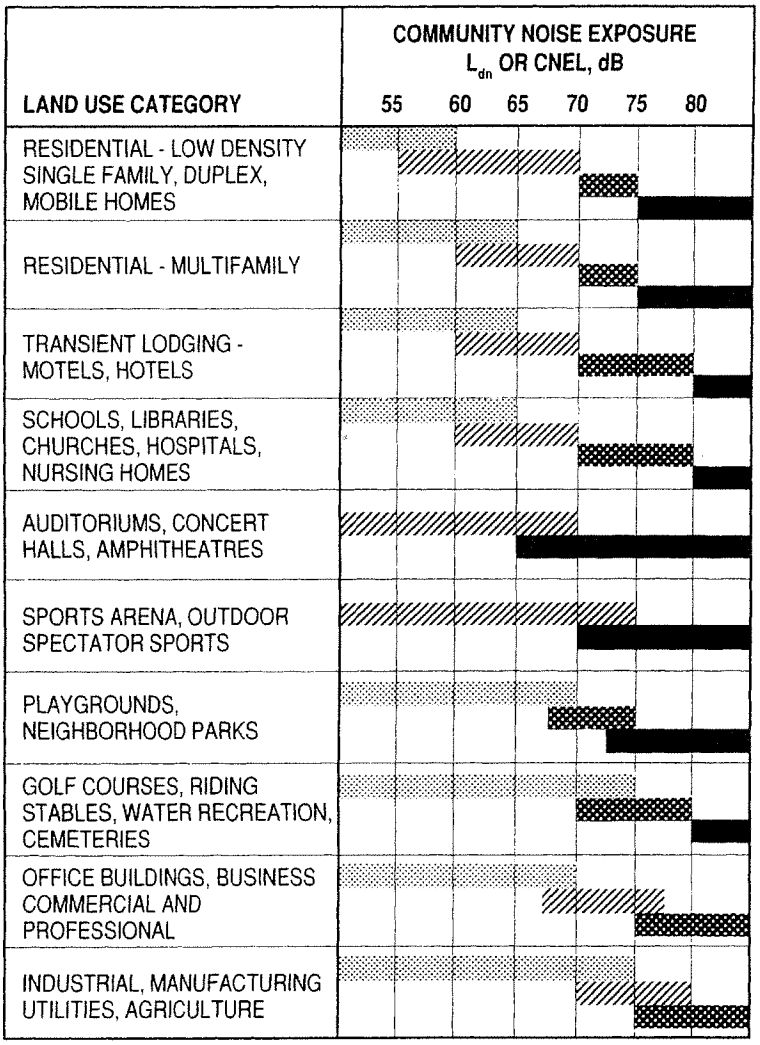
Exhibit 5.3-1 presents a land use compatibility chart for community noise prepared by the California Office of Noise Control. It identifies "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" noise levels for various land uses. A "conditionally acceptable" designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a "normally acceptable" designation indicates that standard construction can occur with no special noise reduction requirements. Note that there is some overlap between the various categories.

As shown in Exhibit 5.3-1 single-family residences are "normally acceptable" in exterior noise environments up to 60 dBA CNEL and "conditionally acceptable" in areas up to 70 dBA CNEL. Multi-family residential uses are "normally acceptable" in exterior environments up to 65 dBA CNEL and "conditionally acceptable" in those up to 70 dBA CNEL. Schools, libraries, churches, offices, business, commercial, and professional uses are "normally acceptable" in exterior noise environments up to 70 dBA CNEL.

Caltrans Noise Standards

Section 2.4.2 of the Caltrans *Traffic Noise Analysis Protocol* (October 1998) (*Protocol*) outlines the A-weighted noise level (dBA Leq) Noise Abatement Criteria (NAC). For residential development and sensitive land uses which exist along the proposed project, Caltrans follows the FHWA standards and an exterior NAC of 67 dBA Leq for the peak noise hour is the maximum allowable exterior noise level for sensitive residential uses. In order for the proposed noise abatement measures to be considered feasible, a minimum of 5-dBA-noise reduction must be achieved at the impacted receivers (Section 2.7 of the *Protocol*). In addition to the NAC, Caltrans requires that noise barriers should provide the following:

- A minimum height of 1.8 meters (6.0 feet) as measured from the top of the barrier to the top of the foundation,
- A maximum height of 4.3 meters (14.0 feet) as measured from the pavement surface at the face of the safety shape barrier when located 4.5 meters (14.7 feet) or less from the edge of the traveled way, and should not exceed 5.0 meters (16.4 feet) in height above the ground line when located more than 4.5 meters (14.7 feet) from the traveled way,



LEGEND

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: California Department of Health, Guidelines for the Preparation and Content of Noise Elements of The General Plan, February, 1976

Source: California Department of Health.

Michael Brandman Associates

Exhibit **5.3-1**
Noise and Land Use Compatibility

- Intercept the line-of-sight from the exhaust stack of a truck to the noise receptor. The truck stack height is assumed to be 3.5 meters (11.5 feet) above the pavement. The receptor is assumed to be 1.5 meters (5.0 feet) above the ground and is located 1.5 meters (5.0 feet) from the living unit nearest the roadway, and
- Should not be designed to shield the second story of two-story residences unless it provides attenuation for a substantial number of residences at a reasonable increase in cost.

City of Tustin Noise Policy

The Noise Element of the Tustin General Plan guides noise policy in the City. The primary purpose of the City of Tustin Noise Element is to reduce the number of people exposed to excessive noise and minimize the future effects of noise on the City. The Noise Element defines the City's goals and policies with respect to noise intrusion. The Element defines three primary goals of the City. These include the use of noise control measures to reduce the impact from transportation-related noise, the incorporation of noise considerations into land use planning decisions, and the development of measures to control non-transportation noise impacts. The goals are to be pursued through the various policies included in the Element. The City sets a noise compatibility goal of 65 dBA CNEL for exterior habitable areas and 45 dBA CNEL for interior habitable areas for new residential land uses and acceptable noise levels from development. Because typical State of California Title 24 construction results in an attenuation level in excess of 20 dBA with windows closed (15 dBA with windows open), the 45 dBA CNEL is easily achieved so long as the units are equipped with forced air ventilation thereby allowing residents to leave their windows closed. These compatibility levels are included in Table 5.3-2.

Table 5.3-2: City of Tustin Interior and Exterior Noise Standards in the City of Tustin Noise Element

Land Use	Noise Standard[1]	
	Interior[2,3]	Exterior
Residential - Single family, multifamily, duplex, mobile home	45 dBA CNEL	65 dBA CNEL[4]
Residential - Transient lodging, hotels, motels, nursing homes, hospitals	45 dBA CNEL	65 dBA CNEL[4]
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting rooms, etc.	45 dBA Leq(12)	—
Schools	45 dBA Leq(12)	67 dBA Leq(12)[5]
General offices, reception, clerical, etc.	50 dBA Leq(12)	
Bank lobby, retail store, restaurant, typing pool, etc.	55 dBA Leq(12)	
Manufacturing, kitchen, warehousing, etc.	65 dBA Leq(12)	

Table 5.3-2 (Cont.): Table 5.3-2: City of Tustin Interior and Exterior Noise Standards in the City of Tustin Noise Element

Land Use	Noise Standard[1]	
	Interior[2,3]	Exterior
Parks, playgrounds		65 dBA CNEL[5]
Golf Courses, outdoor spectator sports, amusement parks		70 dBA CNEL[5]

[1] CNEL: Community Noise Equivalent Level. Leq(12): the A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation).
[2] Noise standard with windows closed. Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment.
[3] Indoor environment excluding bathrooms, toilets, closets, and corridors.
[4] Outdoor environment limited to rear yard of single family homes, multi-family patios, and balconies (with a depth of 6 feet or more) and common recreation areas.
[5] Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.
Source: City of Tustin, Tustin General Plan, Noise Element, 1994.

The City regulates noise though Chapter 6 of Article 4 of the Tustin City Code. The Code presents permissible noise intrusion levels by land use as included in Table 5.3-3. These standards are not to be exceeded for a cumulative period of 30 minutes in any hour. However, greater noise levels are permissible for shorter durations. The standards are not to be exceeded by 5 dBA for a cumulative period of 15 minutes in any hour, by 10 dBA for a cumulative period of 5 minutes in any hour, by 15 dBA for a cumulative period of 1 minute in any hour, or by 20 dBA for any period of time. In the event that the ambient noise already exceeds these standards, the allowable noise shall be increased to reflect the ambient noise accordingly. Note that these standards do not apply to noise that is preempted by other State or federal standards (such as that produced by motor vehicles when operating on City streets).

Table 5.3-3: City of Tustin Exterior Noise Standards in the City of Tustin Municipal Code[1]

Land Use	Noise Level	Time Period
Residential	55 dBA 50 dBA	7:00 a.m. - 10:00 p.m. 10:00 p.m. - 7:00 a.m.
Commercial	60 dBA	Any time
Industrial	70 dBA	Any time
Institutional (e.g., hospitals, convalescent homes, schools, libraries, churches)	55 dBA	Any time
Mixed Use	60 dBA	Any Time

Source: Chapter 6 of Article 4 of the Tustin City Code, 1982, revised 1988 and 2003.
[1] These standards do not apply to noise that is preempted by other state or federal standards (i.e., motor vehicles operating on city streets).

Article 4 of the Tustin City Code recognizes that some forms of noise are required for urban development and maintenance and are difficult to control. Section 4617(e) "Exemptions," exempts

"Noise sources associated with construction, repair, remodeling, or grading of any real property between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and the hours of 9:00 a.m. and 5:00 p.m. on Saturdays, excluding City observed federal holidays." Note that in accordance with Section 4616 (1) this exemption also applies to "Trucks, vehicles and equipment that are making or are involved with material deliveries, loading or transfer of materials, equipment service, maintenance of any devises or appurtenances to any construction project in the City."

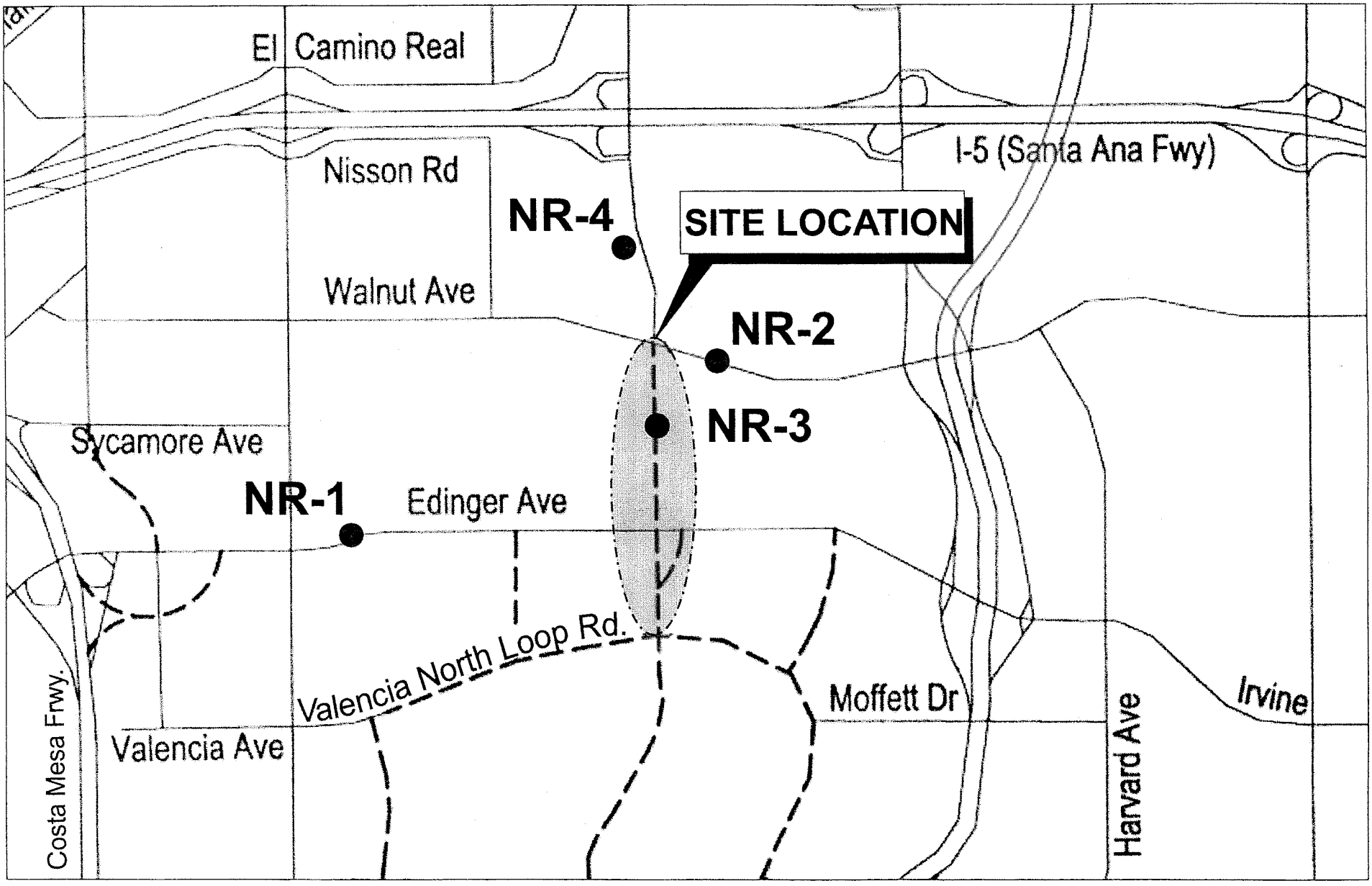
Noise Environment

Tustin Ranch Road is designated as 45 mph to the north of the extension. Walnut Avenue is designated as 40 mph both to the east and west of the extension while Edinger Avenue is designated as 60 mph. The project location includes single-family residential uses as well as commercial, industrial, and institutional uses adjacent to its west and east sides, respectively. Sensitive land uses in the project area include residential units located along the west side of the proposed extension of Tustin Ranch Road and a church use on the east side of the proposed extension, north of Edinger Avenue. The most significant and common source of noise in the project area is from vehicles traveling on Tustin Ranch Road, Walnut Avenue, and Edinger Avenue. Rail operations along the OCTA/SCRRA right of way also add to both short-term and ambient levels. Aircraft constitute occasional short-term noise intrusion, but their integrated contribution is small.

The extension follows the existing Tustin Ranch Road easement south of Walnut Avenue. The west side of the easement is adjacent to one and two-story single-family residential units located at the cul-de-sacs of Fig Tree Drive, Basswood Circle, Sable Tree Circle, Ana Tree Place, Caper Tree Drive, Silk Tree Drive, Coco Palm Drive, and Apple Tree Drive.

Single-family residential units are also located to the north of the extension along the west side of Tustin Ranch Road and to the west backing up to Walnut Avenue and the OCFCD and OCTA/SCRRA right of way easements along Edinger Avenue. The area to the east of the project is largely commercial and light industrial. The area south of Edinger Avenue includes agricultural land in and around the proposed alignment.

Noise monitoring was conducted on September 12, 2001 and included four noise readings (NR-1 though -4) at the locations indicated in Exhibit 5.3-2. To best represent the acuity of the human ear, the meter was set to A-weighting and slow response mode. The Leq, L_{02}, L_{10}, L_{25}, L_{50}, Lmin, and Lmax values were recorded. The Leq value is representative of the equivalent noise level or logarithmic average noise level obtained over the measurement period. The L_{02}, L_{10}, L_{25}, L_{50} values represent the levels are exceeded for a period of 1, 6, 15, and 30 minutes during a 1-hour period (if the reading were extrapolated out for a duration of 1 hour). The Lmin and Lmax represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second. With the



SOURCE: Kimley-Horn and Associates, Inc.

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Exhibit **5.3-2**

Noise Monitoring Locations

exception of the Leq, the L_{02}, L_{10}, L_{25}, L_{50}, Lmin, and Lmax values are included for informational purposes only. The results of the readings are included in Table 5.3-4.

Table 5.3-4: Noise Level Measurements[1]

Noise Reading	Leq	L02	L10	L25	L50	Lmin	Lmax
NR-1	67.9	73.1	69.4	66.7	62.7	46.1	91.1
NR-2	45.6	51.2	47.4	45.7	44.3	39.9	60.4
NR-3	64.8	71.9	68.0	65.8	62.7	50.3	77.2
NR-4	65.7	71.8	69.2	67.0	63.7	51.0	75.0

[1] All values are in dBA. The Leq represents the equivalent sound level and is the numeric value of a constant level that over the given period of time transmits the same amount of acoustic energy as the actual time-varying sound level. The L02, L10, L25, and L50 are the levels that are exceeded 2, 10, 25, and 50 percent of the time, respectively. Alternatively, these values represent the noise level that would be exceeded for 1, 6, 15, and 30 minutes during a 1-hour period. The Lmin and Lmax represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second.

NR-1 -The reading was obtained in the vacant lot located to the east of the parking lot of the former Barn Restaurant approximately 500 feet east of Redhill Avenue. Because there are no major intersections between the project site and the monitored location, both the vehicle counts and ratios would be equivalent to those at the actual project site. The meter was placed at a distance of 50 feet from the centerline of the near lane along the north side of Edinger Avenue. This placed the meter approximately 87 feet from the centerline of the road.

NR-2 - This reading was obtained within the Tustin Ranch Road Extension easement. As noted, single-family residential units are located along the west side of the extension. Toward the north end of the extension, these homes are above the grade of the existing terrain. The homes are protected by a 6-foot high masonry wall atop a 4-foot berm. Proceeding toward the south, the elevation of the proposed roadway rises while the homes to the west still have a 6-foot wall on a 4-foot berm. The elevation of the road rises to a height that is higher than the second story roofs. Due to the presence of local roadways as well as the railroad, noise along the proposed extension increases as one approaches either Walnut or Edinger Avenue. The meter was placed approximately 600 feet south of Walnut Avenue near the center of the easement. This location would be roughly equivalent to the noise levels at most of the residents located immediately west of the alignment. A 25-minute reading was obtained from 10:22 a.m. Ambient noise included vehicles on Walnut Avenue and distant tree trimmers using chainsaws and chippers.

NR-3 - This reading was obtained to determine noise levels generated along Walnut Avenue. The reading also documents the ambient noise at the exterior of the First Baptist Church. The meter was located in the grassy area of the First Baptist Church approximately 200 feet east of the southeast

corner of the intersection of Tustin Ranch Road and Walnut Avenue. The meter was placed at a distance of 50 feet from the centerline (grease stain) of the near lane along the south side of Walnut Avenue. This placed the meter approximately 75 feet from the centerline of the road. A 20-minute reading was taken from 11:30 a.m. with simultaneous vehicle counts.

NR-4 - This reading was obtained to determine noise levels generated along Tustin Ranch Road. The meter was located on the bermed area along the east side of the road midway between Walnut Avenue and the I-5 Freeway. The meter was placed at a distance of 50 feet from the centerline (grease stain) of the near lane. This placed the meter approximately 91 feet from the centerline of the road. The 20-minute reading began at 12:10 p.m.

To verify the accuracy of the Sound32 (Caltrans version of Stamina2/Optima) noise prediction model, the observed volumes of vehicles (see Appendix D) were extrapolated out to a 1-hour period and these volumes, along with roadway logistics, were modeled for the three noise readings obtained along the existing roadways (i.e., NR-1, NR-3, NR-4). These vehicles were assumed to travel at the posted speed limit. Model results are included in Table 5.3-5. Model runs are included in Appendix D.

Table 5.3-5: Observed Versus Modeled LEQ Noise Levels[1]

Noise Reading [2]	Observed Leq	Speed Limit	Modeled Leq(h) (Hard Site)	Difference	Modeled Leq(h) (Soft Site)	Difference
NR-1	67.9	45	66.9	1.0	65.5	2.4
NR-3	64.8	40	67.1	2.3	65.5	0.7
NR-4	65.7	45	67.1	1.4	65.5	0.2

[1] All values Leq(h) in dBA.
[2] The model could not be correlated with Reading NR-2 because actual traffic counts along Walnut Avenue could not be accomplished simultaneously with the observed noise reading.

The model shows a close correlation with the measured field readings. Reading NR-1 was taken in a 45 mph area immediately west of a 55 mph zone. As such, the actual vehicle speeds were probably closer to about 50-55 mph and the model would predict values of 1 to 2 dBA greater, respectively. Additionally, a passing train did raise the observed value over what would have been noted for just the vehicle traffic. Reading NR-3 was taken over a grassy area with proximate bushes and is representative of a typical "soft site." Similarly, NR-4 was taken in a bermed, bushy area and is also typical of a "soft site."

Modeling of Existing Traffic

Up until this point, this analysis has focused on the noise levels noted at the monitored locations. While these locations are indicative of the project area, they are not inclusive of all of the local receptors. The modeling presented here would be indicative of the various noted sensitive land uses throughout the project area.

The analysis considers the area from the I-5 Freeway to the north to Edinger Avenue to the south, and Jamboree Road to the east to Redhill Avenue to the west. These roads would realize the greatest changes due to project implementation. A change of 1 dBA would require that traffic increase by 26 percent. Because a change of less than 1 dBA is not discernable to the human ear, and no other roads in the project area would be subject to this level of change, no other roads were examined.

To determine the CNEL noise level produced by traffic, the percentage contribution from each hour of traffic was determined from an Orange County, year 2003 run of the BURDEN2002 computer model distributed by the California Air Resources Board. The ratio of each hour of traffic to the total daily traffic was then calculated. Traffic between the hours of 7:00 p.m. and 10:00 p.m. was assigned a 5-dBA penalty whereas the traffic predicted between 10:00 p.m. and 7:00 a.m. was assigned a 10-dBA penalty. The resultant noise associated with each hour was then logarithmically summed and averaged so that an attenuation factor could be ascertained and applied to the entire volume of traffic as if it were to occur in a one-hour period. Under these premises, this CNEL value is 10.2 dB less than the model results that are predicted if the entirety of the traffic were modeled to occur in a one-hour period. As such, the CNEL can be represented by modeling the average daily traffic as if it were to occur in a one-hour period and subtracting 10.2 dBA from this value. This method works well where passing traffic provides the dominant noise source that directly impacts receptors.

Similar to the CNEL, the Leq(12) noise level produced by traffic was also determined from the percentage contribution from each hour of traffic determined from the BURDEN model. In this case the ratio only considers traffic produced between 7:00 a.m. and 7:00 p.m. and no penalty is added to evening or nighttime traffic as is done in the calculation of the CNEL. This 12-hour period encompasses the most traffic resulting in the highest Leq(12) of any consecutive 12-hour period. The resultant noise associated with each hour was logarithmically summed and averaged so that an attenuation factor could be ascertained and applied to the entire volume of traffic as if it were to occur in a one-hour period. Under these premises, this Leq(12) value is 11.9 dB less than the model results that are predicted if the entirety of the traffic were modeled to occur in a one-hour period. As such, the Leq(12) can be represented by modeling the average daily traffic as if it were to occur in a one-hour period and subtracting 11.9 dBA from this value. Again, this method works well where passing traffic provides the dominant noise source that directly impacts receptors.

For the purposes of this analysis, the ratio of automobiles, medium trucks, and heavy trucks was based on data obtained in the field study (see Appendix D for vehicle mix used in modeling). Vehicle speeds are as based on the posted speed limits. Table 5.3-6 presents the projected noise levels along site access roads in the project area as well as the distances to the 70, 65, and 60 dBA CNEL noise contours. The analysis does not include any walls, berms, or obstructions that may reduce noise from the modeled levels. Based on their actual distance to the centerline of the road, as well as the presence of any existing walls or structures, some sensitive receptors may already be exposed to noise levels in excess of the City's 65-dBA compatibility level.

In addition to existing noise levels generated along the various access routes, Sound32 noise modeling was prepared to determine the existing noise level at the structure located at the southwest corner of Walnut Avenue and the proposed Tustin Ranch Road alignment (i.e., Receptor No. 1 @ 2351 Fig Tree). The receptor was modeled in the rear yard at a distance of five feet from the structure most proximate to the proposed alignment. In this case, the existing walls were included in the model. The model notes that the CNEL is 58.9 dBA in this location.

Table 5.3-6: Existing CNEL Noise Levels Within the Project Area[1]

Location	ADT	SPEED	CNEL @ 50 Feet	Distance to 70 dBA CNEL	Distance to 65 dBA CNEL	Distance to 60 dBA CNEL
Walnut Avenue						
Redhill - Browning	15,000	35	66.9	<50	67	144
Browning - Tustin Ranch	15,000	40	68.2	<50	82	176
Tustin Ranch - Jamboree	10,000	40	66.4	<50	62	134
Edinger Avenue						
Redhill - West Connector [2]	18,000	45	70.2	52	111	239
West Connector [2] - Tustin Ranch	18,000	55	72.3	71	153	330
Tustin Ranch - Myford	18,000	55	72.3	71	153	330
Myford - Jamboree	18,000	55	72.3	71	153	330
Redhill Avenue						
Edinger - Sycamore	37,000	40	72.1	69	149	320
Sycamore - Walnut	35,000	40	71.9	67	144	311
Walnut - I-5	38,000	40	72.2	70	151	325
Tustin Ranch Road						
Walnut - I-5	18,000	45	70.2	52	111	239

Table 5.3-6 (Cont.): Existing CNEL Noise Levels Within the Project Area1

Location	ADT	SPEED	CNEL @ 50 Feet	Distance to 70 dBA CNEL	Distance to 65 dBA CNEL	Distance to 60 dBA CNEL
Jamboree Road						
Irvine Center - Walnut	41,000	60	76.8	142	306	659
Walnut - I-5	42,000	60	76.9	144	311	669

[1] As measured from the centerline of the road. Distances based on soft site modeling.
[2] Referred to as Browning Avenue in Appendix D.

5.3.2 - Project Noise Impacts

Thresholds of Significance

The State CEQA Guidelines indicate a project will normally have a significant effect on the environment related to noise if it will:

> "...increase substantially the ambient noise levels for adjoining areas...", or
>
> "...conflict with adopted environmental plans and goals of the community where it is located..."
>
> "...exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels."

The applicable noise standards governing the project site are the City of Tustin Noise Standards. Mobile sources of noise, such as truck deliveries and railroad operations are exempt from local ordinance but are still subject to CEQA and would be significant if the project generates a volume of traffic which would result in a substantial increase in mobile source-generated noise or sites the roadway next to sensitive land uses such that its resultant noise is incompatible with those uses.

An applicable groundborne noise vibration standard is provided by Caltrans in the *Caltrans Transportation-Related Earthborne Vibration*, February 20, 2002. According to Caltrans, a significant groundborne vibration impact occurs if the vibration is 2.0 millimeters per second or greater.

The following analysis is a supplement to the analysis prepared for the FEIR for the Reuse Plan, and the criteria are retained for this analysis. As such, an exterior noise impact would be considered as potentially significant if the project were to expose sensitive receptors to a noise level of 65 dBA CNEL. If existing or existing with project exterior noise levels are to exceed 65 dBA, the criterion for a significant impact is set at an increase of 3 dBA CNEL. This level has been found to be barely audible to a typical person in an exterior environment.

Furthermore, if the project were to expose sensitive receptors to an interior noise level of greater than 45 dBA CNEL, a significant impact would occur. The State noise guidelines indicate that sensitive land uses may be placed in areas with external noise levels of up to 60 dBA CNEL with no requirement for mitigation. This would infer that typical residential construction could provide 15 dBA of attenuation even with windows open as mechanical ventilation is not warranted. Both Caltrans and the Federal Highways Administration also note an exterior/interior reduction of 15 dBA in their standards.

Impacts

Short Term Noise Impacts

Noise disturbances are expected during construction in the areas adjacent to the proposed alignment. These disturbances will be due to site preparation and subsequent construction of the proposed roadway and bridge. Noise from construction could be substantial. As with most construction projects, it would require the use of a number of pieces of heavy equipment, such as bulldozers, backhoes, loaders, concrete mixers, etc. In addition, trucks, both heavy and light, would be required to deliver construction materials. Furthermore, excess vibration is typically associated with pile driving activities which are proposed during the construction effort.

Two types of noise impacts could occur during the construction phase. First, the transport of workers and equipment to the construction site would incrementally increase noise levels along site access roadways. Even though there would be a relatively high single event noise exposure potential with passing trucks (a maximum noise level of 86 dBA at 50 feet), the increase in noise would be less than 1 dBA when averaged over a 24-hour period, and would therefore have a less than significant impact on noise receptors along the truck routes.

Local residents would be subject to elevated noise levels due to the operation of on-site construction equipment. Construction activities are carried out in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow noise ranges to be categorized by work phase. Table 5.3-7 lists typical construction equipment noise levels recommended for noise impact assessment at a distance of 50 feet.

Table 5.3-7: Noise Associated With Typical Construction Equipment

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)	Suggested Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000-18,000 ft-lb/blow	81-96	93
Rock Drills	83-99	96
Jack Hammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	68-80	77
Dozers	85-90	88
Tractor	77-82	80
Front-End Loaders	86-90	88
Hydraulic Backhoe	81-90	86
Hydraulic Excavators	81-90	86
Graders	79-89	86
Air Compressors	76-86	86
Trucks	81-87	86

Noise ranges have been found to be similar during all phases of construction. The grading and site preparation phase tends to create the highest noise levels, because the noisiest construction equipment is found in the earthmoving equipment category. This category includes excavating machinery (backfillers, bulldozers, draglines, front loaders, etc.) and earthmoving and compacting equipment (compactors, scrapers, graders, etc.) Typical operating cycles may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels at 50 feet from earthmoving equipment range from 73 to 96 dBA while Leq noise levels range up to about 89 dBA. The later construction, such as the pouring of forms, is somewhat reduced from this value and the physical presence of the structure may break up line-of-sight noise propagation.

Residential units lie to the immediate south and west of the project site, the most proximate of which are on the order of 20 to 50 feet from roadway easement. Based on an Leq value of 89 dBA as measured at a distance of 50 feet, resultant noise levels could be on the order of 89 to 97 dBA Leq. During the vast majority of the construction period, however, noise levels would be 30 to 40 dBA lower, ranging from 50 to 60 dBA, due to lower power settings and sound attenuation effect provided by longer distances and partial blocking. Interior noise levels would be further reduced in excess of 20 dBA with windows closed. This range of noise levels is considered acceptable during daytime hours. Ambient noise levels in the project vicinity would increase during the construction phase, but would drop considerably after construction of the proposed roadway is completed.

As identified previously, the project includes pile driving activities during the construction phase. The project includes 2 abutments with 30 piles each and 3 bents with 36 piles each. The total number of piles will be 168. The distance of the nearest pile in the abutment on the north side of the proposed bridge to the nearest existing residence is 125 feet. According to the *Caltrans Transportation-Related Earthborne Vibration*, February 20, 2002, pile driving activities that are at 125 feet (38 meters) generate a vibration of 1.7 millimeters per second. This is less than the Caltrans threshold of 2.0 millimeters per second; therefore, the vibration impacts from pile driving activities will be less than significant.

The City recognizes that the control of construction noise is difficult at best and provides exemption for this type of noise when the work is performed between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and the hours of 9:00 a.m. and 5:00 p.m. on Saturdays. Mandatory adherence to the Municipal Code will ensure that any construction noise impacts remain less than significant.

Long Term Noise Impacts Along Adjacent Roadways (Year 2005)

For an impact to be significant, project-generated traffic would have to raise the ambient noise levels by a minimum of 3 dBA CNEL, a barely detectable level. For purposes of analysis, the estimated buildout year of 2005 was selected. The year 2005 analysis, without and with project implementation, is based on the traffic volumes as shown in Section 5.1 for the same year. These values were then modeled using the Caltrans Sound32 noise prediction model. The "with project" noise levels are compared with year 2005 "without project" levels and also the existing noise levels and presented in Table 5.3-8. The project would contribute less than 3 dBA CNEL to the year 2005 "without project" levels and any direct impact is less than significant. Furthermore, in many cases, the project would create a redistribution of traffic that would remove vehicles from the existing roadways resulting in a net reduction in noise.

Table 5.3-8: Existing, Year 2005 Without, and Year 2005 With Project CNEL Noise Levels Within the Project Area[1]

Location	Existing CNEL dBA @ 50 Feet	Year 2005 Without Project ADT	Year 2005 Without Project CNEL dBA @ 50 Feet	Year 2005 With Project ADT	Year 2005 With Project CNEL dBA @ 50 Feet	Increase (Decrease) Over Without Project CNEL (dBA)
Walnut Avenue						
Redhill - Browning	66.9	17,000	67.5	13,000	66.3	(1.2)
Browning - Tustin Ranch	68.2	20,000	69.4	17,000	68.7	(0.7)
Tustin Ranch - Jamboree	66.4	11,000	66.8	14,000	67.9	1.1
Edinger Avenue						
Redhill - West Connector[2]	70.2	31,000	72.5	44,000	74.0	1.5

Table 5.3-8 (Cont.): Existing, Year 2005 Without, and Year 2005 With Project CNEL Noise Levels Within the Project Area1

Location	Existing CNEL dBA @ 50 Feet	Year 2005 Without Project ADT	Year 2005 Without Project CNEL dBA @ 50 Feet	Year 2005 With Project ADT	Year 2005 With Project CNEL dBA @ 50 Feet	Increase (Decrease) Over Without Project CNEL (dBA)
West Connector [2] - Tustin Ranch	72.3	31,000	74.6	40,000	75.7	1.1
Tustin Ranch - Myford	72.3	31,000	74.6	26,000	73.9	(0.7)
Myford - Jamboree	72.3	29,000	74.3	25,000	73.7	(0.6)
Redhill Avenue						
Edinger - Sycamore	72.1	35,000	71.9	24,000	70.2	(1.7)
Sycamore - Walnut	71.9	38,000	72.2	28,000	70.9	(1.3)
Tustin Ranch Road						
Walnut - I-5	72.2	41,000	72.6	37,000	72.1	(0.5)
Jamboree Road						
Irvine Center - Walnut	76.8	79,000	79.6	71,000	79.2	(0.4)
Walnut - I-5	76.9	49,000	77.5	46,000	77.3	(0.2)

[1] As measured from the centerline of the road. Distances based on soft site modeling.
[2] Referred to as Browning Avenue in Appendix D.

Long Term Impacts at Adjacent Receptors (Year 2005)

An impact could also be significant if the project creates a new source of ambient noise that exceeds a level of 65 dBA CNEL, the level designated by the City as compatible with residential land uses, at the adjacent sensitive receptor locations. Projected traffic volumes along the Tustin Ranch Extension were for year 2005 modeled using the Sound32 noise model for 20 receptors that lie immediately adjacent to the roadway easement (see Receptors 1 through 20 on Exhibit 5.3-3). The analysis also considers the First Baptist Church and office uses located along the east side of the proposed alignment. These uses do not include habitable exterior space but could be subject to impact if interior noise levels exceed City standards. The City sets an interior standard of 45 dBA Leq(12) for sensitive uses such as churches and schools and 50 dBA Leq(12) for general office space.

The analysis examines the projected noise levels without any walls, with the existing residential walls, and with 6, 8, and 10-foot high soundwalls placed along the edge of the proposed roadway. In the case of the existing walls, a 6-foot wall was assumed. Rather than measure the exact placement of each existing wall relative to the dwelling, the analysis considers that the wall is placed 20 feet behind the most proximate point of the structure. Additionally, the elevation of the base of the wall is assumed to be the same as the structure. In all cases the receptors are modeled at a height of 5 feet above the grade of the structure. The results of this analysis are included in Table 5.3-9. Receptors are numbered from the north to the south. Receptors to the east are separated from the project site by chain link fencing and do not have existing walls.

Modeling indicates that in the absence of any walls, project-generated noise could be on the order of 69 to 72 dBA CNEL at the ground surface of the residences. While modeling was conducted for receptors located five feet above grade, similar noise levels would be projected at the height of the second story for any structures so equipped. The presence of the existing walls would reduce these noise level to between about 63 and 68 dBA CNEL for ground level residents. (The walls would not effectively attenuate second-story noise levels.) Interior noise levels without windows closed would be 15 lower than exterior noise levels. The greatest level of attenuation associated with the existing walls is toward the northern portion of the project area. These homes sit above the grade of the road and their existing 6-foot masonry walls are effectively situated on a berm with respect to the proposed roadway surface. Proceeding to the south, the elevation of the roadway increases while that of the homes decreases, slightly. In these cases the existing walls are well below the level of the roadway and provide very little in the way of acoustic shielding as the noise travels over the wall. These homes then see a greater benefit from the roadside wall that rises with the grade of the road creating an effectively higher wall with respect to the homes.

As noted, the existing and proposed walls would not effectively shield second-story habitable rooms. Exterior noise levels are projected at approximately 69 to 72 dBA CNEL. Assuming a conservative attenuation of 20 dBA with windows closed for residential structures, second floor interior noise levels could be on the order of 49 to 52 dBA CNEL. This exceeds the City's standard of 45 dBA CNEL for interior habitable spaces and the impact is potentially significant. Mitigation would also be required to reduce interior habitable space to no more than 45 dBA CNEL. Measures to achieve this second-floor interior level are discussed further in the analysis.

Noise modeling also indicates that noise levels at the First Baptist Church could be on the order of 69.0 dBA Leq(12) while that at the offices would be 66.7 dBA Leq(12). Neither of these uses has sensitive habitable exterior space used by the occupants and any potential for impact would be to the interior habitat. Based on a typical structural attenuation of 20 dBA with windows closed, interior levels are projected at 49 and 46.7 dBA Leq(12). While the church is subject to a 45 dBA Leq(12) standard, the criterion for the offices is set at 50 dBA Leq(12) and any impacts to this latter use would be less than significant.

Note that with respect to the residential units, the roadside wall would need to be approximately 10 feet in height relative to the ground surface at Receptor 2 (see Exhibit 5.3-3) to reduce noise to less than the 65 dBA CNEL noise standard for ground level receptors. The 10-foot high section need not run the length of the project. Sound32 modeling indicates that the 10-foot high section only need be placed along the entirety of the back of the Receptor 2 (2361 Fig Tree). The wall can transition from 6 feet at its north end to this 10-foot height, then back down to 6 feet to the south of the residence. Modeling indicates that this would result in an exterior noise level of 64.5 dBA CNEL at the residence thereby reducing the exterior noise level impact to less than significant. With a 64.5 dBA

Note: Receptor 21 was only used to determine the length of the proposed 6-foot high wall south of this existing receptor location in the year 2020.

Source: Moffatt & Nichol Engineers.

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CNEL exterior noise level, the interior noise level (with windows open) would be 49.5 dBA CNEL which exceeds the City's interior standard of 45 dBA CNEL. Therefore, the project would result in a significant impact on interior noise levels. Relative to a continual 6-foot wall, the transition would also reduce noise at Receptors 1 and 3 slightly with modeled exterior values at 63.1 and 63.9 dBA CNEL, respectively. Again, interior values would 15 dBA CNEL lower without windows closed, thereby reducing interior noise levels to 48.1 to 48.9 dBA CNEL, respectively.

Table 5.3-9: Projected Year 2005 CNEL Noise Levels at Proximate Receptor Locations[1]

Receptor [2]	Distance from Road (Feet) [3]	Year 2005 CNEL (dBA)				
		Without Walls/ Second Story [4]	Existing Walls	6 Foot Wall	8 Foot Wall	10 Foot Wall
1	60	70.8	63.2	63.1	63.2	62.8
2	17	72.5	65.1	65.1	65.1	64.5
3	33	71.3	63.9	63.9	64.0	63.3
4	27	71.4	64.3	64.2	64.3	63.4
5	37	70.8	63.7	63.7	63.6	62.5
6	29	71.2	64.6	64.6	64.0	62.2
7	38	70.7	64.3	64.2	63.0	61.0
8	23	71.6	65.7	63.8	61.9	59.8
9	42	70.5	65.1	62.6	60.9	59.3
10	71	69.3	64.7	61.2	59.8	58.2
11	33	71.2	66.0	61.6	59.6	58.0
12	42	70.8	66.3	60.6	58.8	57.3
13	55	70.2	67.0	58.3	56.8	55.6
14	28	71.6	64.4	56.6	55.5	54.6
15	85	68.9	68.0	57.3	55.8	54.6
16	56	70.0	67.7	55.9	54.7	53.7
17	57	69.8	67.9	55.4	54.3	53.4
18	78	68.9	68.3	55.4	54.2	53.1
19	75	68.9	68.1	54.6	53.5	52.6
20	75	68.8	67.9	54.2	53.2	52.3
First Baptist Church	56	69.0	69.0	65.1	63.8	62.7
Offices	106	66.7	66.7	63.6	63.3	63.0

[1] Noise values for residential structures are presented in terms of the CNEL while the church and offices are expressed in terms of Leq(12).
[2] See Exhibit 5.3-2 for location of receptors.
[3] Due to their elevation above grade, no wall (existing or proposed) attenuation is assumed for second story receptors.
[4] As measured at a distance of 5 feet out from the closest point of the structure for residential units.

Significant interior noise impacts would occur at Receptors 1 through 12 with the proposed 6-foot high or greater soundwalls along the west side of Tustin Ranch Road. Receptors 13 through 20 would experience exterior noise levels of less than 60 dBA CNEL, and therefore interior noise levels without windows closed would be 45 dBA CNEL or less.

With respect to the church at the southeasterly corner of Walnut Avenue and Tustin Ranch Road, a 6-foot high wall would reduce exterior noise to approximately 65.1 dBA Leq(12). Assuming 20 dBA of attenuation for the structure, interior levels would be reduced to no more than 45.1 dBA Leq(12). While most structures do in fact provide in excess of about 22 dBA of attenuation, the use of an 8-foot high wall would ensure that interior noise levels would not exceed 45 dBA Leq(12) on the ground floor. The wall should be extended from the Walnut Avenue easement to a point no less than the church property line to the south. Second story interior levels could continue to exceed the 45-dBA Leq(12) standard for church and classroom uses and structural modification to the church may be in order to protect second-story occupants. Mitigation is as specified for the residential structures further in this analysis.

Long Term Noise Impacts Along Adjacent Roadways (Year 2020)

Similar to year 2005, year 2020 "without project" and "with project" traffic volumes were modeled using the Caltrans Sound32 noise prediction model. The "with project" noise levels are compared with the "without project" levels and also to the existing levels and included in Table 5.3-10.

Again, for an impact to be significant, project-generated traffic would have to raise the ambient noise levels by a minimum of 3 dBA CNEL, a barely detectable level. The year 2020 analysis, "without project" and "with project" implementation, included in the Traffic Analysis were modeled using the Caltrans Sound32 noise prediction model. The "with project" noise levels are compared with year 2020 "without project" levels and also the existing levels. Note that the project will contribute less than 3 dBA to the year 2020 "without project" levels and any direct impact is less than significant. Furthermore, in some cases, the project would create a redistribution of traffic that would remove vehicles from the existing roadways resulting in a net reduction in noise.

Table 5.3-10: Existing, Year 2020 Without, and Year 2020 With Project CNEL Noise Levels Within the Project Area[1]

Location	Existing CNEL dBA @ 50 Feet	Year 2020 Without Project ADT	Year 2020 Without Project CNEL dBA @ 50 Feet	Year 2020 With Project ADT	Year 2020 With Project CNEL dBA @ 50 Feet	Increase (Decrease) Over Without Project CNEL (dBA)
Walnut Avenue						
Redhill - Browning	66.9	18,000	67.7	14,000	66.6	(1.1)
Browning - Tustin Ranch	68.2	21,000	69.7	18,000	69.0	(0.7)
Tustin Ranch - Jamboree	66.4	12,000	67.2	13,000	67.6	0.4
Edinger Avenue						
Redhill - West Connector [2]	70.2	44,000	74.0	55,000	75.0	1.0
West connector [2] - Tustin Ranch	72.3	38,000	75.5	49,000	76.6	1.1
Tustin Ranch - Myford	72.3	38,000	75.5	35,000	75.1	(0.4)
Myford - Jamboree	72.3	43,000	76.0	37,000	75.4	(0.6)
Redhill Avenue						
Edinger - Sycamore	72.1	42,000	72.7	30,000	71.2	(1.5)
Sycamore - Walnut	71.9	43,000	72.8	31,000	71.3	(1.5)
Walnut - I-5	72.2	49,000	73.3	43,000	72.8	(0.5)
Tustin Ranch Road						
Walnut - I-5	70.2	25,000	71.6	44,000	74.0	2.4
Jamboree Road						
Irvine Center - Walnut	76.8	121,000	81.5	102,000	80.7	(0.8)
Walnut - I-5	76.9	59,000	78.4	53,000	77.9	(0.5)

[1] As measured from the centerline of the road. Distances based on soft site modeling.
[2] Referred to as Browning Avenue in Appendix D.

The FEIR identified a potential noise impact to residences along Warner Avenue between Harvard Avenue and Culver Drive. The residences adjacent to this street segment would experience noise levels greater than the 65 dB CNEL standard.

Noise Impacts at Adjacent Receptors (Year 2020)

As with the year 2005 analysis, traffic volumes along the Tustin Ranch Extension were modeled for the year 2020 using the Sound32 noise model for Receptors 1 through 20 that lie immediately adjacent to the roadway's western easement, and for the church and proximate offices along the eastern side of the alignment (see Exhibit 5.3-2). The analysis examines the projected noise levels without any walls, with the existing residential walls, and with 6, 8, 10, and 12-foot-high soundwalls placed along the edge of the proposed roadway. These results of this analysis are included in Table 5.3-1. Receptors are numbered from the north to the south.

Modeling indicates that in the absence of any walls, project-generated noise could be on the order of 70 to 73 dBA CNEL at the ground surface of the residential receptor locations. The presence of the existing walls would reduce these exterior noise levels to approximately 65 and 70 dBA CNEL and interior noise levels of 50 to 55 dBA CNEL. Again, the greatest level of attenuation associated with the existing walls is toward the northern portion of the project area whereas homes to the south benefit more from a wall placed along the side of the road.

In this case, the roadside wall would need to be approximately 12 feet in height at the proposed roadway surface which is approximately 4 feet lower than the surface elevation of Receptors 2 and 4. This 12-foot wall would reduce exterior noise to less than the 65 dBA CNEL exterior noise standard. Due to the elevation difference of the proposed roadway and the surface elevation of the receptors, the proposed 12-foot wall would be approximately 2 feet higher in elevation than the existing wall. The 12-foot high section need not run the length of the project but would need to be placed along the entirety of the back of the Receptors 2 (2361 Fig Tree), 3, (2362 Fig Tree) and 4 (2351 Basswood). The wall could transition from 6 feet at its north end to this 12-foot height, then back down to 10 feet to the south of Receptor 4, transitioning smoothly down to 6 feet south of Receptor 8. Such a wall would reduce exterior noise such that no receptors would be exposed to roadway noise levels in excess of 65 dBA CNEL.

The proposed 10-foot wall would be located at the grade of the future roadway adjacent to two of the existing residential lots (Receptors 5 and 6). Due to the elevation difference of the proposed roadway and the ground surface of the residential lots (approximately 5.5-foot difference), the proposed 10-foot wall will be approximately 1.5 feet lower than the existing 6-foot wall. In addition, the proposed 8-foot wall will be located at the grade of the future roadway adjacent to two of the existing residential lots (Receptors 7 and 8). Due to the elevation difference of the proposed roadway and the ground surface of the residential lots (approximately 2.5-foot difference), the proposed 8-foot wall will be approximately 0.5-foot lower than the existing 6-foot wall. Finally, the project will include a 6-foot wall near the 13 southernmost residential lots (Receptors 9 through 20). An additional receptor location (Receptor 21) was modeled to determine the required length of the 6-foot wall south of the location of Receptor 21. The modeled results indicated that the 6-foot wall will need to extend 15 feet south of Receptor 21 along the proposed bridge so that no receptors would be exposed to roadway noise in excess of 65 dBA CNEL.

Table 5.3-11: Projected Year 2020 CNEL Noise Levels at Proximate Receptor Locations[1]

Receptor	Distance from Road (Feet)[2]	Year 2020 CNEL (dBA)					
		Without Walls/ Second Story[3]	Existing Walls	6 Foot Wall	8 Foot Wall	10 Foot Wall	12 Foot Wall
1	60	71.6	64.6	64.6	64.6	64.2	63.2
2	17	73.2	66.7	66.7	66.7	66.1	63.9
3	33	72.1	65.6	65.6	65.6	64.9	63.1
4	27	72.3	66.0	66.0	66.0	65.2	63.1
5	37	71.7	65.5	65.4	65.4	64.3	62.2
6	29	72.1	66.4	66.4	65.8	64.0	61.9
7	38	71.6	66.1	66.0	64.8	62.8	61.2
8	23	71.5	67.5	65.7	63.7	61.6	60.0
9	42	71.5	67.0	64.4	62.8	61.1	59.5
10	71	70.4	66.5	63.1	61.6	60.0	58.5
11	33	72.2	67.8	63.4	61.5	59.8	58.4
12	42	71.9	68.2	62.4	60.6	59.1	57.8
13	55	71.3	68.8	60.2	58.6	57.3	56.3
14	28	72.7	66.3	58.4	57.3	56.4	55.8
15	85	70.0	69.9	59.1	57.6	56.4	55.3
16	56	71.1	69.6	57.7	56.5	55.5	54.7
17	57	70.9	69.7	57.2	56.1	55.2	54.5
18	78	70.0	70.1	57.2	55.9	54.9	54.1
19	75	70.0	70.0	56.4	55.3	54.4	53.7
20	75	69.9	69.8	56.0	55.0	54.1	53.4
First Baptist Church	56	70.7	70.7	66.6	65.3	64.1	62.9
Offices	106	68.5	68.5	65.4	65.1	64.8	64.7

[1] Noise values for residential structures are presented in terms of the CNEL while the church and offices are expressed in terms of Leq(12).
[2] As measured at a distance of 5 feet out from the closest point of the structure for residential units.
[3] Due to their elevation above grade, no wall (existing or proposed) attenuation is assumed for second story receptors.

Significant interior noise impacts would occur at Receptors 1 through 13 with the proposed 6-foot high or greater soundwalls along the west side of Tustin Ranch Road. Receptors 14 through 20 would experience exterior noise levels of less than 60 dBA CNEL, and therefore interior noise levels without windows closed would be 45 dBA CNEL or less.

5.3.3 - Cumulative Impacts

The preceding analysis includes cumulative traffic volumes due to growth in the project area both for initial project completion (year 2005) and for a long-term scenario (year 2020). Thus, the impacts associated with the project included a cumulative analysis.

5.3.4 - Mitigation Measures

The analysis indicates that the project could result in noise levels above the City standards at receptors located along the proposed alignment. To ensure that the proposed project will result in noise levels that are less than significant at the residences and church along the proposed extension of Tustin Ranch Road, the following mitigation measures are required.

NR-1 Prior to opening the proposed segment of Tustin Ranch Road to traffic, the City will install a soundwall that achieves the exterior (i.e., 65 dBA) residential noise standards identified in the City of Tustin Noise Element. The following are the required heights of the soundwall in relation to the elevation of the proposed roadway adjacent to the residential receptors (see Exhibit 5.3-2 for receptor locations).

Receptor 1	Existing 6-foot wall
Receptors 2 through 4	Proposed 12-foot wall
Receptors 5 and 6	Proposed 10-foot wall
Receptors 7 and 8	Proposed 8-foot wall
Receptors 9 through 15 feet south of Receptor 21	Proposed 6-foot wall

NR-2 Receptors 1 through 13 require forced air ventilation (see Exhibit 5.3-2 for receptor locations). If Receptors 1 through 13 do not currently have forced air ventilation, the City shall provide forced air ventilation prior to the opening of the proposed segment of Tustin Ranch Road to traffic.

NR-3 Receptors 14 through 21 that have a second story will require forced air ventilation in the second story. If these residential receptors do not currently have forced air ventilation, the City shall provide forced air ventilation in the second story prior to the opening of the proposed segment of Tustin Ranch Road to traffic.

NR-4 Prior to the opening of the proposed segment of Tustin Ranch Road to traffic, all second-story windows and/or sliding glass doors in habitable rooms of the residences along the proposed alignment that view the proposed alignment shall be fitted with acoustic-rated window/door assemblies. These assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise level of no more than 45 dBA CNEL. Non-sensitive uses (e.g., bathrooms) do not require such assemblies.

NR-5 All second-story exterior doors in habitable rooms of the residences along the proposed alignment that view the proposed alignment shall be fitted with solid-core assemblies that are well sealed with weather-stripping.

NR-6 Prior to opening of the proposed segment of Tustin Ranch Road to traffic, the City will install a 10-foot high wall along the eastern easement of Tustin Ranch Road from Walnut Avenue to the southern property line of the First Baptist Church.

NR-7 The second-story windows that view the proposed alignment shall be fitted with acoustic-rated window assemblies. The assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise of no more than 45 dBA CNEL.

A mitigation measure is identified in the FEIR to reduce the projected noise level from implementing the Reuse Plan along Warner Avenue between Harvard Avenue and Culver Drive to less than 65 dB CNEL. This measure is located in Appendix E.

5.3.5 - Level of Significance After Mitigation

Implementation of the above recommended mitigation measures will reduce noise impacts associated with the proposed extension of Tustin Ranch Road to less than significant.

SECTION 6:
SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Section 5 of this Supplemental EIR provides a description of the potential environmental impacts from the implementation of Tustin Ranch Road, as well as measures proposed to reduce the environmental impacts to the maximum extent feasible. After implementation of the proposed mitigation, the project's contribution to significant impacts associated with Traffic, Air Quality, Noise and Cultural Resources would be less than significant. The remainder of the environmental issues is the same as those identified in the FEIR.

The FEIR identified 5 Environmental issues that would experience significant and unavoidable impacts due to the Reuse of MCAS, Tustin. These issues are discussed below:

- **Aesthetics.** The implementation of the Reuse Plan would result in the loss of both blimp hangers. These hangers are prominent and irreplaceable visual features. The Tustin City Council adopted a Statement of Overriding Considerations for this aesthetic impact.

- **Air Quality.** Short-term construction and long-term operational air emissions would exceed the SCAQMD thresholds with the development of the Reuse Plan and after the implementation of mitigation measures. The development of the Tustin Ranch Road Extension would not result in significant unavoidable air quality impacts. The Tustin City Council adopted a Statement of Overriding Considerations for air quality impacts.

- **Agricultural Resources.** The proposed Reuse Plan would result in the conversion of prime farmland to a non-agricultural use. The development of Tustin Ranch Road would not contribute to a greater loss of agricultural land than that which has been evaluated in the FEIR. The Tustin City Council adopted a Statement of Overriding Considerations for impacts to agricultural resources.

- **Cultural Resources.** The Reuse Plan will eliminate all of the two discontinuous historic districts. Furthermore, the Reuse Plan would contribute to the cumulative loss of World War II United States military development, which is increasingly being demolished due to military base closings. The Tustin City Council adopted a Statement of Overriding Considerations for impacts to cultural resources.

- **Traffic/Circulation.** The Reuse Plan would result in significant traffic impacts at the intersections of Tustin Ranch Road/Walnut Avenue and Jamboree Road/Barranca Parkway under full buildout year 2020 conditions. Extension of Tustin Ranch Road will not contribute directly to any additional significant impacts after mitigation. The Tustin City Council adopted a Statement of Overriding Considerations for impacts to the intersections identified above.

SECTION 7:
OTHER LONG-TERM CONSIDERATIONS

7.1 - GROWTH INDUCING IMPACTS

This section evaluates the potential of the proposed project to affect "economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment" (CEQA Guidelines, 15126.2[d]).

There are two types of growth inducing impacts, direct and indirect. To assess the potential for growth inducing impacts, the project characteristics that may encourage and facilitate activities that may individually or cumulatively affect the environment must be evaluated.

Growth-inducing impacts can occur when the development of a project imposes new burdens on a community by directly inducing population growth, or by leading to the construction of additional developments in the same area of the proposed project. Also included in this category are projects that would remove physical obstacles to population growth (such as a new road into an undeveloped area or a wastewater treatment plant with excess capacity that could allow additional new development in the service area). Construction of these types of infrastructure projects cannot be considered isolated from the development they facilitate and serve. Projects that physically remove obstacles to growth or projects that indirectly induce growth are those which may provide a catalyst for future unrelated development in the area (such as a new residential community that requires additional commercial uses to support residents).

The project will not result in direct population growth; rather it is in response to future anticipated growth, primarily the buildout of the City, including the Reuse Plan. The project will require extension of some utilities and services to the project site from nearby connections. The project does not remove substantial obstacles to population growth by extending facilities and infrastructure into an undeveloped area. It will be an extension of an existing roadway that is surrounded by residential and commercial development. Since the project will be consistent with circulation improvements contemplated in the FEIR, and for the reasons outlined above, no significant growth inducing impacts would occur as a result of implementing the Tustin Ranch Road Extension.

7.2 - IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The environmental effects of the proposed project are discussed in Section 5 of this SEIR and summarized in Section 2, Executive Summary. Implementation of the proposed project would require the long-term commitment of natural resources and land.

The project would result in an irretrievable commitment of non-renewable resources such as energy supplies and other construction-related resources. The energy resource demands would be used for construction, transportation of people and goods from the project site, water, lighting, and other associated energy needs.

Other nonrenewable resources attributed to the approved project would be committed primarily in the form of fossil fuels and would include fuel, oil, natural gas, and gasoline used by vehicles and equipment associated with construction of the proposed project. The consumption of other non-renewable or slowly renewable resources would result from the development of the proposed project. These resources would include, but not be limited to, lumber and other forest products, sand and gravel, asphalt, construction materials, steel, copper, lead, and water. Because alternative energy sources such as solar or wind energy are not currently in widespread local use, it is unlikely that real savings in non-renewable energy supplies (i.e. oil and gas) could be realized in the immediate future.

No significant long-term commitment of nonrenewable resources are attributed to extension of Tustin Ranch Road. Building materials including concrete, asphalt and steel for bridge support structures would be associated with the proposed project, but will not require excessive amounts of such material. Since the project will reduce congestion at many intersections in the project area, it will serve to reduce long-term consumption of gasoline used by motor vehicles.

SECTION 8:
ALTERNATIVES TO THE PROPOSED PROJECT

Section 15126(d)(2) of the state CEQA Guidelines, as amended, mandates that an EIR include a comparative evaluation of the proposed project with alternatives to the project, including the No Project Alternative. Section 15126.6(a) of the state CEQA Guidelines requires a discussion of reasonable alternatives to the proposed project, or to the location of the project, which would feasibly obtain most of the objectives of the project but would reduce, avoid, or substantially lessen the significant effects of the project, and evaluate the comparative merits of the project. Further, the criteria for selecting the scope and nature of the alternatives is based upon the "rule of reason" and includes site suitability, economic viability, availability of infrastructure, general plan consistency and other regulatory limitations.

The project is an integral part of the Reuse Plan that was studied in the FEIR. The alternatives considered in the FEIR are summarized below.

The Department of the Navy evaluated two alternatives:

- **No Action Alternative**. Under this alternative, the Marine Corps would retain ownership of the approximately 1,585 acres of MCAS Tustin as surplus federal property. All buildings except existing leases would remain vacant and other facilities would remain in place but unused. The grounds, infrastructure and buildings would be maintained and repaired as necessary to prevent deterioration. Site environmental cleanup would continue and be completed. No new construction would occur under this alternative.

- **Disposal of Navy Property Alternative**. This alternative evaluates potential environmental impacts associated with disposal of Marine Corps property from federal ownership. Under this action, approximately 1,585 acres of surplus property would be disposed.

The City of Tustin as the Local Redevelopment Agency (LRA) evaluated three reuse alternatives summarized as follows:

- **Alternative 1 - LRA Reuse Plan**. This would provide a variety of housing, employment, recreation, educational, and community support uses, which strengthen the economic base of Tustin and surrounding communities. This will provide 4,601 dwelling units, an Urban Regional Park, a large Community Core with mixed uses, a Learning Center, and a Golf Village. Approximately 1.8 million square feet of building area (including blimp hangars if feasible) and 1,567 housing units could be reused under this alternative.

- **Alternative 2 - Arterial Grid Pattern/No Core/High Residential.** This alternative would provide a variety of urban uses including 6,205 dwelling units, commercial and business uses, Village Mixed-Uses, and Public/Commercial functions. A large Cultural Center would also be developed.
- **Alternative 3 - Arterial Loop Pattern/Reserve Area/Low Residential.** This alternative would create a variety of urban uses with an emphasis on employment and cultural opportunities. Development of this alternative would result in 4,340 dwelling units, a large amount of commercial development, a Cultural Center, golf course and a 179-acre mixed use Reserve Area.

In addition to those alternatives evaluated in the FEIR as summarized above, the following discussion evaluates an additional alternative specific to Tustin Ranch Road Extension. Since there are no feasible alternative alignments for the extension of Tustin Ranch Road that meet the project objectives, the following is an analysis of environmental conditions in the event that there is no extension of Tustin Ranch Road.

8.1 - NO EXTENSION OF TUSTIN RANCH ROAD

8.1.1 - Description

This alternative assumes that Tustin Ranch Road would end at its current terminus at Walnut Avenue and would not be extended southerly to Edinger Avenue and into the former MCAS Tustin. The current right-of-way that has been established for over 30 years would remain in a vacant and undeveloped condition.

8.1.2 - Impact Evaluation

Traffic/Circulation

The FEIR evaluated the development of the Reuse Plan without Tustin Ranch Road for the year 2005. This evaluation is also included in the traffic report in Appendix B. In the year 2005, this alternative would result in fewer significantly affected intersections compared to the proposed project.

In the year 2020, intersections in the vicinity of the Tustin Ranch Road alignment would experience increases in traffic if Tustin Ranch Road is not constructed as indicated by higher ICU values shown in Appendix B. Most intersection that were evaluated show a higher ICU and in some cases a higher LOS in comparison to the 2020 with the extension of Tustin Ranch Road (see Table 4 in Appendix B).These increases in traffic would result in greater deficiencies to the operation of the intersections compared to a roadway system that includes the construction of Tustin Ranch Road. With greater

potential deficiencies, more roadway improvements will be required for the surrounding intersections compared to the improvements required with the development of Tustin Ranch Road.

This alternative would result in less traffic impacts in the interim, but in the long-term greater traffic impacts would occur. Overall, the implementation of this alternative would not be superior to the proposed project as it relates to traffic.

Air Quality

Construction

Although emissions for construction of Tustin Ranch Road are less than SCAQMD significance thresholds, this alternative would result in no generation of pollutants and dust that are associated with construction. Therefore, in regard to construction generated pollutants this alternative would be superior to the proposed project.

Operational Emissions

The construction and operation of a new road does not create new vehicle trips but will cause a redistribution of existing trips. Therefore, no new long-term emissions are associated with the no build alternative. Any potential long-term impacts are then from the redistribution of traffic without Tustin Ranch Road and the potential to create "hot spots" proximate to sensitive receptor locations.

The FEIR modeled CO hot spots for year 2005 with interim development of the Reuse Plan and without extension of Tustin Ranch Road into former MCAS Tustin. The analysis looked at four intersections with the highest traffic volumes and LOS. The model indicated that the state and federal standards would not be exceeded at these locations at distances greater than 20 feet (see Appendix E, Table 4.13-6). For year 2020, the FEIR assumed that the Reuse Plan would be built and the Tustin Ranch Road Extension would be in place. Five of the intersections with the highest traffic volumes and LOS were chosen for analysis. Again, the model indicated that the state and federal standards would not be exceeded at these locations at distances greater than 20 feet (see Appendix E, Table 4.13-7). Further analysis of all intersections exceeding LOS C for the 2020 with Tustin Ranch Road Extension scenario was included in Section 5.2 of this document and also shows no exceedance of state or federal standards.

The air quality impacts associated with the year 2020 without Tustin Ranch Road are based on the traffic analysis in Appendix B. Most intersections show a higher ICU and in some cases a higher LOS with this alternative in comparison to the year 2020 with extension of Tustin Ranch Road. Although the year 2020 with project CO modeling did not predict any exceedance of state or federal standards, the somewhat higher ICU values under this alternative (without Tustin Ranch Road) would indicate that CO emissions would increase at some locations. Since extension of Tustin Ranch Road

would improve area circulation, localized air quality at various locations in the project area would also be improved. Therefore, this alternative would not be superior to the proposed project as it relates to long-term air quality.

This alternative would result in less air quality impacts during the short-term and greater air quality impact in the long term.

Noise

Construction

Under this alternative, no noise associated with extension of Tustin Ranch Road would occur. Residential units that are adjacent to the proposed alignment would not be exposed to construction noise during the daytime hours permitted by the City's Municipal Code. Although adherence to the specified construction hours will ensure that any noise impacts remain less than significant, if construction occurs, this alternative would not result in any construction noise and would therefore, be superior to the project related to short-term noise impacts.

Operational Impacts

The noise study in Appendix D included an analysis of the year 2005 without and with the implementation of Tustin Ranch Road. Based on a review of the noise levels identified in Table 8 in Appendix D, 9 of the 13 roadway segments that were evaluated would experience higher noise levels without the implementation of Tustin Ranch Road. Therefore, this alternative would not be superior to the proposed project as it related to the year 2005 noise levels along adjacent roadways.

The noise study also included an analysis of the year 2020 without and with the implementation of Tustin Ranch Road. Based on a review of the noise levels identified in Table 10 in Appendix D, the results are similar to the year 2005 evaluation. There are 9 of the 13 roadway segments that were evaluated and would experience higher noise levels without Tustin Ranch Road. Therefore, this alternative would not be superior to the proposed project as it related to the year 2020 noise levels along adjacent roadways.

Noise levels were also evaluated at residential receptors along the project site. The year 2005 and year 2020 evaluation indicated that the receptors would experience less noise under this alternative compared to the proposed extension of Tustin Ranch Road. Although greater noise levels would be generated with the extension, soundwalls would be implemented to reduce noise levels to below the City's 65 dB CNEL standard. This alternative is considered superior to the proposed project as it relates to noise levels at the adjacent residential receptors.

The implementation of this alternative would result in less short-term noise impacts as well as less long-term noise impacts to adjacent residences compared to the proposed project. Greater noise impacts would occur along the adjacent roadways; however, overall, this alternative could be considered superior to the proposed project as it relates to noise impacts.

8.1.3 - Conclusions

Implementation of this alternative would result in greater impacts related to traffic and circulation and air quality. This alternative would also result in less noise impacts. Due to greater traffic and air quality impacts, this alternative is not considered environmentally superior to the proposed project, and this alternative would also not meet the objectives of the project that are outlined in Section 3.3.

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Appendix A: Notice of Preparation/Initial Study and Responses

NOTICE OF PREPARATION

To: Responsible and Trustee Agencies, and Interested Parties

Subject: Notice of Preparation of a Supplemental Environmental Impact Report (EIR) for the Extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road

Lead Agency:
Scott Reekstin, City of Tustin
300 Centennial Way
Tustin, CA 92780
714.573.3016

Consulting Firm:
Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92602

The City of Tustin will be the Lead Agency under the California Environmental Quality Act in the preparation of a Supplemental Environmental Impact Report for the project defined below. This supplement is to the Final EIS/EIR (FEIR) for the Disposal and Reuse of the Marine Corps Air Station (MCAS) Tustin, California. The preparation of a supplement is appropriate for the Extension of Tustin Ranch Road because certain analyses in the FEIR document such as traffic/circulation (page 3-119) and noise (page 4-233) include the area of the Tustin Ranch Road extension. The discussion of traffic and circulation impacts addressed in the FEIR states the need for improvements to the Tustin Ranch Road/Walnut Avenue intersection. These improvements are listed in a mitigation measure on page 4-180 of the FEIR.

We request the review of your agency as to the scope and content of the environmental information relevant to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the Supplemental EIR prepared by the City of Tustin when considering permits that your agency may issue, or other approval for the project. The probable environmental effects of the proposed project are described in the attached Initial Study. The FEIR can be reviewed at the address of the Lead Agency.

A scoping meeting for the proposed project will be held on September 24, 2003, at 6:30 p.m. in the Clifton Miller Community Center located in the Tustin Civic Center at 300 Centennial Way, Tustin, CA, 92780. Anyone interested in the proposed project is invited to attend the scoping meeting.

Due to the time limits mandated by State law, the response of responsible and trustee agencies must be received no later than 30 days after the receipt of this Notice. The public review period for this Notice is September 4, 2003, to October 6, 2003. Please indicate a contact person in your response and send your response to the Lead Agency listed above.

PROJECT TITLE: Extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road.

PROJECT LOCATION: The project site is located in the southeastern portion of the City of Tustin, which is in central Orange County. The site encompasses approximately 0.8 of a mile along the proposed alignment of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road, located on the former MCAS Tustin. Regional access to Tustin Ranch Road will be provided by the Santa Ana Freeway (Interstate 5), the Costa Mesa Freeway (State Route 55), and Edinger Avenue.

PROJECT DESCRIPTION: The project includes the extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road. The proposed roadway is approximately 0.8 of a mile in length and includes an overpass and a connector loop road to Edinger Avenue. The proposed Tustin Ranch Road alignment includes right-of-way dedicated and approved by the City in 1972 and additional right-of-way at the former MCAS Tustin (i.e., overpass and interchange)

acquired on May 13, 2002.The proposed roadway will join the existing southern terminus of Tustin Ranch Road at Walnut Avenue. The proposed roadway would bridge over the Orange County Flood Control District (OCFCD) right-of-way, the Orange County Transportation Authority (OCTA)/Southern California Regional Rail Authority (SCRRA) railroad right-of-way, and Edinger Avenue, and the roadway will include a semi-circular earth ramp and a T-type signalized intersection at Edinger Avenue. An ultimate roadway section of 120 feet wide with three traffic lanes in each direction will be provided along the proposed roadway. The loop ramp configuration would be located in the southeast quadrant of the future intersection of Tustin Ranch Road and Edinger Avenue. Other project improvements include ultimate roadway improvements at the Tustin Ranch Road/Walnut Avenue intersection are part of the project and may require the acquisition of additional right-of-way. The street lighting along Tustin Ranch Road is proposed to be shielded and directed toward the roadway surface. A landscaped corridor on both sides of the proposed extension of Tustin Ranch Road is also proposed. In addition, a new traffic signal along Edinger Avenue at the loop ramp will be implemented.

The segment of the proposed Tustin Ranch Road Extension from Walnut Avenue to the railroad right-of-way has been part of the City's planning since at least pre-1973. The dedication of the Tustin Ranch roadway (originally named Jamboree Road) from Walnut Avenue to the railroad right-of-way was a condition of a June 12, 1972, Planning Commission approval of Tentative Tract 7813 (also known as "Peppertree"). Approval of the adjacent Irvine Industrial Complex resulted in subsequent agreements executed between the City of Tustin and the Irvine Company on June 25, 1974, and March 1984 again stipulating the need to improve Tustin Ranch Road. The EIR for the Irvine Industrial Complex (February 1973) and EIR for the re-subdivision of Peppertree (August 1975) also generally described the Tustin Ranch Road right-of-way in the proposed alignment. In addition, on May 9, 1997, the Irvine Company paid the City $195,000 toward the cost of improving the Tustin Ranch Road/Walnut Avenue intersection as a condition of approval of the Planning Area 10 development in Irvine.

Elizabeth A Binsack — 8-25-03

Elizabeth Binsack, Director of Community Development — Date
City of Tustin

INITIAL STUDY
FOR
EXTENSION OF TUSTIN RANCH ROAD BETWEEN WALNUT AVENUE AND THE FUTURE ALIGNMENT OF VALENCIA NORTH LOOP ROAD
CITY OF TUSTIN, CALIFORNIA

Lead Agency

City of Tustin
300 Centennial Way
Tustin, CA 92780
714.573.3030

Contact: Scott Reekstin
Senior Planner

Consultant:

Michael Brandman Associates
220 Commerce, Suite 200
Irvine, CA 92780
714.508.4100

Contact: Michael E. Houlihan, AICP
Manager of Environmental Services

August 2003

TABLE OF CONTENTS

LIST OF EXHIBITS

SECTION 1
INTRODUCTION

1.1 PURPOSE

This Initial Study has been prepared in conformance with Section 15063 of the State Guidelines for the California Environmental Quality Act (CEQA) to determine if the construction of the proposed extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road in the City of Tustin would have a significant effect on the environment. Pursuant to Section 15367 of the State CEQA Guidelines, the City of Tustin is the Lead Agency in the preparation of this Initial Study. The City has primary responsibility for approval or denial of the project. The intended use of this document is to determine the scope of environmental analysis required to adequately prepare the Supplemental Environmental Impact Report (EIR) and to provide the basis for input from responsible and trustee agencies and interested parties.

The preparation of a supplement is appropriate for the Extension of Tustin Ranch Road because certain analyses in the Final EIS/EIR (FEIR) for the Disposal and Reuse of the Marine Corps Air Station (MCAS) Tustin, California (Reuse Plan) such as traffic/circulation (page 3-119) and noise (page 4-233) include the area of the Tustin Ranch Road extension. The discussion of traffic and circulation impacts addressed in the FEIR states the need for improvements to the Tustin Ranch Road/Walnut Avenue intersection. These improvements are listed in a mitigation measure on page 4-158 of the FEIR.

The portion of Tustin Ranch Road between Edinger Avenue and North Loop Road was considered a part of the infrastructure needed to implement the Reuse Plan. The FEIR indicated that this portion of Tustin Ranch Road was a project responsibility when the cumulative average daily trips reached a threshold of 136,700 trips. Tustin Ranch Road is also planned to extend through the MCAS Tustin project area and the FEIR has considered and addressed all impacts associated with the extension of the roadway through the base.

The actions required prior to construction of the proposed project include approvals of plans and specifications. This Initial Study provides a preliminary environmental assessment of both project construction and operational characteristics resulting from approval of the project.

The remainder of this section provides a description of the project location and the background and characteristics of the proposed project. Section 2 includes an environmental checklist that gives an overview of the potential impacts that may result from project implementation. Section 3 elaborates on the information contained in the environmental checklist, providing justification for the responses provided in the environmental checklist.

1.2 PROJECT LOCATION

The project site is located in the southeastern portion of the City of Tustin, which is in central Orange County (see Exhibit 1). The site encompasses approximately 0.8 of a mile along the proposed alignment of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road (see Exhibit 2 and 3). The proposed roadway would extend approximately 0.5 of a mile north of Edinger Avenue and approximately 0.3 of a mile south of Edinger Avenue. Regional access to Tustin Ranch Road will be provided by the Santa Ana Freeway (Interstate 5) and the Costa Mesa Freeway (State Route 55), and Edinger Avenue.

1.3 PROJECT HISTORY

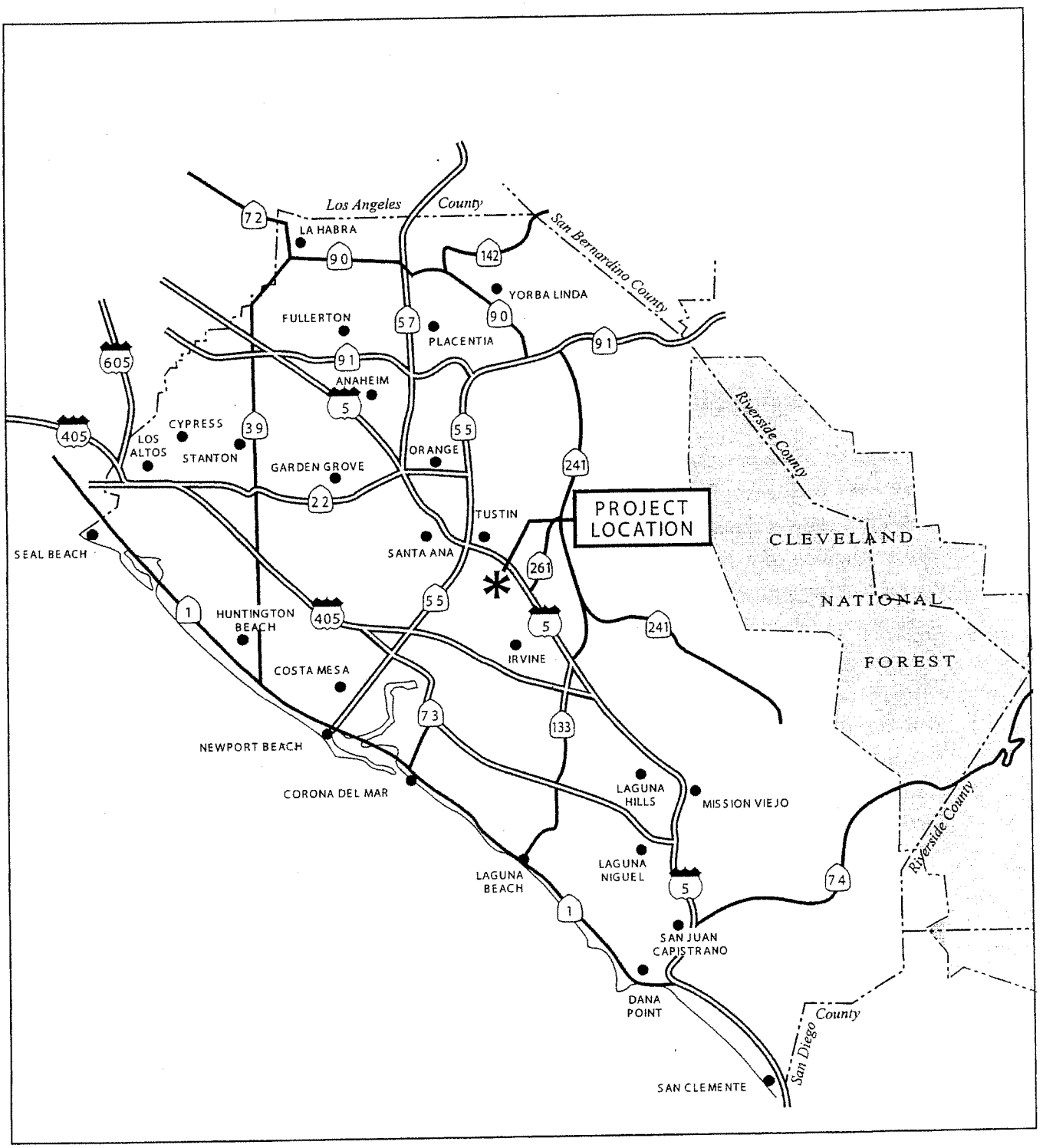
The segment of the proposed Tustin Ranch Road extension from Walnut Avenue to the railroad right-of-way has been part of the City's planning since at least pre-1973. The dedication of the Tustin Ranch roadway (originally named Jamboree Road) from Walnut Avenue to the railroad right-of-way was a condition of a June 12, 1972 Planning Commission approval of Tentative Tract 7813 (also known as "Peppertree"). Approval of the adjacent Irvine Industrial Complex resulted in subsequent agreements executed between the City of Tustin and the Irvine Company on June 25, 1974, and March 1984 again stipulating the need to improve Tustin Ranch Road. The EIR for the Irvine Industrial Complex (February 1973) and EIR for the re-subdivision of Peppertree (August 1975) also generally described the Tustin Ranch Road right-of-way in the proposed alignment. In addition, on May 9, 1997, the Irvine Company paid the City $195,000 toward the cost of improving the Tustin Ranch Road/Walnut Avenue intersection as a condition of approval of the Planning Area 10 development in Irvine.

In 1996, the City of Tustin approved the Reuse Plan for the Tustin Marine Corps Air Station. An amendment to the Reuse Plan was approved in 1998. The FEIR identified the development of the Tustin Ranch Road Extension to Walnut Avenue as part of the City of Tustin General Plan Circulation Element and a separate project from the Reuse Plan.

1.4 PROJECT DESCRIPTION

The project includes the extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road.

The proposed roadway is approximately 0.8 of a mile in length and includes an overpass and a connector loop road to Edinger Avenue. The proposed roadway will join the existing southern terminus of Tustin Ranch Road at Walnut Avenue. Ultimate roadway improvements at the Tustin Ranch Road/Walnut Avenue intersection are part of the project and may require the acquisition of additional right-of-way.



NORTH

Michael Brandman Associates

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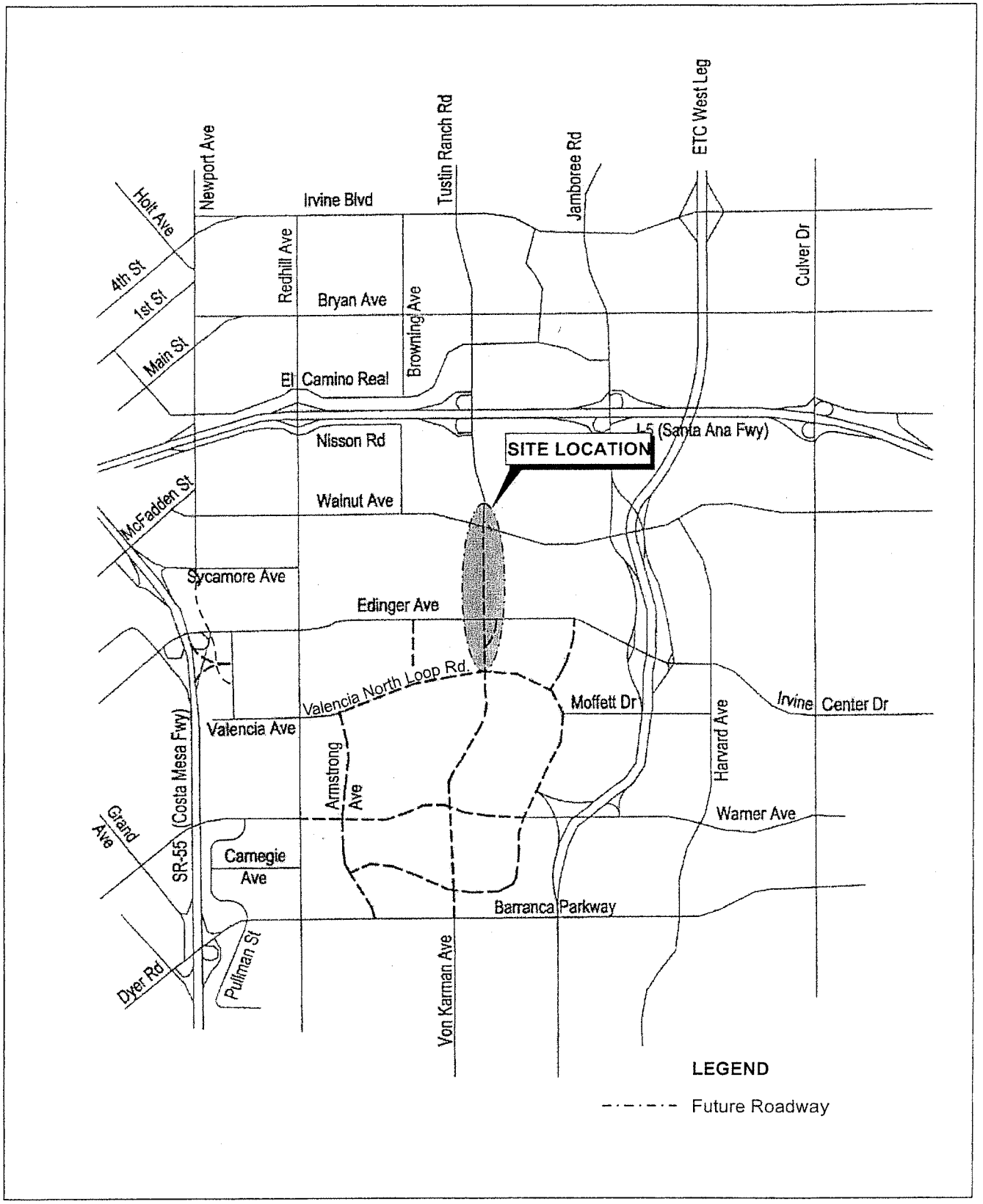
SCALE IN MILES

00190022 • 9/2001

Exhibit 1

Regional Location Map

TUSTIN RANCH ROAD EXTENSION · CITY OF TUSTIN



SOURCE: Kimley-Horn and Associates, Inc.

NOT TO SCALE

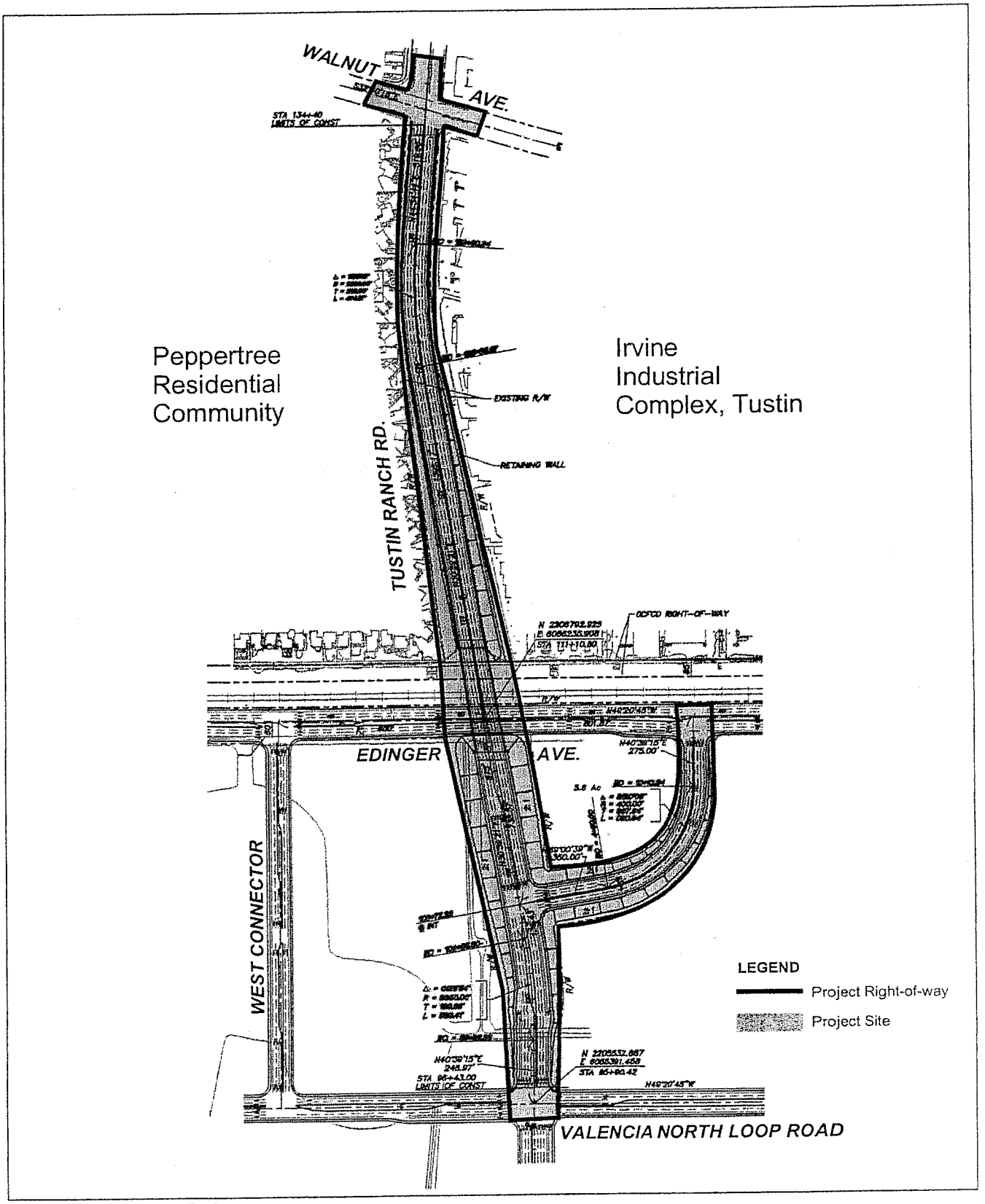
Michael Brandman Associates

Exhibit 2

Project Site Map

00190022 · 9/2001

TUSTIN RANCH ROAD EXTENSION • CITY OF TUSTIN



SOURCE: Moffatt & Nichol Engineers

NORTH

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SCALE IN FEET

Michael Brandman Associates

00190022 • 05/2003

Exhibit 3

Site Plan

TUSTIN RANCH ROAD EXTENSION • CITY OF TUSTIN

The proposed roadway would bridge over the Orange County Flood Control District (OCFCD) right-of-way, the Orange County Transportation Authority (OCTA)/Southern California Regional Rail Authority (SCRRA) railroad right-of-way, and Edinger Avenue, and the roadway will include a semi-circular earth ramp and a T-type signalized intersection at Edinger Avenue. An ultimate roadway section (not including the proposed sidewalks and landscaping) range from 94 feet to 124 feet wide and has three traffic lanes in each direction. The loop ramp configuration would be located in the southeast quadrant of the future intersection of Tustin Ranch Road and Edinger Avenue. Other project improvements include a modification of the existing signal at the Tustin Ranch Road/Walnut Avenue intersection and street lights along the west and east sides of Tustin Ranch Road. The street lighting is proposed to be shielded and directed toward the roadway surface. A landscaped corridor on both sides of the proposed extension of Tustin Ranch Road is also proposed. In addition, a new traffic signal along Edinger Avenue at the loop ramp will be implemented.

Various components of the proposed roadway will be visible from adjoining Peppertree and Irvine Industrial Complex properties. These components will include landscaping, a soundwall along the western side of the right-of-way, street lights, the bridge over the OCFCD right-of-way, OCTA/SCRRA railroad right-of-way, and Edinger Avenue; and the semi-circular earth ramp at Edinger Avenue.

1.5 INTENDED USES OF THIS DOCUMENT

This Initial Study document has been prepared to determine the appropriate scope and level of detail required in completing the environmental analysis for the proposed project. This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the proposed project. The NOP will be circulated for 30 days, during which comments regarding the forthcoming Supplemental EIR for the proposed project, are invited to be sent to:

City of Tustin
300 Centennial Way
Tustin, California 92780
Attn: Scott Reekstin

1.6 ENVIRONMENTAL SETTING

The future extension of Tustin Ranch Road is located between Walnut Avenue to the north and the future alignment of Valencia North Loop Road to the south. The northerly portion of the project site between Walnut Avenue and the OCFCD right-of-way currently contains fill material. The man-made topography of the site near the OCFCD right-of-way is approximately 30 feet higher in elevation than the adjacent residences and industrial uses. The man-made topography gradually

slopes down to Walnut Avenue. Approximately 4 to 5 residences that are along the alignment have backyard views of the fill material. This fill material was placed on the project site in 1977 to form the foundation of the Tustin Ranch Road bridge over the OCFCD right-of-way, OCTA/SCRRA railway right-of-way, and Edinger Avenue. The grading for this part of Tustin Ranch Road was completed at the same time that the grading for the Peppertree Residential Community (Tract Nos. 7813, 7954, 8088, and 8912) was completed. Currently, the portion of the project site between Walnut Avenue and the OCFCD right-of-way and south of Edinger Avenue is fenced off from public access.

Land uses northwest of the project site include single-family dwellings (Laurelwood Residential Community) and northeast of the site are industrial uses. Single-family dwellings (Peppertree Residential Community) are located immediately west of the project site between Walnut Avenue and the OCFCD right-of-way. An existing church and industrial uses are located immediately east of the project site between Walnut Avenue and the OCFCD right-of-way.

South of the OCFCD right-of-way is the OCTA/SCRRA railroad right-of-way and Edinger Avenue. The portion of the site that is south of Edinger Avenue has historically not been used for military purposes, but used as interim agricultural uses. The proposed right-of-way in this area was identified as such in the Reuse Plan approved in October 1996 and FEIR certified in January 2001. The City acquired the deed to the MCAS Tustin portion of the Tustin Ranch Road right-of-way on May 13, 2002.

SECTION 2
ENVIRONMENTAL CHECKLIST

	Environmental Issues (See Attachment for Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I.	**AESTHETICS**—Would the project:				
	a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
	b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☐	☒
	c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
	d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II.	**AGRICULTURE RESOURCES**—In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
	a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☒	☐	☐	☐
	b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
	c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☒	☐	☐	☐
III.	**AIR QUALITY**—Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
	a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
	b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
	c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
	d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐

	Environmental Issues (See Attachment for Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
	e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
IV	**BIOLOGICAL RESOURCES**—Would the project:				
	a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
	b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
	c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
	d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☐	☐	☐	☒
	e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
	f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V	**CULTURAL RESOURCES**—Would the project:				
	a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
	b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
	c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
	d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

	Environmental Issues (See Attachment for Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI	**GEOLOGY AND SOILS**—Would the project:				
	a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
	ii) Strong seismic ground shaking?	☐	☐	☒	☐
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	iv) Landslides?	☐	☐	☐	☒
	b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
	c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
	d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
	e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
VII	**HAZARDS AND HAZARDOUS MATERIALS**—Would the project:				
	a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
	b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	☐	☒	☐
	c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
	d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

Environmental Issues (See Attachment for Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
VIII HYDROLOGY AND WATER QUALITY—Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒

	Environmental Issues (See Attachment for Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
	h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☒	☐
	i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
	j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
IX	**LAND USE AND PLANNING**—Would the project:				
	a) Physically divide an established community?	☐	☐	☐	☒
	b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
	c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?	☐	☐	☐	☒
X	**MINERAL RESOURCES**—Would the project:				
	a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
	b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XI	**NOISE**—Would the project result in				
	a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
	b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
	c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
	d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐

	Environmental Issues (See Attachment for Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
	e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
	f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XII	**POPULATION AND HOUSING**—Would the project				
	a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
	b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
	c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIII	**PUBLIC SERVICES**—Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	a) Fire Protection?	☐	☐	☐	☒
	b) Police Protection?	☐	☐	☐	☒
	c) Schools?	☐	☐	☐	☒
	d) Parks?	☐	☐	☐	☒
	e) Other public facilities?	☐	☐	☐	☒
XIV	**RECREATION**—				
	a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
	b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Environmental Issues (See Attachment for Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV TRANSPORATION/TRAFFIC—Would the project:				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☒	☐	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
XVI UTILITIES AND SERVICE SYSTEMS—Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

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

Based on the above review, the following environmental issues will be further evaluated in the Supplemental EIR:

- Traffic
- Noise
- Air Quality

ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project could not have a significant effect on the environment, and a **Negative Declaration** will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. **A Mitigated Negative Declaration** will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an **Environmental Impact Report** is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An **Environmental Impact Report** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **Negative Declaration** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **Negative Declaration**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

☒ I find that the proposed project requires only minor additions or changes to make the previous **EIR** adequately apply to the project in the changed situation. A **Supplemental EIR** will be prepared.

Signed _____ Date _____
Elizabeth Binsack

SECTION 3
DISCUSSION OF ENVIRONMENTAL EVALUATION

I. AESTHETICS

a.-b. Based on a site visit, the project site is surrounded by residential, industrial, and commercial uses. The terrain around the project site is relatively flat, with the man-made earthen ramp for the proposed bridge over the OCFCD channel, OCTA/SCRAA rail right-of-way, and Edinger Avenue being the only vertical earthen feature in the area. The construction of the proposed roadway segment will not damage scenic resources because there are no scenic resources that can be seen from the project site. Furthermore, Tustin Ranch Road is not identified as a scenic highway in the Tustin General Plan. No further evaluation of scenic vistas or scenic resources is required in the Supplemental EIR.

c. The project site is currently viewed from the Walnut Avenue/Tustin Ranch Road intersection, Edinger Avenue, and the residents and businesses adjacent to the proposed alignment. The portion of the project site south of Walnut Avenue and north of the OCFCD flood control channel has minimal vegetation and the vegetation that exists is primarily weeds. The existing views of this area are not considered aesthetically pleasing. The southern portion of the alignment (i.e., south of Edinger Avenue) has historically been used for agriculture; however, the area is currently not used for agriculture and is barren soil. Landscaping and hardscape design elements are included in the implementation of the proposed roadway, bridge, and loop ramp. These elements will provide visually attractive features in the project area and will result in improved visual characteristics and a beneficial aesthetic impact. No further evaluation of visual impacts is required in the Supplemental EIR.

d. The proposed project will include street lighting that will be designed to direct the light to the ground. This additional lighting is expected to result in less than significant impacts. No further evaluation is required in the Supplemental EIR.

II. AGRICULTURE RESOURCES

a., c. The portion of the project site that is south of Edinger Avenue includes State-designated prime farmland. The remainder of the project site does not include State-designated farmland. The loss of prime farmland from implementation of the proposed project will result in a significant and unavoidable impact. This finding is consistent with the finding on farmland impacts described in Section 4.8 of the FEIR, which contemplated the proposed roadway extension (see Figure 1-3 of the FEIR). The City of Tustin City Council adopted a Finding of Overriding Considerations for the loss of farmlands and conversion of Farmland to non-agricultural land, when it approved the Reuse of MCAS, Tustin. No further evaluation of agricultural resources is required in the Supplemental EIR.

b. No portion of the project site is currently zoned for agricultural use or in a Williamson Act contract.

III. AIR QUALITY

a. Implementation of the proposed roadway extension would not result in an increase in traffic volumes in the region; therefore, the project would not increase long-term air emissions in the region. The proposed roadway extension will provide an alternative access to the MCAS, Tustin site. Since the project would not increase long-term air emission in the region, the project would not conflict with or obstruct the implementation of the Air Quality Attainment Plan. No further evaluation is required in the Supplemental EIR.

b., c. Construction of the proposed roadway extension will increase short-term air emissions during construction activities. However, as discussed on pages 4.11-2 and 4-11-3 in the FEIR for the Reuse Plan, construction-related impacts of the Proposed Action will be below the South Coast Air Quality Management District (SCAQMD) thresholds and is considered less than significant. The implementation of the extension of Tustin Ranch Road will accommodate traffic that is projected to be generated from the Reuse Plan at MCAS, Tustin. The FEIR found the air quality impacts to be a significant unavoidable impact. The City of Tustin City Council adopted a Statement of Overriding Considerations for long-term air quality emissions when it approved the Reuse Plan. Since the extension of Tustin Ranch Road will not generate criteria pollutants in the long-term in addition to those addressed in the FEIR, the roadway extension will not contribute to the cumulative long-term air quality impacts associated with criteria pollutants.

d: Implementation of the proposed project will increase traffic volumes at the Tustin Ranch Road/Walnut Avenue intersection. This increase in traffic volumes may result in substantial carbon monoxide (CO) concentrations at the intersection. A CO "hot spot" analysis will be included in the Supplemental EIR.

e. Diesel emissions from construction equipment operating on the project site may create temporary objectionable odors. These odors would mainly be limited to the project site and would not affect a substantial number of people. Construction and operation of the roadway extension would not create any additional objectionable odors. No further evaluation of odors is required in the Supplemental EIR.

IV. BIOLOGICAL RESOURCES

a. Based on a site visit, the project site does not contain any native habitat or contain any plant or wildlife species that are designated as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (CDFG), or U.S. Fish and Wildlife Service (USFWS). As a result, no impacts on sensitive plant and wildlife species would occur from project implementation. No further evaluation is required in the Supplemental EIR.

b. Based on a site visit, no riparian habitat or other sensitive natural communities are present on or adjacent to the project site; therefore, project implementation would not impact riparian habitat or other sensitive natural communities. No further evaluation is required in the Supplemental EIR.

c. Based on a site visit, the project site does not contain any Federal-protected wetlands as defined by Section 404 of the Clean Water Act; therefore, no impacts to wetlands will occur from project implementation. The project site contains a portion of a concrete-lined OCFCD flood control channel; however, due to the lack of habitat, this channel is not considered a wetland. The project includes a bridge that will span over the channel and the abutments will be located outside of the OCFCD right-of-way. Therefore, no impact to the existing channel is expected. However, if the channel is modified, there is a potential for the City to be required to obtain a U.S. Army Corps of Engineers (USACE) Section 404 permit for disturbance of "Waters of the U.S." and a CDFG permit for disturbance of "Waters of the State". Such permits require adoption of a mitigation plan. No further evaluation is required in the Supplemental EIR.

d. The OCFCD flood control channel that is located immediately north of Edinger Avenue contains water during storm events. Based on a site visit, this channel does not provide fish habitat. No other water courses or bodies of water are located on the project site. The project site is not an established wildlife corridor for migratory species. No further evaluation is required in the Supplemental EIR.

The project will not impede the use of a native wildlife nursery due to the absence of native habitat on the project site. No further evaluation is required in the Supplemental EIR.

e. The proposed project will not conflict with any local policies or ordinances protecting biological resources because the only vegetation onsite is non-native. No further evaluation is required in the Supplemental EIR.

f. The project site is not within an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan; therefore, no conflicts with any such plans would occur with project implementation. No further evaluation is required in the Supplemental EIR.

V. CULTURAL RESOURCES

a. The project will not affect historic resources because no such resources are located on the project site.

b. The portion of the project site that is south of Edinger Avenue and on the Base property was evaluated for archaeological resources in the FEIR. Section 4.6 in the FEIR states that the State Historic Preservation Office (SHPO) concurred with the assessment that the former Air Station has been adequately surveyed. The surveys of the former Air Station resulted in the recording of only one site (CA-ORA-381) which was located in the northwestern part of the former Air Station near Red Hill Avenue. The FEIR states that this site (CA-ORA-381) is not considered significant due to its lack of integrity, and that implementation of the Reuse Plan would not have an adverse affect on the known archaeological resource.

The FEIR also states that due to the presence of shell scatters on the Base, it is possible that buried archaeological resources exist in the Reuse Plan area and that these resources could be potentially impacted by grading activities. The following mitigation measure was

recommended in the FEIR to reduce the potential impacts to buried archaeological resources to less than significant.

Arch-2 Prior to issuance of grading permits, the cities of Tustin and Irvine shall each require applicants of individual development projects to retain, as appropriate, a county-certified archaeologist. If buried resources are found during grading within the reuse plan area, a qualified archaeologist would need to assess the site significance and perform the appropriate mitigation. The Native American view point shall be considered during this process. This could include testing or data recovery. Native American consultation shall also be initiated during this process.

The above measure would be adequate to reduce potential impacts to buried archaeological resources south of Edinger Avenue.

The portion of the project site located north of Edinger Avenue and south of Walnut Avenue has previously been disturbed during grading activities associated with the Peppertree Residential Community, flood control channel, and the railroad tracks. An archaeological review of known archaeological sites for the portion of the project site located south of and adjacent to Edinger Avenue was conducted in 1990 as referenced in the FEIR. The archaeological review included a review of surrounding areas for archaeological resources. This literature review which was completed at the Archaeological Survey, University of California, Los Angeles encompassed the entire Tustin Ranch Road project site. According to the review, no known archaeological resources were found in the area of the Tustin Ranch Road project site.

As identified above, due to the presence of shell scatters on the nearby Base, it is possible that buried archaeological resources exist north of Edinger Avenue and that these resources could be potentially impacted by grading activities. The following mitigation measure which is similar to mitigation measure Arch-2, as recommended in the FEIR, would reduce the potential impacts to buried archaeological resources to less than significant.

- Prior to issuance of a grading permit, the City of Tustin shall retain, as appropriate, a county-certified archaeologist. If buried resources are found during grading within the portion of the site located north of Edinger Avenue, a qualified archaeologist would need to assess the site significance and perform the appropriate mitigation. The Native American view point shall be considered during this process. This could include testing or data recovery. Native American consultation shall also be initiated during this process.

No further evaluation is required in the Supplemental EIR.

c. Section 3.6 of the FEIR states that fossil-bearing geologic formations underlie virtually all of the Base. These formations are from the Pleistocene (2 million years ago to 10,000 years ago) and Recent (10,000 years ago to present) periods and are identified as having moderate to high sensitivity for paleontologic resources. Grading on the Base could potentially impact buried paleontologic resources. To reduce the potential impact to less than significant, the

following measures which were identified in the FEIR will be required for the area of the project site south of Edinger Avenue.

Paleo-1 The cities of Tustin and Irvine shall each require applicants of individual development projects to comply with the requirements established in the Paleontological Resources Management Plan (PRMP) prepared for the site, which details the methods to be used for surveillance of construction grading, assessing finds, and actions to be taken in the event that unique paleontological resources are discovered during construction.

Paleo-2 Prior to the issuance of a grading permit, project applicants shall provide written evidence to each city, that a county-certified paleontologist has been retained to conduct salvage excavation of unique paleontological resources if they are found.

As identified above, the entire Base is underlain by geologic formations that have a high to moderate potential for significant resources. Based on the close proximity of the portion of the project site that is located north of Edinger Avenue, it is anticipated that this area of the site is also underlain by similar geologic formations as the entire Base. Therefore, grading activities associated with the project in the portion of the project site north of Edinger Avenue could result in significant impacts to buried paleontological resources. The following mitigation measures, which are similar to mitigation measures Paleo-1 and Paleo-2, as recommended in the FEIR and above, would reduce the potential impacts to buried paleontologic resources to less than significant.

- The City of Tustin shall comply with the requirements established in the Paleontological Resources Management Plan (PRMP) prepared for the Base, which details the methods to be used for surveillance of construction grading, assessing finds, and actions to be taken in the event that unique paleontological resources are discovered during construction.

- Prior to the issuance of a grading permit, the City shall retain a county-certified paleontologist to conduct salvage excavation of unique paleontological resources if they are found.

No further evaluation is required in the Supplemental EIR.

d. Based on the literature review which encompassed the entire project site and was completed at the Archaeological Survey, University of California, Los Angeles, no known cemeteries or human remains were found in the project area. No impact on known cemeteries or human remains would occur with the construction of Tustin Ranch Road. No further evaluation is required in the Supplemental EIR.

VI. GEOLOGY AND SOILS

a. (i) Based on a review of The City of Tustin General Plan (Public Safety Element) and Section 3.9 of the FEIR, the project site is not within an Alquist-Priolo Earthquake Fault Zone. The nearest active fault to the project site is the Newport-Inglewood

fault. Therefore, no fault rupture is expected to occur on the project site. No further evaluation is required in the Supplemental EIR.

(ii) Based on a review of Section 5.7 of the City of Tustin General Plan Final EIR and Section 3.9 of the FEIR, the Newport-Inglewood fault is located approximately 8 miles southwest of the project site. This fault could produce strong seismic shaking. This shaking is considered to be less than significant because the proposed structures (i.e., bridge and earthen ramp) will be constructed in compliance with existing state and local regulations and standards, and established engineering procedures and techniques (i.e., compliance with the uniform building code). No further evaluation is required in the Supplemental EIR.

(iii) Based on a review of Section 5.7 of the City of Tustin General Plan Final EIR and Section 4.9 of the FEIR, liquefaction potential on the project site is considered to be moderate to high. According to page 4-121 of the FEIR, the use of established engineering procedures and techniques would avoid unacceptable risks or the creation of significant impacts related to soil stability. These procedures and techniques include the removal of loose, surficial, liquefaction-susceptible soils occurring where there is perched groundwater within 50 feet of the ground surface and replacing the soil with compacted fill. Other techniques include deep piles or caissons to support the proposed bridge, or mechanical densification of the subsurface soils susceptible to liquefaction. No further evaluation is required in the Supplemental EIR.

(iv) The majority of the project site is relatively flat. The site does include an earthen ramp that was constructed in 1977. No landslides have occurred along the earthen ramp. Since the project site is relatively flat and no landslides have occurred on site, no impacts from landslides are expected to occur. No further evaluation is required in the Supplemental EIR.

b. Since the project site is relatively flat, grading and construction activities associated with the project will not result in substantial soil erosion or loss of top soil. No further evaluation is required in the Supplemental EIR.

c. As discussed in VI a. (iii) above, the project site could be located on land that could be susceptible to liquefaction during a seismic event. As stated above, the use of established engineering procedures and techniques would avoid unacceptable risks or the creation of significant impacts related to soil stability. No further evaluation is required in the Supplemental EIR.

d. Based on a review of Section 4.9 of the FEIR, the project site is located in an area of high to very high expansivity. The use of established engineering practices would avoid unacceptable risks or the creation of significant impacts related to expansive soil. These general practices include mixing nonexpansive granular soil with the localized expansive soil. No further evaluation is required in the Supplemental EIR.

e. Septic tanks or alternative wastewater disposal systems will not serve the proposed project; therefore, the soils will not be supporting the use of these utilities. No further evaluation is required in the Supplemental EIR.

VII. HAZARDS AND HAZARDOUS MATERIALS

a. The construction of the proposed roadway segment would not result in the use, storage, transport, or disposal of large quantities of hazardous substances. The proposed project could involve the use of some hazardous and flammable substances that would be used during the construction phase. These substances could include vehicle fuels and oils in the operation of heavy equipment for site grading and roadway construction. Construction vehicles onsite may require routine or emergency maintenance that could result in the release of oil, diesel fuel, transmission fluid, or other materials. However, the materials used would not be in quantities or stored in a manner that pose a significant hazard to the public. Therefore, the impacts resulting from project implementation would be less than significant. No further evaluation is required in the Supplemental EIR.

b. As stated above, the project is not expected to generate hazardous materials or substances that pose a hazard to the public. The portion of the project site south of Edinger Avenue has been in agricultural production for many years (i.e., more than 20 years). The use of pesticides at the former MCAS Tustin was evaluated as part of the FEIR and considered as not posing a risk to the reuse of the Base property including the portion of the project site south of Edinger Avenue. Furthermore, Schaefer Dixon Associates conducted a Phase II Environmental Sampling in September 1990 of a portion of the site south of Edinger Avenue in the area of former agricultural activities and the testing indicated very low levels of contaminants. No significant hazards to the public or the environment through reasonably foreseeable upset and accident conditions would involve releasing hazardous materials into the environment. This issue will not be further evaluated in the Supplemental EIR.

c. The project site is located 0.28 of a mile from the existing W.R. Nelson Elementary School. Since the project site is not located within 0.25 of a mile from an existing school, no significant impacts associated with hazardous emissions or handling acutely hazardous materials, substances or waste are expected. The Reuse Plan identifies future schools immediately southwest of the future Tustin Ranch Road/Valencia North Loop Road intersection; however, the proposed segment of Tustin Ranch Road is not expected to result in significant impacts associated with hazardous emissions or handling cutely hazardous materials, substances, or waste. No further evaluation is required in the Supplemental EIR.

d. The project site is not included on a list of hazardous materials sites. Furthermore, based on the Phase II analysis referenced in Item VII. b., the portion of the site that included previous agricultural practices contains very low levels of contaminants. No further evaluation is required in the Supplemental EIR.

e., f. The former MCAS Tustin site was recently removed from the Airport Environs Land Use Plan (AELUP). However, the project site is still subject to the John Wayne Airport AELUP. The site falls within the 20,000-foot area of concern for buildings with heights ranging from 100-feet to 200 feet. Since the project does not include structures with these heights, implementation of the proposed project will not result in an aircraft safety hazard. No further evaluation is required in the Supplemental EIR.

g. The proposed project should not impair the existing emergency response plan or emergency evacuation plan. The proposed project should create a benefit for such plans because the proposed project would increase access in the project vicinity. No further evaluation is required in the Supplemental EIR.

h. The project site is located in an area surrounded by residences and vacant land. No wildland habitat occurs within the vicinity of the project site and, thus, no impact from wildland fires would occur. No further evaluation is required in the Supplemental EIR.

VIII. HYDROLOGY AND WATER QUALITY

a. Implementation of the proposed project would result in the grading of a new road from Walnut Avenue to the future alignment of Valencia North Loop Road. The use of established engineering and construction practices (i.e., Best Management Practices – BMPs) will be required to avoid violating water quality standards and to comply with the City's NPDES permit. As required for all municipal construction projects within the City, BMP's such as sandbags and straw bale barriers, gravel velocity reducers to control erosion and turbidity of surface water flowing off the project site will be implemented with the proposed project. With the implementation of standard BMPs and compliance with the City's Water Quality Ordinance, no significant water quality impacts will occur during construction activities. This will be further discussed in the Supplemental EIR.

Following construction of the proposed project, no violation of water quality standards or waste discharge requirements is anticipated to occur. No further evaluation is required in the Supplemental EIR.

b. Based on a review of Section 3.8 of the FEIR, the regional aquifer is found in course material at depths of 100 feet below ground surface. Since the proposed project does not extend 100 feet below the ground surface, no effect on groundwater supplies would occur. No further evaluation is required in the Supplemental EIR.

c., d. The proposed project will increase impermeable surfaces on the project site. However, because the existing topography is relatively flat and the proposed project will not substantially alter the existing topography and the project will have to implement BMPs and comply with the City's Water Quality Ordinance, no significant changes to the existing amount of storm water runoff or drainage pattern will occur. Also, no substantial erosion or siltation on- or off- site is anticipated occur with project implementation. Furthermore, the project site contains a portion of an OCFCD flood control channel. The project includes a bridge that will span the existing channel and the abutments are proposed outside of the existing OCFCD right-of-way. Therefore, the project would not affect a stream or river. No further evaluation is required in the Supplemental EIR.

e. The proposed project will increase runoff water to the existing storm drain system. The majority of the storm water from the project site will be conveyed to the storm drain facilities along Walnut Avenue because the topography is lower at Walnut Avenue than immediately north of the OCFCD flood control channel. Storm water conveyed from the project site to the existing Walnut Avenue storm drain system is not expected to result in a significant drainage impact (pers. comm., R. Neill, 2002). Furthermore, storm water from the portion of the

roadway segment proposed south of Edinger Avenue is planned to be conveyed to storm drain facilities proposed along Tustin Ranch Road. This planned storm drain facility is discussed in Section 4.13 of the FEIR. Required BMPs and compliance with the City's Water Quality Ordinance will mitigate any impacts. No further evaluation is required in the Supplemental EIR.

f. Construction and operation of the extension of Tustin Ranch Road is not expected to substantially degrade water quality. As stated in Section 4.8 of the FEIR, individual projects must include plans for structural and non-structural Best Management Practices (BMP's) that are consistent with the Orange County Drainage Area Master Plan. No further evaluation is required in the Supplemental EIR.

g. The proposed project does not include housing; therefore, the proposed project would not result in flooding impacts on housing. No further evaluation is required in the Supplemental EIR.

h. The proposed roadway segment would cross a 100-year flood zone north of Edinger Avenue at the Santa Ana/Santa Fe Channel (F10), according to Section 3.3.3 of the FEIR. The proposed roadway segment is not expected to add new runoff into the channel because storm water would be conveyed to Walnut Avenue or the drainage facilities south of Edinger Avenue that are proposed as part of the Reuse Plan. As indicated on page 3-40 of the FEIR, the Santa Ana/Santa Fe Channel (F10) is currently undersized and experiences overflow during major storm events (i.e., 100-year storm events). The proposed project will include bridge piles within the area that experiences overflow. The installation of the bridge piles is not expected to alter existing flooding along the Santa Ana/Santa Fe Channel (F10). No additional evaluation in the Supplemental EIR will be required.

i. Page 4-120 of the FEIR states that Peters Canyon and Rattlesnake reservoirs are located several miles upstream from the Reuse Plan area. If either of these reservoirs failed during or after a major earthquake, flooding could be a significant hazard. However, both reservoirs have been designed and constructed according to applicable seismic standards to reduce the chance of dam failure. The City of Tustin has implemented emergency response plans in the case of an earthquake to respond to this hazard. These plans would ensure removal of people from the site and avoid loss of human life, but property could be exposed. Although property loss would be experienced with dam failure, the design and construction standards avoid an unacceptable potential risk of loss, injury, or death. Therefore, no significant impacts would occur with the construction of the project.

j. The proposed project does not lie within an area that could be potentially inundated by a seiche, tsunami, or mudflow. Therefore, no impact will result from project implementation. No further evaluation is required in the Supplemental EIR.

IX. LAND USE AND PLANNING

a. The proposed project will include the development of a roadway right-of-way that was dedicated and approved in 1972 between Walnut Avenue and the OCFCD storm channel. The implementation of this roadway would not physically divide the area's established

community. Furthermore, the construction of the roadway south of Edinger Avenue was planned as part of the Reuse Plan. No further evaluation is required in the Supplemental EIR.

b. As stated above in item IX a), the proposed roadway north of the OCFCD storm channel was dedicated and approved in 1972. This portion of the roadway was graded with the residential tract (Peppertree Residential Community) located west of the roadway. Furthermore, the portion of the roadway south of Edinger Avenue was recently planned as part of the Reuse Plan. The proposed project would not conflict with any applicable land use plans, policies, or regulations. No further evaluation is required in the Supplemental EIR.

c. The project site is not located within a habitat conservation plan or natural communities conservation plan; therefore, it will not conflict with any such plans. No further evaluation is required in the Supplemental EIR.

X. MINERAL RESOURCES

a., b. According to page 36 in the Conservation/Open Space/Recreation Element of the City of Tustin General Plan, the only mineral resource in the Tustin Planning Area which includes the entire project site is the Mercury-Barite deposit in Red Hill. Red Hill is not located on the project site; therefore, the implementation of the proposed project would not result in the loss of a known mineral resource or a mineral resource recovery site. No further evaluation is required in the Supplemental EIR.

XI. NOISE

a.-d. Implementation of the proposed roadway will increase noise levels along the proposed roadway extension. This increase in noise levels may result in significant impacts on the adjacent residential uses to the west, as well as a church at the southeast corner of Walnut Avenue and Tustin Ranch Road. Mitigation measures such as the construction of soundwalls is expected to be adequate to reduce potential noise impacts to less than significant levels. This issue will be further evaluated in the Supplemental EIR.

e., f. The former MCAS Tustin site was recently removed from the Airport Environs Land Use Plan (AELUP) and the former MCAS Tustin will not operate as an airport. Therefore, residents will not be exposed to aircraft noise associated with MCAS Tustin site. Residents in the project vicinity will still be exposed to aircraft noise associated with the John Wayne Airport. No further evaluation is required in the Supplemental EIR.

XII. POPULATION AND HOUSING

a. Development of the proposed roadway is expected to accommodate growth and not induce growth. The inducement of additional growth in the area will occur from the implementation of the Reuse Plan. No further evaluation is required in the Supplemental EIR.

b., c. The implementation of the proposed project will not result in the removal of any houses. Therefore, no impact on housing or population is expected to occur. No further evaluation is required in the Supplemental EIR.

XIII. PUBLIC SERVICES.

a.-e. The proposed project will create a beneficial impact for access for fire and police protection in the project area. The proposed project will have no affect on schools, parks, or other public facilities. No further evaluation is required in the Supplemental EIR.

XIV. RECREATION

a., b. The proposed project is an extension of Tustin Ranch Road from Walnut Avenue to the future alignment of Valencia North Loop Road. No parks or recreation areas are within the immediate project vicinity; therefore, no increased use of regional or neighborhood parks or other recreational facilities is expected to occur. Furthermore, expansion or creation of recreational facilities is not planned. No further evaluation is required in the Supplemental EIR.

XV. TRANSPORTATION/TRAFFIC

a., b. The proposed roadway extension will result in a redistribution of existing traffic volumes as well as provide an entrance into the Reuse Plan area. This redistribution will result in impacts on area intersections. Mitigation measures such as intersection improvements are expected to be available to reduce impacts; however, a traffic analysis will be prepared for the Supplemental EIR, and the level of significant effects, if any, will be addressed.

Furthermore, the proposed extension would contribute to a significant and unavoidable adverse impact (i.e., level of service E) to the level of service at the Tustin Ranch Road/Walnut Avenue intersection in the Year 2020. This significant and unavoidable adverse impact was addressed in the FEIR and the Tustin City Council adopted a Statement of Overriding Considerations for this impact. The FEIR also identified future trips at the Jamboree Road/Barranca Parkway would result in a significant and unavoidable adverse impact (i.e., level of service F) and the Tustin City Council adopted a Statement of Overriding Considerations for this impact.

c. The proposed extension of Tustin Ranch Road will include bike lanes to encourage alternative transportation. The proposed project will not conflict with adopted policies, plans, or programs in supporting alternative transportation. No further evaluation is required in the Supplemental EIR.

d. The proposed project includes a loop ramp that would allow vehicles to travel from Tustin Ranch Road to Edinger Avenue. The loop ramp is proposed to meet City standards; therefore, no safety impacts would occur. No further evaluation is required in the Supplemental EIR.

e. The proposed project will improve access to the vicinity of the project site because an additional access from the Santa Ana Freeway to Edinger Avenue would be provided. No further evaluation is required in the Supplemental EIR.

f. The implementation of the proposed roadway will not create a demand for parking; therefore, the project would not result in an inadequate parking capacity. No further evaluation is required in the Supplemental EIR.

XVI. UTILITIES AND SERVICE SYSTEMS

a. The proposed project will not result in the generation of wastewater; therefore, the project would not result in exceedances of wastewater treatment requirements. No further evaluation is required in the Supplemental EIR.

b., e. The proposed roadway extension will not require the construction or expansion of water or wastewater treatment facilities. No further evaluation is required in the Supplemental EIR.

c. The proposed project includes curb and gutter drainage facilities along the entire length of the proposed roadway. These drainage facilities would connect with existing drainage facilities along Walnut Avenue and Edinger Avenue and future drainage facilities south of Edinger Avenue. The existing OCFCD flood channel that is located within the project area is not expected to be affected because the project includes a bridge that will span the existing channel and the abutments are proposed outside of the existing OCFCD right-of-way. No additional evaluation is required in the Supplemental EIR.

d. The proposed project will demand water for irrigation purposes. The project does not include a substantial amount of vegetation areas; therefore, no significant water demand will result with the implementation of the roadway extension. Water for the landscaping occurring north and south of Edinger Avenue would be provided by the Irvine Ranch Water District (IRWD). Based on a review of Section 4.3.3 of the FEIR, water demand in the Reuse Plan Area could be adequately served by IRWD. IRWD is expected to have available water capacity to provide irrigation water for the landscaping north of Edinger Avenue. No further evaluation is required in the Supplemental EIR.

f. The long-term operation of the proposed project will increase waste through the maintenance of landscaping proposed within the right-of-way. This long-term increase in waste is expected to be nominal. This nominal increase in solid waste is expected to be disposed of at the Bee Canyon and Prima Deshecha landfills, which have a capacity of approximately 20 years. The City will be required to be in compliance with their adopted Source Reduction and Recycling Element that provides programs for achieving a reduction in their solid waste streams. Compliance with these programs will result in a less than significant impact on solid waste disposal. No further evaluation is required in the Supplemental EIR.

g. The project will comply with Federal, State, and local statutes and regulations related to solid waste. No further evaluation is required in the Supplemental EIR.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

a. Based on the absence of native habitat on the proposed project site, the proposed project will have no potential to affect fish or sensitive wildlife or plant species. The proposed project may affect archaeological and paleontological resources. These effects may be significant;

however, mitigation measures are expected to be available to reduce potential impacts to a less than significant level. Impact to archaeological and paleontological resources will be further evaluated in the Supplemental EIR.

b. Except for a few environmental issues, the cumulative analyses in Section 5 in the FEIR adequately addresses the cumulative impacts that would be associated with the construction and operation of the extension of Tustin Ranch Road. There are three environmental issues that will require further cumulative evaluation in the Supplemental EIR. These issues include traffic, noise, and air quality.

c. Implementation of the proposed roadway extension may result in environmental effects that may result in substantial adverse effects on human being (i.e., traffic, noise, and air quality); however, mitigation measures are expected to be available to reduce these potential impacts to less than significant. Further evaluation of these three environmental issues will be provided in the Supplemental EIR.

SECTION 4
REFERENCES

City of Tustin. *Irvine Industrial Complex Draft EIR* (undated).

City of Tustin. *Tustin General Plan*, February 1994.

Cotton/Beland/Associates, Inc. *Final Program Environmental Impact Report, City of Tustin General Plan*, December 1993.

Michael Brandman Associates, Site Visit, April 10, 2001.

R. Neill, Moffatt & Nichol. Personal communications with Michael Brandman Associates on June 17, 2002.

Thomas Brothers. *Riverside and Orange Counties Street Guide and Directory*. 2000

United States Geologic Service. *USGS Topographic Maps, Tustin Quadrangle*. 1965, Photo revised 1981

U.S. Marine Corps and City of Tustin. *Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of the Marine Corps Air Station Tustin, California.* December 1999.

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
Governor

Tal Finney
Interim Director

RECEIVED
SEP 15 2003
COMMUNITY DEVELOPMENT

Notice of Preparation

September 8, 2003

To: Reviewing Agencies

Re: Extension of Tustin Ranch Road between Walnut Avenue and the Future Alignment of Valencia North Loop Road
SCH# 1994071005

Attached for your review and comment is the Notice of Preparation (NOP) for the Extension of Tustin Ranch Road between Walnut Avenue and the Future Alignment of Valencia North Loop Road draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Scott Reekstin
City of Tustin
300 Centennial Way
Tustin, CA 92780

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Associate Planner, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 1994071005
Project Title Extension of Tustin Ranch Road between Walnut Avenue and the Future Alignment of Valencia North Loop Road
Lead Agency Tustin, City of

Type NOP Notice of Preparation

Description The proposed project includes the extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road. The proposed roadway is approximately 0.8 of a mile in length and includes an overpass and a connector loop road to Edinger Avenue.

Lead Agency Contact

Name Scott Reekstin
Agency City of Tustin
Phone 714/573-3016 **Fax**
email
Address 300 Centennial Way
City Tustin **State** CA **Zip** 92780

Project Location

County Orange
City Tustin
Region
Cross Streets Tustin Ranch Road and Walnut Avenue
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways I-5, SR 55
Airports
Railways
Waterways
Schools
Land Use

Project Issues

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 5; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 12; Air Resources Board, Transportation Projects; Regional Water Quality Control Board, Region 8

Date Received 09/08/2003 **Start of Review** 09/08/2003 **End of Review** 10/07/2003

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County: Ora 2

SCH# 1994071 15

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sources Agency
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t. of Boating & Waterways
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abeth A. Fuchs

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ald R. Zimmerman

t. of Conservation
eanne Taylor

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ept. of Fish & Game
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nvironmental Services Division

ept. of Fish & Game 1
onald Koch
legion 1

ept. of Fish & Game 2
anky Curtis

- ☐ **Dept. of Fish & Game 3**
  Robert Floerke
  Region 3
- ☐ **Dept. of Fish & Game 4**
  William Laudermilk
  Region 4
- ■ **Dept. of Fish & Game 5**
  Don Chadwick
  Region 5, Habitat Conservation Program
- ☐ **Dept. of Fish & Game 6**
  Gabrina Gatchel
  Region 6, Habitat Conservation Program
- ☐ **Dept. of Fish & Game 6 I/M**
  Tammy Allen
  Region 6, Inyo/Mono, Habitat Conservation Program
- ☐ **Dept. of Fish & Game M**
  Tom Napoli
  Marine Region

Other Departments

- ☐ **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- ☐ **Dept. of General Services**
  Robert Sleppy
  Environmental Services Section
- ☐ **Dept. of Health Services**
  Wayne Hubbard
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- ☐ **Delta Protection Commission**
  Debby Eddy
- ☐ **Office of Emergency Services**
  John Rowden, Manager
- ☐ **Governor's Office of Planning & Research**
  State Clearinghouse

_____

- ■ **Native American Heritage Comm.**
  Debbie Treadway

- ■ **Public Utilities Commission**
  Ken Lewis
- ■ **State Lands Commission**
  Jean Sarino
- ☐ **Tahoe Regional Planning Agency (TRPA)**
  Lyn Barnett

Business, Trans & Housing

- ■ **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- ☐ **Caltrans - Planning**
  Ron Helgeson
- ■ **California Highway Patrol**
  Lt. Julie Page
  Office of Special Projects
- ☐ **Housing & Community Development**
  Cathy Creswell
  Housing Policy Division

Dept. of Transportation

- ☐ **Dept. of Transportation 1**
  Mike Eagan
  District 1
- ☐ **Dept. of Transportation 2**
  Don Anderson
  District 2
- ☐ **Dept. of Transportation 3**
  Jeff Pulverman
  District 3
- ☐ **Dept. of Transportation 4**
  Tim Sable
  District 4
- ☐ **Dept. of Transportation 5**
  David Murray
  District 5
- ☐ **Dept. of Transportation 6**
  Marc Birnbaum
  District 6
- ☐ **Dept. of Transportation 7**
  Stephen J. Buswell
  District 7

_____

- ☐ **Dept. of Transportation 8**
  Linda Grimes,
  District 8
- ☐ **Dept. of Transportation 9**
  Gayle Rosander
  District 9
- ☐ **Dept. of Transportation 10**
  Tom Dumas
  District 10
- ☐ **Dept. of Transportation 11**
  Bill Figge
  District 11
- ■ **Dept. of Transportation 12**
  Bob Joseph
  District 12

Cal EPA

Air Resources Board

- ☐ Airport Projects
  Jim Lerner
- ■ Transportation Projects
  Kurt Karperos
- ☐ Industrial Projects
  Mike Tollstrup

- ☐ **California Integrated Waste Management Board**
  Sue O'Leary
- ☐ **State Water Resources Control Board**
  Jim Hockenberry
  Division of Financial Assistance

- ☐ **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- ☐ **State Water Resouces Control Board**
  Mike Falkenstein
  Division of Water Rights
- ☐ **Dept. of Toxic Substances Control**
  CEQA Tracking Center

Regional Water Quality Control Board (RWQCB)

- ☐ **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- ☐ **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- ☐ **RWQCB 3**
  Central Coast Region (3)
- ☐ **RWQCB 4**
  Jonathan Bishop
  Los Angeles Region (4)
- ☐ **RWQCB 5S**
  Central Valley Region (5)
  - ☐ **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - ☐ **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- ☐ **RWQCB 6**
  Lahontan Region (6)
  - ☐ **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- ☐ **RWQCB 7**
  Colorado River Basin Region (7)
- ■ **RWQCB 8**
  Santa Ana Region (8)
- ☐ **RWQCB 9**
  San Diego Region (9)

☐ **Other** _____

_____

_____

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
District 12
3337 Michelson Drive, Suite 380
Irvine, CA 92612-8894

Flex your power!
Be energy efficient!

October 2, 2003

Mr. Scott Reekstin
City of Tustin
300 Centennial Way
Tustin, CA 92780

File: IGR/CEQA
SCH#: 1994071005
Log #: 1299
SR #: 55

Subject: NOP for the Extension of Tustin Ranch Road between Walnut Avenue and the Future Alignment of Valencia North Loop Road Draft Environmental Impact Report

Dear Mr. Reekstin,

Thank you for the opportunity to review and comment on the **Notice of Preparation for the Extension of Tustin Ranch Road between Walnut Avenue and the Future Alignment of Valencia North Loop Road Draft Environmental Impact Report** dated September 7, 2003. The proposed roadway is approximately 0.8 of a mile in length and includes an overpass and a connector loop road to Edinger Avenue in the City of Tustin, California.

Caltrans District 12 status is a reviewing agency on this project and has no comment.

Please continue to keep us informed of this project and other future developments, which could potentially impact the transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Lan Zhou at (949) 756-7827.

Sincerely,

ROBERT F. JOSEPH
Chief of Advanced Planning Branch
District 12

cc: Terry Roberts, Office of Planning and Research
Ron Helgeson, Caltrans HQ IGR/Community Planning
Saied Hashemi, Traffic Operations
Joe El-Harake, Toll Roads

South Coast
Air Quality Management District
21865 E. Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

September 12, 2003

Mr. Scott Reekstin
City of Tustin
300 Centennial Way
Tustin, CA 92780

Dear Mr. Scott:

Notice of Preparation of a Draft Supplemental Environmental Impact Report for Extension of Tustin Ranch Road Between Walnut Avenue and the Future Alignment of Valencia North Loop Road

The South Coast Air Quality Management District (AQMD) appreciates the opportunity to comment on the above-mentioned document. The AQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the Draft Environmental Impact Report (EIR).

Air Quality Analysis

The AQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The AQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the AQMD's Subscription Services Department by calling (909) 396-3720.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction and operations should be considered. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the evaluation. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the AQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additionally, AQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

Data Sources

AQMD rules and relevant air quality reports and data are available by calling the AQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the AQMD's World Wide Web Homepage (http://www.aqmd.gov).

The AQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Charles Blankson, Ph.D., Air Quality Specialist, CEQA Section, at (909) 396-3304 if you have any questions regarding this letter.

Sincerely,

Michael Krause

Steve Smith, Ph.D.
Program Supervisor, CEQA Section
Planning, Rule Development and Area Sources

SS:CB:li

ORC030905-04LI
Control Number

IRVINE RANCH WATER DISTRICT *15600 Sand Canyon Ave., P.O. Box 57000, Irvine, CA 92619-7000 (949) 453-5300*

October 2, 2003

Scott Reekstin
City of Tustin
300 Centennial Way
Tustin, CA 92780

Subject: Notice of Preparation (NOP) of a Supplemental Environmental Impact Report (EIR) for the Extension of Tustin Ranch Road between Walnut Avenue and the future alignment of Valencia North Loop Road

Dear Mr. Reekstin:

Irvine Ranch Water District (IRWD) has received and reviewed the subject NOP and offers the following comments. The road extension project is located in the IRWD service area, however the project will not generate significant domestic water, recycled water, or wastewater demands and therefore will not affect existing system loads.

In or near the proposed roadway extension alignment, IRWD owns and operates a domestic water pipeline and a sewer pipeline. These facilities must be protected in place or relocated. The project proponent will be responsible for any costs associated with relocation, repairs, or replacement of facilities affected by the project.

In addition, the NOP does not discuss the potential for recycled (reclaimed) water use or the installation of a recycled water pipeline. IRWD has determined that a recycled water pipeline should be constructed in coordination with roadway construction. The 1999 Marine Corps Air Facility Tustin Redevelopment Sub Area Master Plan (SAMP) will be revised to reflect the change (ref. Section 6, Figure 6.1). To ensure coordination between the City and IRWD, please call Mr. Al Dyson in Development Services at (949) 453-5595 at your earliest convenience to initiate the planning and design of the facilities.

The proposed project will include landscaping and IRWD takes a keen interest in water conservation practices. IRWD staff are available to discuss vegetation and irrigation options that may improve water savings over the long term. For more information, please call Mr. Ted Hunt at (949) 453-5860.

IRWD appreciates the opportunity to review and comment on the subject project. Should you have any questions or require additional information, please call Gregory Herr, Planning and Resources Specialist at (949) 453-5577.

Yours truly,

Richard A. Diamond
Water Resources Manager

RAD/GKH

cc: Al Dyson, IRWD
Steve Malloy, IRWD
Michael Hoolihan, IRWD
Alex Harris, IRWD

ORANGE COUNTY FIRE AUTHORITY
P.O. Box 86, Orange, CA 92856-0086 • 145 South Water St., Orange, CA 92866

Chip Prather, Fire Chief *(714) 744-0400*

September 9, 2003

City of Tustin
Scott Reekstin
300 Centennial Wy
Tustin, CA 92780

SUBJECT: **Tustin Ranch Rd Extension Between Walnut and Valencia N Loop Rd**

Dear Mr. Reekstin:

Thank you for the opportunity to review the subject document. Given the nature of the project, the impacts to the OCFA are insignificant. While no additional public safety resources are needed as a result of this project, all standard conditions and guidelines will be applied to the project during the normal review process.

Although there are no significant impacts, we asked that if there is a center median installed that is greater than 1000 feet in length that an emergency turn-around or rolled curb be installed, if possible for emergency access. In addition, the OCFA Planning and Development staff would like to review hydrant placement or water access when the detailed plans become available.

Sincerely,

Michele Hernandez
Strategic Services

Community Development Department www.ci.irvine.ca.us

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 (949) 724-6000

October 3, 2003

Mr. Scott Reekstin
City of Tustin
300 Centennial Way
Tustin, CA 92780

SUBJECT: NOP FOR A SUPPLEMENTAL EIR FOR THE EXTENSION OF TUSTIN RANCH ROAD FROM WALNUT AVENUE TO FUTURE VALENCIA NORTH LOOP ROAD

Dear Mr. Reekstin:

The City of Irvine has received and reviewed the information on the above referenced project. The Community Development Department has discussed the proposed extension with Transportation Analysis staff for possible comments on traffic issues. We have the following comments:

1. Based on our phone conversation, we understand that the study area boundary for the traffic analysis in this SEIR will be the same as the original EIR. This is acceptable to the City of Irvine. If there is any change to the boundary, please let me know.

2. The project description should clarify whether the proposed extension of Tustin Ranch is anticipated to be a part of the County Master Plan of Arterial Highways (MPAH). Note that the existing portion of Tustin Ranch Road is on the County's MPAH. If intent is to add this to the MPAH, the analysis should clarify whether this stretch of roadway will be designated as a six-lane major arterial similar to the segment north of Edinger Avenue.

3. If impacts are identified on City of Irvine arterials or intersections based on City of Irvine performance criteria, appropriate mitigations should be identified in the findings of the supplemental EIR for all of the potentially impacted locations (previously identified impacts at Jamboree/Barranca).

Based on the current project description, the City of Irvine has no further comments. We would appreciate information on any change in the project description. Thank you for the opportunity to review the project. If you have any questions, please contact me at (949) 724-6352.

Sincerely yours,

JENNIFER M. WINN, AICP
Senior Planner, Advance Planning

c: Leslie Aranda Roseberry, Principal Planner
Kerwin Lau, Senior Transportation Analyst

jw/intagency/tus/TusRnchRdExt-10-03

The Gas Company

A Sempra Energy utility™

Southern California Gas Company
Technical Services Department
1919 S. State College Blvd., Bldg. A
Anaheim CA. 92806

September 15, 2003

City of Tustin
300 Centennial Way
Tustin, CA 92780

Att: Scott Reekstin

Subject: E.I.R. for the extension of Tustin Ranch Rd. between Walnut Ave. & Valencia North Loop Rd.

Thank you for providing the opportunity to respond to this E.I.R. (Environmental Impact Report) Document. We are pleased to inform you that Southern California Gas Company has facilities in the area where the aforementioned project is proposed. Gas service to the project can be provided from an existing gas main located in various locations. The service will be in accordance with the Company's policies and extension rules on file with the California Public Utilities Commission when the contractual arrangements are made.

This letter is not a contractual commitment to serve the proposed project but is only provided as an informational service. The availability of natural gas service is based upon conditions of gas supply and regulatory agencies. As a public utility, Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. Our ability to serve can also be affected by actions of federal regulatory agencies. Should these agencies take any action, which affect gas supply or the conditions under which service is available, gas service will be provided in accordance with the revised conditions.

This letter is also provided without considering any conditions or non-utility laws and regulations (such as environmental regulations), which could affect construction of a main and/or service line extension (i.e., if hazardous wastes were encountered in the process of installing the line). The regulations can only be determined around the time contractual arrangements are made and construction has begun.

Estimates of gas usage for residential and non-residential projects are developed on an individual basis and are obtained from the Commercial-Industrial/Residential Market Services Staff by calling (800) 427-2000 (Commercial/Industrial Customers) (800) 427-2200 (Residential Customers). We have developed several programs, which are available upon request to provide assistance in selecting the most energy efficient appliances or systems for a particular project. If you desire further information on any of our energy conservation programs, please contact this office for assistance.

Sincerely,

Robert J Wattis FOR

Kris Keas
Technical Supervisor
West Region-Anaheim
ep
eir03.doc

KINDER MORGAN
ENERGY PARTNERS, L.P.
SFPP, L.P.

September 11, 2003

SFPP, L.P.
Operating Partnership

ENG 4-2-1 (38.5 to 39.0WA - 126)
(25.0 to 25.5NW - 122)
File Reference #01-295-3

RECEIVED
SEP 18 2003
COMMUNITY DEVELOPMENT

Mr. Scott Reefstin
Senior Planner
City of Tustin
300 Centennial Way
Tustin, CA 92780

RE: Tustin Ranch Road Extension – Between Walnut Avenue and Future Valencia North Loop Road Located on the Former Tustin MCAS

Dear Mr. Reefstin:

This is in reply to the Notice of Preparation of a Supplemental EIR concerning the above referenced project in the City of Tustin, California.

As you may be aware SFPP,L.P. operates an active 16-inch and maintains an idle 10-inch refined petroleum product pipelines that will be impacted by the planned improvements. We have been corresponding with City's design consultant DMcEngineering concerning this project and have requested early involvement in the planning process to ensure public safety and pipeline protection.

Mr. George Reed of this office (714) 560-4770 will be SFPP's engineering contact as this project moves forward.

Sincerely,

D. R. Quinn

DRQ/H:engineering/drq/letters/ENG4-2-1/01-295-3

cc: Mr. Derek J. McGregor, P.E., P.L.S.
DMcEngineering
Suite 100
18 Technology Drive
Irvine, CA 92618

Mr. Michael E. Houlihan, AICP
Manager of Environmental Services
Michael Brandman Associates
Suite 200
220 Commerce
Irvine, CA 92780

G.T. Reed

Scott Reekstin
City of Tustin
300 Centennial Way
Tustin, Ca. 92780

Dear Scott:

I have recently received a copy of the Environmental Impact Report (EIR) for the Tustin Ranch Road extension from Walnut. I would like to discuss and point out a couple of items that I think were missed in the (EIR) and should be discussed at the September 24th meeting, or, should be addressed on the supplemental EIR.

1. Peppertree Retaining/Boundary Wall

The **entire** Peppertree outer boundary wall, the south-facing wall bordering the proposed Tustin Ranch extension, has an outward lean of 6-8 inches. (I have lived adjacent to the wall for 3 years and it was that way when I moved in.) The lean is so severe that the wall is close to falling.

I believe any grading of Tustin Ranch Road and/or vibrations from large construction equipment could cause the wall to fall and this should be addressed before construction is started. It is a dangerous situation and could cause harm to anyone near the wall.

Secondly, and related to the above, the wall should be replaced and raised to help with noise abatement in the Peppertree community. Again, this wall should be replaced or supported prior to construction or grading.

2. Aesthetics

Tustin Ranch Road from the Santa Ana, 5, freeway to Walnut has a definite theme including certain trees, bushes and plants. The center median is grass with planted pines trees and the sides of the street uses Eucalyptus trees.

The new extension of Tustin Ranch Road from Walnut to Edinger should continue the plant and landscaping theme to retain conformity and extend the beautiful drive and area from the 5 freeway.

3. Sound barrier/Set Back

Again, Tustin Ranch Road from the 5 freeway to Walnut has a set back from the road of approximately 15-20 feet **on the South side and 5 feet on the North side**. Commercial buildings border the South side and the North is bordered by homes.

The **set back should be reversed on the extension**; with the North side of Walnut (residential area) getting the 15-foot setback and the commercial south side should get the 5-foot setback.

Thanks for your consideration. I would be glad to meet with you or the planning commission to discuss these items.

Sincerely,

Joseph Gehley
2361 Basswood Circle
Tustin, Ca. 92780
714-368-9900

October 2, 2003

City of Tustin
Attention: Scott Reekstin
Senior Planner
300 Centennial Way
Tustin, CA 92780

Dear Scott:

I just want to take a minute to thank you for giving us an opportunity to meet with you and the consulting firm of Michael Brandman Associates.

The meeting on September 24, 2003 regarding the future extension of Tustin Ranch Road between Walnut Avenue the future alignment of Valencia North Loop Road was very informative. We are hoping that the homeowner's of the Peppertree community will have future input on the design and development of this road.

Unfortunately this road will have a tremendous in pact on the peacefulness of our community as it stands now. Obviously there will be additional noise, pollution and traffic due to the construction of this road. But I am confident that the City of Tustin will do a good job in addressing all of our concerns.

Since we do not have an established Homeowner's Association our voices are small, I hope that this will not matter in listening to the very few of us. This brings up another matter of utmost importance and concern. The perimeter wall surrounding our tract is our responsibility which has been a major problem over the years since we do not have an association to manage the maintenance of this wall. It is obvious that a new wall will have to be constructed along the Tustin Ranch Road Extension and should be addressed before any work is started as the existing wall at this location looks very fragile. Is there anyway the that the maintenance of the existing wall be turned over to the City?

I was driving on the 5 Freeway just a few days ago – and part of the southbound freeway near the 55 Freeway had been resurfaced – and it was so wonderful as I believe they used old tires, there was such a noticeable difference in the sound of the road. Is this something that can be considered for our road. It is extremely important that the landscaping be a another major issue in the planning stages for this road.

If there is anything I can personally do please do not hesitate to call me.
Just a note I do not speak well in a large groups but have lots of ideas.....and concerns.

Rea Jackman (original owners)
2351 Coco Palm Drive
Tustin, CA. 92780

714/832-0136

September 21, 2003

James Lindsey
Marsha Lindsey
2372 Caper Tree Drive
Tustin, CA 92780
714-544-7715

Scott Reekstin
City of Tustin
300 Centennial Way
Tustin, CA 92780
714-573-3030

Dear Mr. Reekstin,

We were pleased to see that the plans for the continuation of Tustin Ranch Road include a soundwall and landscaping for Peppertree, our subdivision. We are thinking that it will be similar to what was done for Laurelwood. To lessen the impact we would like to see the following considerations:

1. Construction activities limited to reasonable daytime hours, preferably 7 **am to 7 pm**.

2. Like Laurelwood, we would prefer that there is **no sidewalk** on our side (west). We believe this configuration cuts down on illegal access to our property, graffiti and stray trash.

3. Like Laurelwood, we would prefer the landscaping to include plants that discourage graffiti.

4. **No heavy truck traffic allowed**, or at the least, restriction to daytime hours.

We believe these items will greatly lessen the impact of the construction and later the impact of traffic on our subdivision.

Sincerely,

Marsha Lindsey
James Lindsey

Appendix B: Traffic Report

Traffic Analysis

for

Tustin Ranch Road

Prepared for:
Michael Brandman Associates

March 2004

TRAFFIC ANALYSIS
FOR
TUSTIN RANCH ROAD
IN THE CITY OF TUSTIN

Prepared for:

Michael Brandman Associates
c/o Mr. Michael Houlihan
220 Commerce, Suite 200
Irvine, California 92602

Prepared by:

Kimley-Horn and Associates, Inc.
2100 West Orangewood Avenue
Suite 140
Orange, California 92868

March 10, 2004

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

Kimley-Horn and Associates, Inc. has been retained to conduct a traffic analysis to 1) study the traffic impacts of the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North on Year 2005 traffic conditions and 2) study the traffic impacts of not extending Tustin Ranch Road between Walnut Avenue and Loop Road North on Year 2020 traffic conditions. This report describes the existing traffic conditions in the area, Year 2005 traffic conditions with and without the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North and Year 2020 traffic conditions with and without the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North. Mitigation measures will be recommended as necessary. The purpose of the analysis is to identify if implementation of the proposed project under Year 2005 traffic conditions and conversely, not implementing the proposed project under year 2020 traffic conditions would result in reduced traffic impacts or traffic impacts not called out in the Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) prepared for the Marine Corps Air Station (MCAS) Tustin Base Reuse project. As such, this traffic analysis will be a supplement to the Base Reuse EIS/EIR. In the Base Reuse EIS/EIR, Year 2005 conditions were analyzed without the Tustin Ranch Road Extension, but not with the extension. Conversely, Year 2020 conditions were analyzed in the EIS/EIR with the extension, but not without.

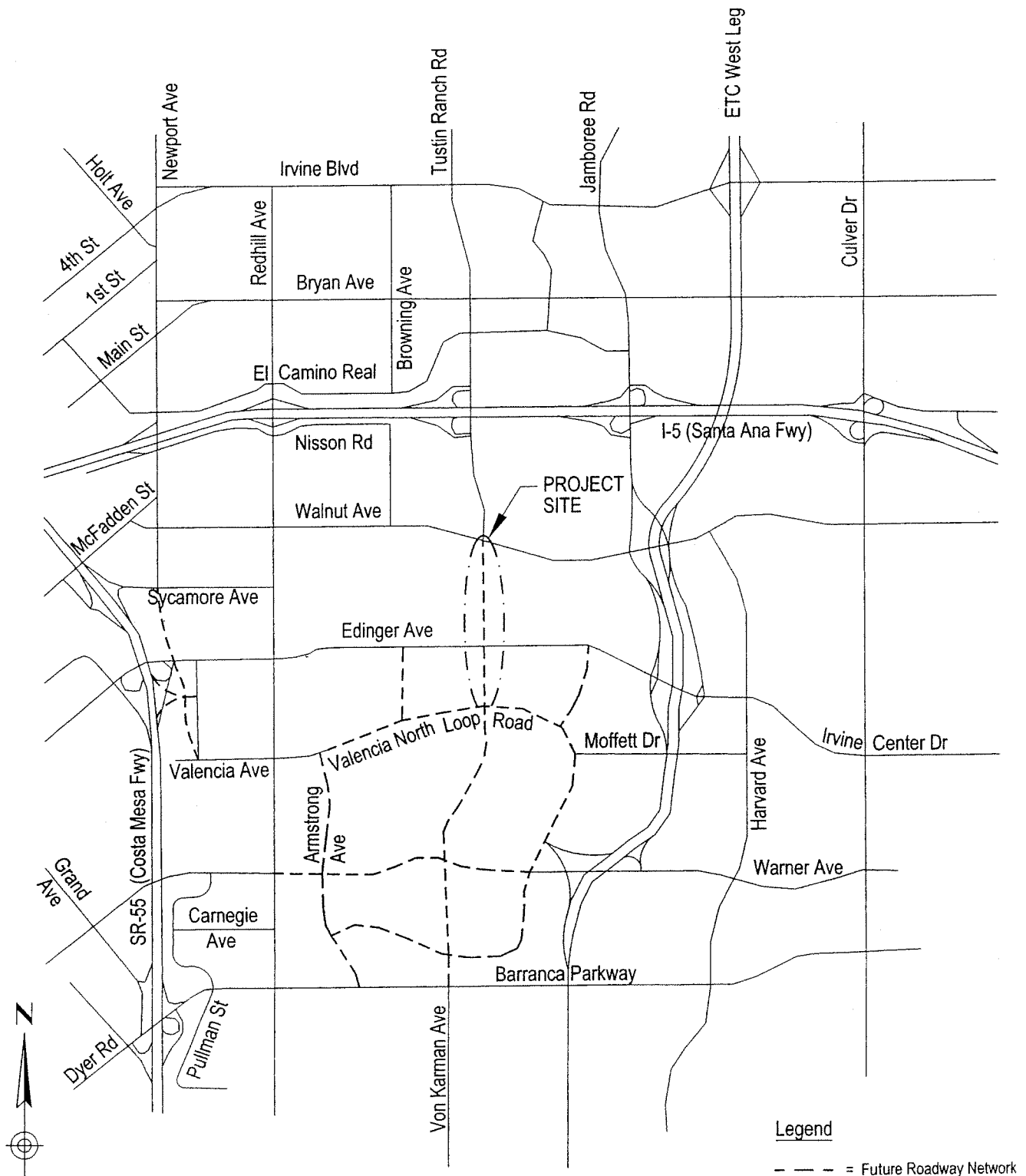
PROJECT DESCRIPTION

The proposed project is the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North. A project vicinity map is presented on **Figure 1**. A portion of the area of Tustin Ranch Road being studied is located on the former MCAS Tustin Base, which is now being studied for reuse plans. An EIS/EIR was prepared to analyze the impact of several alternatives for the reuse of the base. Reuse Alternative 1 was approved. Traffic information for existing traffic conditions, Year 2005 traffic conditions without the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North, and Year 2020 full network traffic conditions was taken from the traffic study in the approved EIS/EIR. This study will focus on the land use condition described as Reuse Alternative 1 in the EIS/EIR.

In the approved EIS/EIR, a number of committed roadway and intersection improvements were assumed to be in place under Year 2005 and Year 2020 conditions (as compared to Year 1997 lanes). Details about the improvements are shown on Table 3-4 of the EIS/EIR and are provided in **Appendix A** of this study. Several of the short-term improvements have already been implemented.

PROJECT STUDY AREA

The area to be studied in this traffic analysis is bounded by Irvine Boulevard on the north, Barranca Parkway on the south, State Route 55 (SR-55) on the west, and Culver Drive on the east. The location of the study area intersections is illustrated on **Figure 2**. The study area includes up to 86 intersections (64 existing intersections, 74 intersections under Year 2005 conditions, 86 intersections under Year 2020 conditions) which will be analyzed.



NOT TO SCALE

Figure 1
Project Vicinity Map

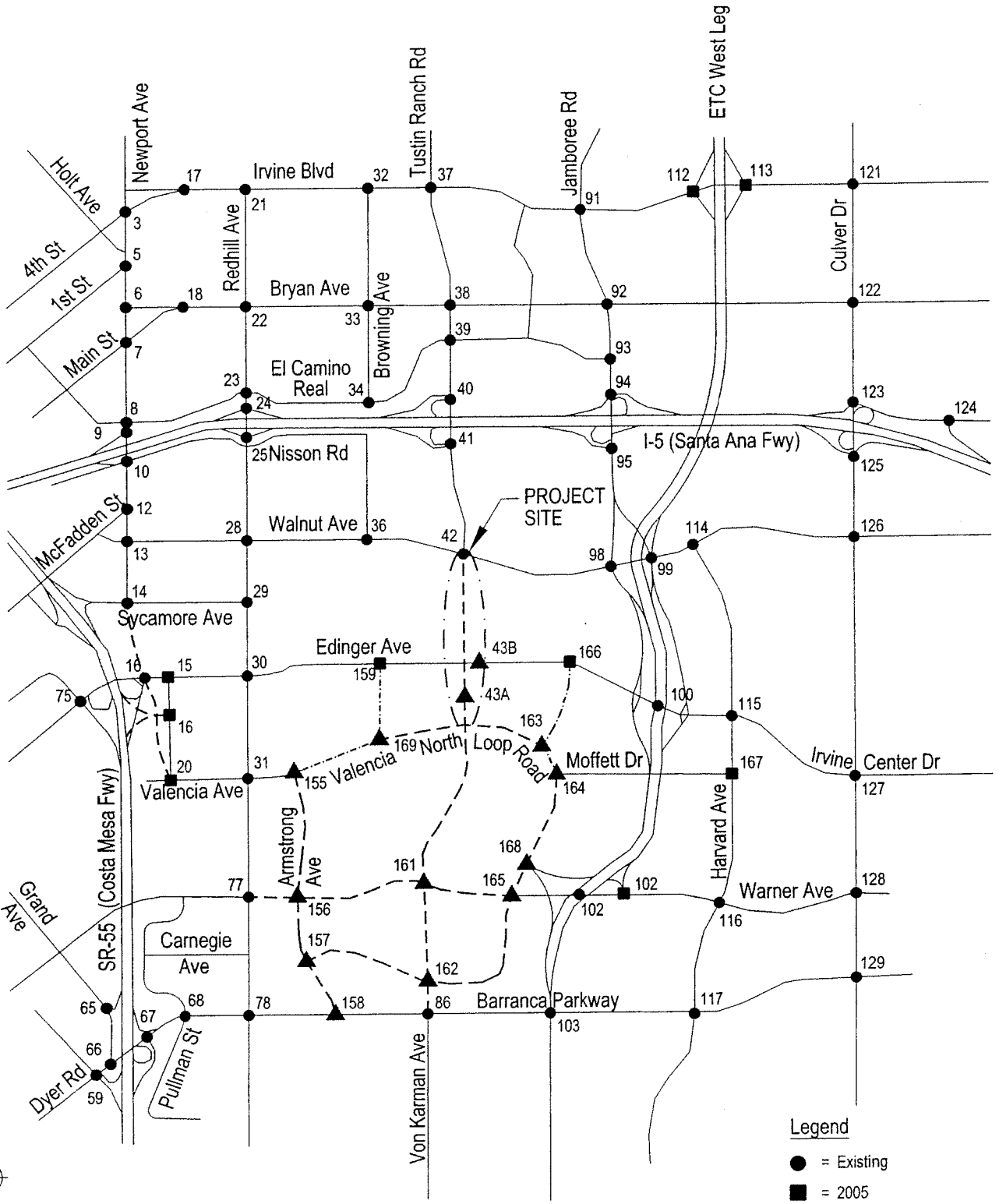


Figure 2
Location Of Study Area Intersection

PERFORMANCE CRITERIA

Level of service (LOS) at the study area intersections is based on the Intersection Capacity Utilization (ICU) methodology as required by the Orange County Congestion Management Program (CMP). For non-CMP or non-Irvine Business Complex (IBC) intersections, the acceptable LOS is D (ICU less than or equal to 0.90). For CMP or IBC intersections, the acceptable LOS is E (ICU less than or equal to 1.00).

Where ICU values are greater than the acceptable LOS, mitigation is required if the increase in ICU is 0.03 or more at CMP locations and more than 0.01 at all other locations. Mitigation that would bring the intersection back to acceptable LOS or to baseline conditions if baseline conditions were already at unacceptable LOS.

The CMP intersections within the study area are:

16. Edinger Ave at SR-55 NB Ramps (moves to Newport Ave under 2005/2020 conditions)
75. Edinger Avenue at SR-55 SB Ramps
91. Jamboree Road at Irvine Boulevard
94. Jamboree Road at I-5 NB Ramps
95. Jamboree Road at I-5 SB Ramps
100. Jamboree Road at Edinger Avenue (grade separated urban interchange)
112. Irvine Boulevard at the ETC West Leg SB Ramps (2005/2020 conditions)
113. Irvine Boulevard at the ETC West Leg NB Ramps (2005/2020 conditions)

None of the IBC intersections fall within the study area for this project.

EXISTING TRAFFIC CONDITIONS

Information about existing traffic conditions at the study area intersections was taken from the *Marine Corps Air Station (MCAS) Tustin Disposal and Reuse Traffic Study* (Austin-Foust Associates, Inc., November 1999) and represent 1997/1998 traffic conditions.

Existing (1997) Average Daily Traffic Volumes (ADT), as reported in the Austin-Foust study, are provided in **Appendix B** of this study. The 1997 peak hourly traffic volumes maintain consistency with the analysis conducted for the EIS/EIR for the Disposal and Reuse of MCAS Tustin. Also the 1997 volumes used in this study were compared to the traffic volume counts conducted in 2000 for the EIR for the Newport Avenue Extension, SR-55 Northbound Ramp Reconfiguration, and Valencia Avenue and Del Amo Avenue Widening Project. In many cases, the 1997 counts were found to be higher than the 2000 counts by as much as about 50%. In a few cases, the 2000 counts were somewhat higher. Overall, the use of the 1997 counts is considered appropriate.

Table 1 summarizes the Intersection Capacity Utilization (ICU) value and the Level of Service (LOS) at the 64 existing study area intersections. Table 1 indicates that all of the CMP intersections currently operate at LOS E or better during both peak hours. Table 1 indicates that the non-CMP intersections currently operate at LOS D or better during both peak hours with the following exceptions:

28. Red Hill Avenue/Walnut Avenue – AM LOS = E
29. Red Hill Avenue/Sycamore Avenue – AM LOS = E
30. Red Hill Avenue/Edinger Avenue – PM LOS = E
98. Jamboree Road SB Ramp/Walnut Avenue – AM LOS = E

TRIP GENERATION FOR REUSE ALTERNATIVE 1

The trip generation for Year 2005 and Year 2020 (Project Buildout) of Reuse Alternative 1 was taken from the Austin-Foust traffic study previously referenced. The trip generation was presented as Table 2-2 in the Austin-Foust traffic study and is provided in **Appendix C** of this report in its entirety.

The Year 2005 trip generation for Reuse Alternative 1 indicates that there would be 109,804 trip ends on the former base property on a daily basis with 7,138 trips during the morning peak hour and 10,588 trips during the afternoon peak hour.

The Year 2020 trip generation for Reuse Alternative 1 indicates that there would be 216,455 trip ends on the former base property on a daily basis with 17,279 trips during the morning peak hour and 22,248 trips during the afternoon peak hour.

YEAR 2005 TRAFFIC CONDITIONS WITHOUT TUSTIN RANCH ROAD

Information about Year 2005 traffic conditions without the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North at the study area intersections was taken from the Austin-Foust traffic study referenced previously.

Year 2005 ADT volumes without the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North are provided in Appendix B of this study.

As previously mentioned, a number of committed roadway and intersection improvements were assumed to be in place under Year 2005 traffic conditions (as compared to Year 1997 lanes). Details about the improvements are shown on Table 3-4 of the EIS/EIR and are provided in Appendix A of this study. Several of the short-term improvements have already been implemented. The analysis for 2005 traffic conditions assume that the Edinger interchange realignment is in place, that Newport Avenue is extended to Valencia, and that Edinger Avenue is widened from Lyon Street to east of Red Hill Avenue

Table 1

Summary of Intersection Capacity Utilization and Level of Service for Existing Traffic Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Irvine Boulevard at:				
17. Old Irvine Boulevard	0.63	B	0.59	A
Newport Avenue at:				
3. Irvine Boulevard	0.83	D	0.78	C
5. 1st Street	0.57	A	0.67	B
6. Bryan Avenue	0.47	A	0.57	A
7. Main Street	0.62	B	0.57	A
8. El Camino Real	0.68	B	0.68	B
9. I-5 NB Ramp	0.49	A	0.54	A
10. I-5 SB Ramp/Nisson Rd	0.76	C	0.78	C
12. McFadden Street	0.57	A	0.58	A
13. Walnut Avenue	0.50	A	0.52	A
14. Sycamore Avenue	0.50	A	0.50	A
Main Street at:				
18. Bryan Avenue	0.27	A	0.34	A
Redhill Avenue at:				
21. Irvine Boulevard	0.74	C	0.90	D
22. Bryan Avenue	0.60	A	0.63	B
23. El Camino Real	0.64	B	0.62	B
24. I-5 NB Ramps	0.74	C	0.83	D
25. I-5 SB Ramps	0.65	B	0.80	C
28. Walnut Avenue	0.97	E	0.89	D
29. Sycamore Avenue	0.94	E	0.80	C
30. Edinger Avenue	0.83	D	1.00	E
31. Valencia Avenue/Moffett Dr	0.71	C	0.68	B
77. Warner Avenue	0.63	B	0.59	A
78. Barranca Parkway	0.83	D	0.75	C
Browning Avenue at:				
32. Irvine Boulevard	0.64	B	0.64	B
33. Bryan Avenue	0.38	A	0.34	A
34. El Camino Real	0.30	A	0.31	A
36. Walnut Avenue	0.44	A	0.51	A
Tustin Ranch Road:				
37. Irvine Boulevard	0.75	C	0.67	B
38. Bryan Avenue	0.49	A	0.47	A
39. El Camino Real	0.66	B	0.52	A
40. I-5 NB Ramp	0.45	A	0.47	A
41. I-5 SB Ramp	0.55	A	0.51	A
42. Walnut Avenue	0.75	C	0.74	C
Trabuco Road at:				
124. I-5 NB Ramps	0.44	A	0.46	A

Table 1 (cont.)
Summary of Intersection Capacity Utilization and Level of Service
for Existing Traffic Conditions

Intersection	AM Peak Hour			
	ICU			
Jamboree Road at:				
91. Irvine Boulevard (CMP)	0.75	C	0.76	C
92. Bryan Avenue	0.50	A	0.62	B
93. El Camino Real	0.47	A	0.53	A
94. I-5 NB Ramps (CMP)	0.57	A	0.75	C
95. I-5 SB Ramps (CMP)	0.93	E	0.71	C
98. Walnut Ave (Jamboree SB)	0.93	E	0.60	A
99. Walnut Ave (Jamboree NB)	0.37	A	0.80	C
100. Edinger Avenue (CMP)	0.79	C	0.82	D
102. Warner Avenue	0.14	A	0.15	A
103. Barranca Parkway	0.78	C	0.84	D
Harvard Avenue at:				
114. Walnut Avenue	0.36	A	0.37	A
115. Edinger Ave/Irvine Center Dr	0.57	A	0.49	A
116. Warner Avenue	0.32	A	0.43	A
117. Barranca Parkway	0.57	A	0.64	B
Culver Drive at:				
121. Irvine Boulevard	0.63	B	0.58	A
122. Bryan Avenue	0.78	C	0.64	B
123. I-5 NB On-Ramp/Trabuco Rd	0.56	A	0.73	C
125. I-5 SB Ramps	0.69	B	0.84	D
126. Walnut Avenue	0.69	B	0.68	B
127. Irvine Center Drive	0.65	B	0.66	B
128. Warner Avenue	0.74	C	0.67	B
129. Barranca Parkway	0.72	C	0.79	C
Edinger Avenue at:				
75. SR-55 SB Ramps (CMP)	0.77	C	0.98	E
16. SR-55 NB Ramps (CMP)	0.66	B	0.68	B
Grand Avenue at:				
65. SR-55 SB Ramp	0.52	A	0.39	A
Dyer Road at:				
66. Grand Avenue	0.62	B	0.82	D
59. SR-55 SB Ramps/Hotel Terrace Dr	0.63	B	0.8	C
67. SR-55 NB Ramps	0.70	B	0.83	D
68. Pullman Street	0.48	A	0.73	C
Barranca Parkway at:				
86. Von Karman Avenue	0.57	A	0.79	C

Table 2 summarizes the ICU and the LOS at the study area intersections for Year 2005 traffic conditions without the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North. Table 2 indicates that the CMP intersections would operate at LOS E or better with the following exception:

75. Edinger Avenue/SR-55 SB Ramps – PM LOS = F

Table 2 indicates that the non-CMP intersections would operate at LOS D or better during both peak hours with the following exceptions:

21. Red Hill Avenue/Irvine Boulevard – PM LOS = E
42. Tustin Ranch Road/Walnut Avenue – PM LOS = F
103. Jamboree Road/Barranca Parkway – PM LOS = F
86. Barranca Parkway at Von Karman Avenue – PM LOS = F

YEAR 2005 TRAFFIC CONDITIONS WITH TUSTIN RANCH ROAD

In June 2001, Austin-Foust Associates, Inc. prepared traffic model data information for Year 2005 traffic conditions at the study area intersections with the proposed project (the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North). Year 2005 ADT volumes with the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North are provided in Appendix B of this study.

As previously stated, the analyses for 2005 traffic conditions assume that the Edinger interchange realignment is in place, that Newport Road is extended to Valencia, and that Edinger Avenue is widened east of Red Hill Avenue. In addition, Loop Road North is in place to connect Valencia Avenue and Moffett Drive. Figure 2 in Appendix B illustrates the street system used for the 2005 analysis.

Table 2, previously referenced, summarizes the ICU and the LOS at the study area intersections for Year 2005 traffic conditions with the proposed project and presents a comparison in terms of change in ICU value for the "with" and "without" conditions. Table 2 indicates that the CMP intersections would operate at LOS E or better during both peak hours with the proposed project with the following exception:

75. Edinger Avenue/SR-55 SB Ramps – PM LOS = F

Table 2 indicates that the non-CMP intersections would operate at LOS D or better during both peak hours with the proposed project with the following exceptions:

21. Red Hill Avenue/Irvine Boulevard – PM LOS = E
77. Red Hill Avenue/Warner Avenue – PM LOS = E
42. Tustin Ranch Road/Walnut Avenue – PM LOS = E
103. Jamboree Road/Barranca Parkway – PM LOS = F
86. Barranca Parkway/Von Karman Avenue – PM LOS = F

Table 2

Summary of Intersection Capacity Utilization and Level of Service

for Year 2005 Traffic Conditions with and without Tustin Ranch Road Extension

between Walnut Avenue and Loop Road North

Intersection	Without Tustin Ranch Rd				With Tustin Ranch Road				Diff in ICU	
	AM Peak		PM Peak		AM Peak		PM Peak			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Irvine Boulevard at:										
17. Old Irvine Boulevard	0.56	A	0.56	A	0.56	A	0.57	A	0.00	0.01
112. ETC West Leg SB Ramps (CMP)	0.42	A	0.47	A	0.42	A	0.47	A	0.00	0.00
113. ETC West Leg NB Ramps(CMP)	0.34	A	0.52	A	0.35	A	0.51	A	0.01	-0.01
Newport Avenue at:										
3. Irvine Boulevard	0.62	B	0.68	B	0.62	B	0.69	B	0.00	0.01
5. 1st Street	0.58	A	0.65	B	0.58	A	0.66	B	0.00	0.01
6. Bryan Avenue	0.34	A	0.55	A	0.34	A	0.54	A	0.00	-0.01
7. Main Street	0.58	A	0.60	A	0.61	B	0.59	A	0.03	-0.01
8. El Camino Real	0.60	A	0.73	C	0.59	A	0.68	B	-0.01	-0.05
9. I-5 NB Ramp	0.41	A	0.55	A	0.41	A	0.54	A	0.00	-0.01
10. I-5 SB Ramp/Nisson Road	0.75	C	0.74	C	0.74	C	0.73	C	-0.01	-0.01
12. McFadden Street	0.49	A	0.56	A	0.49	A	0.55	A	0.00	-0.01
13. Walnut Avenue	0.51	A	0.61	B	0.46	A	0.57	A	-0.05	-0.04
14. Sycamore Avenue	0.61	B	0.68	B	0.59	A	0.66	B	-0.02	-0.02
15. Edinger Avenue	0.76	C	0.76	C	0.77	C	0.74	C	0.01	-0.02
16. SR-55 NB Ramps(CMP)	0.45	A	0.55	A	0.49	A	0.54	A	0.04	-0.01
20. Valencia Avenue	0.42	A	0.53	A	0.42	A	0.48	A	0.00	-0.05
Main Street at:										
18. Bryan Avenue	0.39	A	0.43	A	0.39	A	0.42	A	0.00	-0.01
Redhill Avenue at:										
21. Irvine Boulevard	0.68	B	0.97	E	0.68	B	0.97	E	0.00	0.00
22. Bryan Avenue	0.72	C	0.76	C	0.62	B	0.69	B	-0.10	-0.07
23. El Camino Real	0.66	B	0.71	C	0.57	A	0.64	B	-0.09	-0.07
24. I-5 NB Ramps	0.77	C	0.82	D	0.67	B	0.78	C	-0.10	-0.04
25. I-5 SB Ramps	0.54	A	0.80	C	0.53	A	0.76	C	-0.01	-0.04
28. Walnut Avenue	0.73	C	0.81	D	0.59	A	0.71	C	-0.14	-0.10
29. Sycamore Avenue	0.64	B	0.70	B	0.53	A	0.57	A	-0.11	-0.13
30. Edinger Avenue	0.70	B	0.87	D	0.69	B	0.87	D	-0.01	0.00
31. Valencia Avenue/Moffett Drive	0.77	C	0.80	C	0.82	D	0.73	C	0.05	-0.07
77. Warner Avenue	0.72	C	0.90	D	0.71	C	0.96	E	-0.01	0.06
78. Barranca Parkway	0.87	D	0.82	D	0.87	D	0.80	C	0.00	-0.02
Browning Avenue at:										
32. Irvine Boulevard	0.63	B	0.64	B	0.62	B	0.64	B	-0.01	0.00
33. Bryan Avenue	0.41	A	0.44	A	0.39	A	0.40	A	-0.02	-0.04
34. El Camino Real	0.40	A	0.36	A	0.35	A	0.31	A	-0.05	-0.05
36. Walnut Avenue	0.49	A	0.55	A	0.40	A	0.48	A	-0.09	-0.07
Tustin Ranch Road:										
37. Irvine Boulevard	0.77	C	0.86	D	0.78	C	0.85	D	0.01	-0.01
38. Bryan Avenue	0.68	B	0.64	B	0.77	C	0.68	B	0.09	0.04
39. El Camino Real	0.72	C	0.74	C	0.86	D	0.81	D	0.14	0.07
40. I-5 NB Ramp	0.57	A	0.63	B	0.77	C	0.68	B	0.20	0.05
41. I-5 SB Ramp	0.64	B	0.75	C	0.72	C	0.79	C	0.08	0.04
42. Walnut Avenue	0.78	C	1.15	F	0.68	B	0.94	E	-0.10	-0.21
43A. Loop Ramp to/from Edinger Ave	NA	NA	NA	NA	0.66	B	0.89	D	NA	NA
Trabuco Road at:										
124. I-5 NB Ramps	0.40	A	0.44	A	0.40	A	0.44	A	0.00	0.00

Table 2 (cont.)

Summary of Intersection Capacity Utilization and Level of Service

for Year 2005 Traffic Conditions with and without Tustin Ranch Road Extension

between Walnut Avenue and Loop Road North

Intersection	Without Tustin Ranch Rd				With Tustin Ranch Road				Diff in ICU	
	AM Peak		PM Peak		AM Peak					
	ICU	LOS	ICU	LOS	ICU	LOS		LOS	AM	PM
Jamboree Road at:										
91. Irvine Boulevard (CMP)	0.76	C	0.75	C	0.75	C	0.75	C	-0.01	0.00
92. Bryan Avenue	0.65	B	0.61	B	0.62	B	0.62	B	-0.03	0.01
93. El Camino Real	0.63	B	0.75	C	0.61	B	0.74	C	-0.02	-0.01
94. I-5 NB Ramps (CMP)	0.64	B	0.78	C	0.60	A	0.74	C	-0.04	-0.04
95. I-5 SB Ramps (CMP)	0.79	C	0.76	C	0.76	C	0.71	C	-0.03	-0.05
98. Walnut Avenue (Jamboree SB)	0.72	C	0.45	A	0.52	A	0.38	A	-0.20	-0.07
99. Walnut Avenue (Jamboree NB)	0.27	A	0.67	B	0.26	A	0.62	B	-0.01	-0.05
100. Edinger Avenue (CMP)	0.56	A	0.66	B	0.33	A	0.61	B	-0.23	-0.05
102. Warner Avenue	0.21	A	0.28	A	0.20	A	0.28	A	-0.01	0.00
103. Barranca Parkway	0.82	D	1.08	F	0.81	D	1.06	F	-0.01	-0.02
Harvard Avenue at:										
114. Walnut Avenue	0.37	A	0.36	A	0.36	A	0.36	A	-0.01	0.00
115. Edinger Avenue/Irvine Center Dr	0.52	A	0.51	A	0.46	A	0.49	A	-0.06	-0.02
167. Moffett Drive	0.38	A	0.53	A	0.42	A	0.57	A	0.04	0.04
116. Warner Avenue	0.47	A	0.47	A	0.45	A	0.48	A	-0.02	0.01
117. Barranca Parkway	0.73	C	0.71	C	0.72	C	0.72	C	-0.01	0.01
Culver Drive at:										
121. Irvine Boulevard	0.56	A	0.63	B	0.57	A	0.64	B	0.01	0.01
122. Bryan Avenue	0.64	B	0.63	B	0.64	B	0.64	B	0.00	0.01
123. I-5 NB On-Ramp/Trabuco Road	0.60	A	0.66	B	0.61	B	0.65	B	0.01	-0.01
125. I-5 SB Ramps	0.74	C	0.83	D	0.74	C	0.83	D	0.00	0.00
126. Walnut Avenue	0.70	B	0.65	B	0.69	B	0.66	B	-0.01	0.01
127. Irvine Center Drive	0.76	C	0.64	B	0.71	C	0.64	B	-0.05	0.00
128. Warner Avenue	0.65	B	0.86	D	0.65	B	0.86	D	0.00	0.00
129. Barranca Parkway	0.70	B	0.77	C	0.70	B	0.77	C	0.00	0.00
Edinger Avenue at:										
75. SR-55 SB Ramps (CMP)	0.90	D	1.27	F	0.92	E	1.27	F	0.02	0.00
159. West Connector	0.49	A	0.80	C	0.61	B	0.61	B	0.12	-0.19
43B. Loop Ramp to/from Tustin Ranch Rd	NA	NA	NA	NA	0.72	C	0.80	C	NA	NA
166. East Connector	0.71	C	0.54	A	0.39	A	0.48	A	-0.32	-0.06
Grand Avenue at:										
65. SR-55 SB Ramp	0.56	A	0.41	A	0.54	A	0.41	A	-0.02	0.00
Dyer Road at:										
59. SR-55 SB Ramps/Hotel Terrace Dr	0.62	B	0.77	C	0.61	B	0.75	C	-0.01	-0.02
66. Grand Avenue	0.71	C	0.82	D	0.69	B	0.81	D	-0.02	-0.01
67. SR-55 NB Ramps	0.72	C	0.74	C	0.70	B	0.73	C	-0.02	-0.01
68. Pullman Street	0.55	A	0.72	C	0.51	A	0.72	C	-0.04	0.00
Barranca Parkway at:										
86. Von Karman Avenue	0.62	B	1.07	F	0.62	B	1.05	F	0.00	-0.02
Shading indicates significant traffic impact										

Table 3 summarizes the ICU/LOS for the deficient intersections listed above, indicates at which of the intersections the proposed project has a significant impact, summarizes the ICU/LOS with the mitigation suggested in the approved Base Reuse EIS/EIR (if applicable), and summarizes the ICU/LOS with additional mitigation, if necessary. The intersections at which the proposed project has a significant traffic impact are illustrated graphically on **Figure 3.**

Table 3 indicates that the proposed project does not have a significant traffic impact on the intersections of Edinger/SR-55 Ramps, Red Hill/Irvine, Tustin Ranch/Walnut, Jamboree/Barranca, or Barranca/Von Karman. At these intersections, the ICU values either do not change or the ICU values decrease with the change in traffic patterns due to the proposed project. At the CMP intersection of Edinger/SR-55 SB Ramps, the increase in ICU is below the significant impact criteria.

Table 3 indicates that the proposed project would have a significant traffic impact during the afternoon peak hour at one intersection along Red Hill Avenue. This impact would occur even though Tustin Ranch Road would provide a parallel route to Red Hill Avenue north of Valencia Avenue. Since Tustin Ranch Road would not be in place south of Loop Road North, only a partial parallel route would be in place, resulting in additional turning movements along Red Hill Avenue. The impact is attributed to increased turning movements. Compared to the analysis in the approved EIS/EIR, this is a new traffic impact. There are no mitigation recommendations in the EIS/EIR. A measure to mitigate the impact at this location is addressed in the Mitigation Measures section of this report. The intersection is:

77. Red Hill Avenue/Warner Avenue

Table 3 also indicates that the construction of Tustin Ranch Road in 2005 would improve conditions at several intersections, but not sufficiently to eliminate the mitigation needs identified in the approved EIR/EIS.

YEAR 2020 TRAFFIC CONDITIONS WITH TUSTIN RANCH ROAD

Information about Year 2020 traffic full network conditions (which includes the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North) at the study area intersections was taken from the Austin-Foust traffic study referenced previously.

Year 2020 ADT volumes with the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North are provided in Appendix B of this study.

Table 4 summarizes the ICU and the LOS at the study area intersections for Year 2020 full network traffic conditions and presents a comparison in terms of change in ICU value for the "with" and "without" conditions.

Table 3

Summary of Deficient Intersections, Level of Impact, and Mitigation

for Year 2005 Traffic Conditions with and without Tustin Ranch Road Extension

between Walnut Avenue and Loop Road North

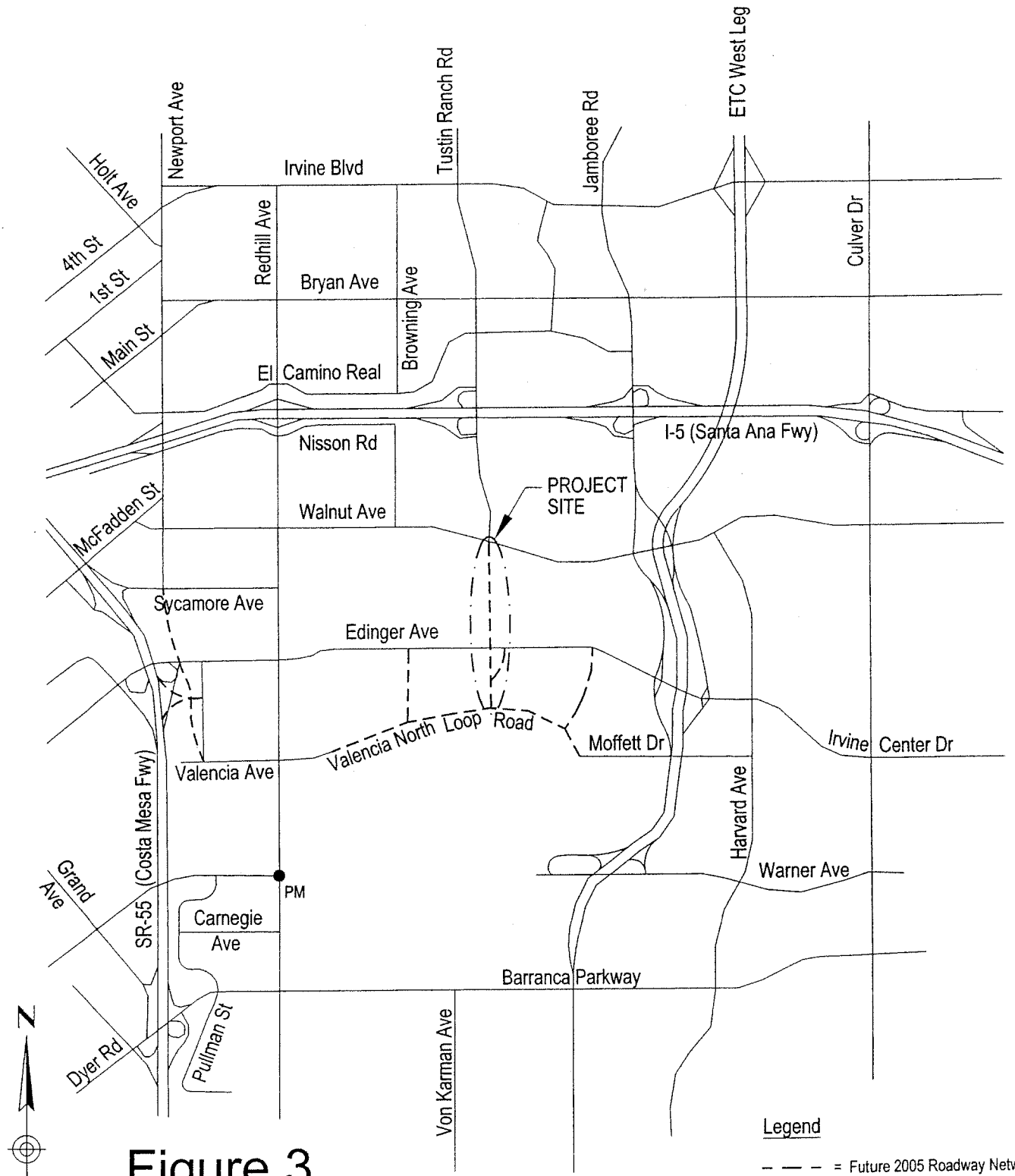
Intersection	Without Tustin Ranch Rd				With Tustin Ranch Road				Diff in ICU			ICU/LOS after EIR/EIS Mitigation		ICU/LOS after Added Mitigation	
	AM Peak		PM Peak		AM Peak		PM Peak				Signif				
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM	Impact?	AM	PM	AM	PM
Redhill Avenue at:															
21. Irvine Boulevard	0.68	B	0.97	E	0.68	B	0.97	E	0.00	0.00	NO (a)	NA	NA	NA	NA
77. Warner Avenue	0.72	C	0.90	D	0.71	C	0.96	E	-0.01	0.06	NO–AM (b) YES – PM	NA	NA	0.71/C	0.89/D
Tustin Ranch Road at:															
42. Walnut Avenue	0.78	C	1.15	F	0.68	B	0.94	E	-0.10	-0.21	NO (a)	NA	NA	NA	NA
Jamboree Road at:															
103. Barranca Parkway	0.82	D	1.08	F	0.81	D	1.06	F	-0.01	-0.02	NO (a)	0.82/D	1.05/F	NA	NA
Edinger Avenue at:															
75. SR-55 SB Ramps (CMP)	0.90	D	1.27	F	0.92	E	1.27	F	0.02	0.00	NO (c)	0.83/D	1.07/F	NA	NA
Barranca Parkway at:															
86. Von Karman Avenue	0.62	B	1.07	F	0.62	B	1.05	F	0.00	-0.02	NO (a)	0.62/B	0.70/B	NA	NA

(a) The proposed project does not have a significant traffic impact at this intersection because there is either no change in ICU or there is a decrease in ICU during the deficient peak hour.

(b) The proposed project does not have a significant traffic impact during the morning peak hour because the ICU and LOS are at acceptable levels.

(c) This is a CMP intersection with an acceptable LOS of E. The proposed project does not have a significant traffic impact at this intersection because the ICU and LOS during the morning peak hour are at acceptable levels and there is no change in ICU during the afternoon peak hour.

NA = Not applicable



NOT TO SCALE

Figure 3
Year 2005 Impacted Intersection Assuming Tustin Ranch Road is Built

Table 4

Summary of Intersection Capacity Utilization and Level of Service

for Year 2020 Traffic Conditions with and without Tustin Ranch Road Extension

between Walnut Avenue and Loop Road North

Intersection	Without Tustin Ranch Rd				With Tustin Ranch Road				Diff in ICU	
	AM Peak		PM Peak		AM Peak		PM Peak			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Irvine Boulevard at:										
17. Old Irvine Boulevard	0.65	B	0.61	B	0.65	B	0.61	B	0.00	0.00
112. ETC West Leg SB Ramps (CMP)	0.56	A	0.61	B	0.57	A	0.60	A	-0.01	0.01
113. ETC West Leg NB Ramps (CMP)	0.47	A	0.64	B	0.47	A	0.62	B	0.00	0.02
Newport Avenue at:										
3. Irvine Boulevard	0.69	B	0.76	C	0.69	B	0.75	C	0.00	0.01
5. 1st Street	0.75	C	0.73	C	0.75	C	0.73	C	0.00	0.00
6. Bryan Avenue	0.42	A	0.75	C	0.44	A	0.75	C	-0.02	0.00
7. Main Street	0.65	B	0.68	B	0.65	B	0.65	B	0.00	0.03
8. El Camino Real	0.71	C	0.87	D	0.69	B	0.85	D	0.02	0.02
9. I-5 NB Ramp	0.50	A	0.56	A	0.49	A	0.54	A	0.01	0.02
10. I-5 SB Ramp/Nisson Road	0.87	D	0.84	D	0.85	D	0.84	D	0.02	0.00
12. McFadden Street	0.60	A	0.66	B	0.58	A	0.65	B	0.02	0.01
13. Walnut Avenue	0.65	B	0.68	B	0.62	B	0.70	B	0.03	-0.02
14. Sycamore Avenue	0.83	D	0.88	D	0.81	D	0.86	D	0.02	0.02
15. Edinger Avenue	0.96	E	0.88	D	0.90	D	0.91	E	0.06	-0.03
16. SR-55 NB Ramps (CMP)	0.50	A	0.81	D	0.50	A	0.80	C	0.00	0.01
20. Valencia Avenue	0.56	A	0.73	C	0.56	A	0.70	B	0.00	0.03
Main Street at:										
18. Bryan Avenue	0.46	A	0.39	A	0.47	A	0.39	A	-0.01	0.00
Redhill Avenue at:										
21. Irvine Boulevard	0.82	D	1.02	F	0.76	C	0.99	E	0.06	0.03
22. Bryan Avenue	0.94	E	0.88	D	0.88	D	0.85	D	0.06	0.03
23. El Camino Real	0.76	C	0.74	C	0.70	B	0.67	B	0.06	0.07
24. I-5 NB Ramps	1.04	F	1.07	F	0.91	E	1.01	F	0.13	0.06
25. I-5 SB Ramps	0.77	C	0.89	D	0.73	C	0.83	D	0.04	0.06
28. Walnut Avenue	0.92	E	0.99	E	0.81	D	0.88	D	0.11	0.11
29. Sycamore Avenue	0.81	D	0.84	D	0.67	B	0.66	B	0.14	0.18
30. Edinger Avenue	0.88	D	1.07	F	0.83	D	0.93	E	0.05	0.14
31. Valencia Avenue/Moffett Drive	0.74	C	0.82	D	0.70	B	0.77	C	0.04	0.05
77. Warner Avenue	0.98	E	1.10	F	0.90	D	0.96	E	0.08	0.14
78. Barranca Parkway	0.87	D	0.79	C	0.88	D	0.74	C	-0.01	0.05
Browning Avenue at:										
32. Irvine Boulevard	0.73	C	0.72	C	0.70	B	0.73	C	0.03	-0.01
33. Bryan Avenue	0.45	A	0.54	A	0.45	A	0.53	A	0.00	0.01
34. El Camino Real	0.28	A	0.39	A	0.28	A	0.33	A	0.00	0.06
36. Walnut Avenue	0.45	A	0.54	A	0.47	A	0.54	A	-0.02	0.00
Tustin Ranch Road:										
37. Irvine Boulevard	0.93	E	1.08	F	0.99	E	1.13	F	-0.06	-0.05
38. Bryan Avenue	0.64	B	0.70	B	0.75	C	0.83	D	-0.11	-0.13
39. El Camino Real	0.67	B	0.59	A	0.85	D	0.87	D	-0.18	-0.28
40. I-5 NB Ramp	0.54	A	0.45	A	0.72	C	0.73	C	-0.18	-0.28
41. I-5 SB Ramp	0.58	A	0.51	A	0.82	D	0.82	D	-0.24	-0.31
42. Walnut Avenue	0.80	C	0.88	D	1.11	F	1.07	F	-0.31	-0.19
43A. Loop Ramp to/from Edinger Ave	NA	NA	NA	NA	0.59	A	0.82	D	NA	NA
160. Loop Road North	NA	NA	NA	NA	0.59	A	0.64	B	NA	NA
161. Warner Avenue	0.81	D	0.82	D	0.89	D	0.76	C	-0.08	0.06
162. Loop Road South	0.49	A	0.69	B	0.55	A	0.67	B	-0.06	0.02
Trabuco Road at:										
124. I-5 NB Ramps	0.47	A	0.61	B	0.47	A	0.62	B	0.00	-0.01

Table 4 (cont.)

Summary of Intersection Capacity Utilization and Level of Service

for Year 2020 Traffic Conditions with and without Tustin Ranch Road Extension

between Walnut Avenue and Loop Road North

Intersection	Without Tustin Ranch Rd				With Tustin Ranch Road				Diff in ICU	
	AM Peak		PM Peak		AM Peak		PM Peak			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Jamboree Road at:										
91. Irvine Boulevard (CMP)	0.97	E	0.93	E	0.89	D	0.88	D	0.08	0.05
92. Bryan Avenue	0.86	D	0.83	D	0.76	C	0.76	C	0.10	0.07
93. El Camino Real	0.78	C	0.89	D	0.72	C	0.83	D	0.06	0.06
94. I-5 NB Ramps (CMP)	0.81	D	0.99	E	0.73	C	0.86	D	0.08	0.13
95. I-5 SB Ramps (CMP)	0.88	D	0.95	E	0.79	C	0.81	D	0.09	0.14
98. Walnut Avenue (Jamboree SB)	0.98	E	0.64	B	0.71	C	0.46	A	0.27	0.18
99. Walnut Avenue (Jamboree NB)	0.26	A	0.92	E	0.24	A	0.81	D	0.02	0.11
100. Edinger Avenue (CMP)	0.77	C	0.82	D	0.58	A	0.64	B	0.19	0.18
102. Warner Avenue	0.66	B	0.69	B	0.60	A	0.51	A	0.06	0.18
103. Barranca Parkway	1.04	F	1.32	F	1.01	F	1.22	F	0.03	0.10
Harvard Avenue at:										
114. Walnut Avenue	0.46	A	0.39	A	0.42	A	0.38	A	0.04	0.01
115. Edinger Avenue/Irvine Center Dr	0.65	B	0.76	C	0.62	B	0.77	C	0.03	-0.01
167. Moffett Drive	0.44	A	0.75	C	0.43	A	0.75	C	0.01	0.00
116. Warner Avenue	0.62	B	0.72	C	0.61	B	0.71	C	0.01	0.01
117. Barranca Parkway	0.63	B	0.78	C	0.63	B	0.78	C	0.00	0.00
Culver Drive at:										
121. Irvine Boulevard	0.86	D	0.87	D	0.85	D	0.87	D	0.01	0.00
122. Bryan Avenue	0.88	D	0.83	D	0.86	D	0.83	D	0.02	0.00
123. I-5 NB On-Ramp/Trabuco Road	0.84	D	0.76	C	0.84	D	0.75	C	0.00	0.01
125. I-5 SB Ramps	0.88	D	0.92	E	0.87	D	0.92	E	0.01	0.00
126. Walnut Avenue	0.81	D	0.80	C	0.79	C	0.79	C	0.02	0.01
127. Irvine Center Drive	0.86	D	0.89	D	0.87	D	0.89	D	-0.01	0.00
128. Warner Avenue	0.74	C	0.89	D	0.74	C	0.87	D	0.00	0.02
129. Barranca Parkway	0.76	C	0.92	E	0.76	C	0.90	D	0.00	0.02
Edinger Avenue at:										
75. SR-55 SB Ramps (CMP)	0.88	D	1.17	F	0.88	D	1.19	F	0.00	-0.02
159. West Connector	0.57	A	0.77	C	0.60	A	0.77	C	-0.03	0.00
43B. Loop Ramp to/from Tustin Ranch Rd	NA	NA	NA	NA	0.76	C	0.84	D	NA	NA
166. East Connector	0.72	C	0.69	B	0.54	A	0.62	B	0.18	0.07
Grand Avenue at:										
65. SR-55 SB Ramp	0.76	C	0.50	A	0.73	C	0.50	A	0.03	0.00
Dyer Road at:										
59. SR-55 SB Ramps/Hotel Terrace Dr	0.69	B	0.87	D	0.69	B	0.88	D	0.00	-0.01
66. Grand Avenue	0.73	C	1.04	F	0.72	C	1.04	F	0.01	0.00
67. SR-55 NB Ramps	0.88	D	0.89	D	0.87	D	0.87	D	0.01	0.02
68. Pullman Street	0.56	A	0.80	C	0.54	A	0.78	C	0.02	0.02
Barranca Parkway at:										
158. Armstrong Avenue	0.49	A	0.67	B	0.49	A	0.64	B	0.00	0.03
86. Von Karman Avenue	0.96	E	1.06	F	0.90	D	1.01	F	0.06	0.05
Armstrong Avenue at:										
155. Loop Road North	0.56	A	0.58	A	0.54	A	0.56	A	0.02	0.02
156. Warner Avenue	0.65	B	0.94	E	0.62	B	0.86	D	0.03	0.08
157. Loop Road South	0.60	A	0.52	A	0.57	A	0.51	A	0.03	0.01
Loop Road North at:										
169. West Connector	0.38	A	0.30	A	0.39	A	0.27	A	-0.01	0.03
Loop Road East at:										
163. East Connector	0.49	A	0.64	B	0.24	A	0.38	A	0.25	0.26
164. Moffett Drive	0.30	A	0.25	A	0.27	A	0.26	A	0.03	-0.01
165. Warner Avenue	0.53	A	0.79	C	0.50	A	0.73	C	0.03	0.06
168. Jamboree Road SB	0.34	A	0.42	A	0.31	A	0.38	A	0.03	0.04

NA = Not Applicable Shading indicates significant traffic impact

Table 4 indicates that the CMP intersections would operate at LOS E or better with the following exception:

75. Edinger Avenue/SR-55 SB Ramps – PM LOS = F

Table 4 indicates that the non-CMP intersections would operate at LOS D or better during both peak hours with the following exceptions:

15. Newport Avenue/Edinger Avenue – PM LOS = E
21. Red Hill Avenue/Irvine Boulevard – PM LOS = E
24. Red Hill Avenue/I-5 NB Ramps – AM/PM LOS = E/F
30. Red Hill Avenue/Edinger Avenue – PM LOS = E
37. Tustin Ranch/Irvine Boulevard – AM/PM LOS = E/F
42. Tustin Ranch Road/Walnut Avenue – AM/PM LOS = E
103. Jamboree Road/Barranca Parkway – AM/PM LOS = F
125. Culver Drive/I-5 SB Ramps – PM LOS = E
66. Dyer Road/Grand Avenue – PM LOS = F
86. Barranca Parkway/Von Karman Avenue – PM LOS = F

The approved EIR/EIS does not present measures to mitigate the impacts at all of these intersections.

YEAR 2020 TRAFFIC CONDITIONS WITHOUT TUSTIN RANCH ROAD

Austin-Foust Associates, Inc. prepared traffic model data information for Year 2020 traffic conditions at the study area intersections without the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North.

Year 2020 ADT volumes without the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North are provided in Appendix B of this study.

As previously mentioned, a number of committed roadway and intersection improvements were assumed to be in place under Year 2020 conditions (as compared to Year 1997 lanes). Details about the improvements are shown on Table 3-4 of the EIS/EIR and are provided in Appendix A to this study.

Table 4, previously referenced, summarizes the ICU and the LOS at the study area intersections for Year 2020 traffic conditions without the extension of Tustin Ranch Road. Table 4 indicates that CMP intersections in the study area would operate at LOS E or better during both peak hours without the extension of Tustin Ranch Road with the following exception:

75. Edinger Avenue/SR-55 SB Ramps – PM LOS = F (This is not an impact of not constructing Tustin Ranch Road because the LOS would be F with the construction of Tustin Ranch Road, as well)

Table 4 indicates that the non-CMP intersections would operate at LOS D or better during both peak hours without the extension of Tustin Ranch Road with the following exceptions:

15. Newport Avenue/Edinger Avenue – AM LOS = E
21. Red Hill Avenue/Irvine Boulevard – PM LOS = F
22. Red Hill Avenue/Bryan Avenue – AM LOS = E
24. Red Hill Avenue/I-5 NB Ramps – AM/PM LOS = F
28. Red Hill Avenue/Walnut Avenue – AM/PM LOS = E
30. Red Hill Avenue/Edinger Avenue – PM LOS = F
77. Red Hill Avenue/Warner Avenue – AM/PM LOS = E/F
37. Tustin Ranch Road/Irvine Boulevard – AM/PM LOS = E/F
98. Jamboree Road SB/Walnut Avenue – AM LOS = E
99. Jamboree Road NB/Walnut Avenue – PM LOS = E
103. Jamboree Road/Barranca Parkway – AM/PM LOS = F
125. Culver Drive/I-5 SB Ramps – PM LOS = E
129. Culver Drive/Barranca Parkway – PM LOS = E
66. Dyer Road/Grand Avenue – PM LOS = F
86. Barranca Parkway/Von Karman Avenue – AM/PM LOS = E/F
156. Armstrong Avenue/Warner Avenue – PM LOS = E

Table 5 summarizes the ICU/LOS for the deficient intersections listed above, indicates the intersections where there would be a significant impact due to not constructing Tustin Ranch Road between Walnut Road and Loop Road North, summarizes the ICU/LOS with the mitigation suggested in the approved Base Reuse EIS/EIR (if applicable), and summarizes the ICU/LOS with additional mitigation, if necessary. The intersections where there would be a significant traffic impact are illustrated graphically on **Figure 4**.

Table 5 indicates that the proposed project does not have a significant traffic impact on the intersections of Tustin Ranch Road/Irvine Boulevard, Culver Drive/I-5 SB Ramps, or Dyer Road/Grand Avenue. At these intersections, the ICU values either do not change or the ICU values decrease with the change in traffic patterns due to not extending Tustin Ranch Road between Walnut and Loop Road North. At the CMP intersection of Edinger/SR-55 SB Ramps, the increase in ICU is below the significant impact criteria.

Table 5 indicates that not extending Tustin Ranch Road between Walnut and Loop Road North would have significant traffic impacts during one or both peak hours at the intersections of Newport/Edinger, Red Hill/Irvine, Red Hill/Bryan, Red Hill/I-5 NB Ramps, Red Hill/Walnut, Red Hill/Edinger, Red Hill/Warner, Jamboree SB/Walnut, Jamboree NB/Walnut, Jamboree/Barranca, Culver/Barranca, Barranca/Von Karman, and Armstrong/Warner. The intersections of Newport/Edinger, Red Hill/Edinger, and Red Hill/Warner were shown in the Base Reuse EIS/EIR to be impacted and mitigation was suggested in the form of lane additions or ATMS, which allows a 0.05 credit to the ICU value. With the EIS/EIR mitigations, these three intersections would continue to have significant traffic impacts if Tustin Ranch Road were not constructed between Walnut and Loop Road North, thus, additional mitigations will be recommended. The remaining intersections did not have significant traffic impacts in the EIS/EIR. At these intersections, mitigation will be recommended.

Table 5

Summary of Deficient Intersections, Level of Impact, and Mitigation

for Year 2020 Traffic Conditions with and without Tustin Ranch Road Extension

between Walnut Avenue and Loop Road North

Intersection	Without Tustin Ranch Rd				With Tustin Ranch Road				Assuming that Tustin Ranch Road is Not Built						
	AM Peak		PM Peak		AM Peak		PM Peak		Diff in ICU		Signif. Impact?	ICU/LOS after EIR/EIS Mitigation		ICU/LOS after Added Mitigation	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM		AM	PM	AM	PM
Newport Avenue at:															
15. Edinger Avenue	0.96	E	0.88	D	0.90	D	0.91	E	0.06	-0.03	YES–AM NO-PM (a)	0.91/E	0.83/D	0.73/D	0.83/D
Redhill Avenue at:															
21. Irvine Boulevard	0.82	D	1.02	F	0.76	C	0.99	E	0.06	0.03	NO–AM (a) YES-PM	NA	NA	0.77/C	0.97/E
22. Bryan Avenue	0.94	E	0.88	D	0.88	D	0.85	D	0.06	0.03	YES–AM NO-PM (a)	NA	NA	0.84/D	0.88/D
24. I-5 NB Ramps	1.04	F	1.07	F	0.91	E	1.01	E	0.13	0.06	YES	NA	NA	0.87/D	0.87/D
28. Walnut Avenue	0.92	E	0.99	E	0.81	D	0.88	D	0.11	0.11	YES	NA	NA	0.88/D	0.90/D
30. Edinger Avenue	0.88	D	1.07	F	0.83	D	0.93	E	0.05	0.14	NO–AM (a) YES-PM	0.83/D	1.02/F	0.83/D	0.88/D
77. Warner Avenue	0.98	E	1.10	F	0.90	D	0.96	E	0.08	0.14	YES	0.98/E	0.90/D	0.82/D	0.90/D
37. Irvine Boulevard	0.93	E	1.08	F	0.99	E	1.13	F	-0.06	-0.05	NO	NA	NA	NA	NA
Jamboree Road at:															
98. Walnut Avenue SB	0.98	E	0.64	B	0.71	C	0.46	A	0.27	0.18	YES–AM NO-PM (a)	NA	NA	0.81/D	0.52/A
99. Walnut Avenue NB	0.26	A	0.92	E	0.24	A	0.81	D	0.02	0.11	NO–AM (a) YES-PM	NA	NA	0.23/A	0.73/C
103. Barranca Parkway	1.04	F	1.32	F	1.01	F	1.22	F	0.03	0.10	YES (c)	1.01/F	1.22/F	NA	NA
Culver Drive at:															
125. I-5 SB Ramps	0.88	D	0.92	E	0.87	D	0.92	E	0.01	0.00	NO (a)	NA	NA	NA	NA
129. Barranca Parkway	0.76	C	0.92	E	0.76	C	0.90	D	0.00	0.02	NO–AM (a) YES-PM	NA	NA	0.71/C	0.87/D
Dyer Road at:															
75. SR-55 SB Ramps (CMP)	0.88	D	1.17	F	0.88	D	1.19	F	0.00	-0.02	NO (b)	NA	NA	NA	NA
Dyer Road at:															
66. Grand Avenue	0.73	C	1.04	F	0.72	C	1.04	F	0.01	0.00	NO (a)	NA	NA	NA	NA
Barranca Parkway at:															
86. Von Karman Avenue	0.96	E	1.05	F	0.90	D	1.01	F	0.06	0.05	YES	NA	NA	0.70/B	0.94/E
Armstrong Avenue at:															
156. Warner Avenue	0.65	B	0.94	E	0.62	B	0.86	D	0.03	0.08	NO–AM (a) YES-PM	NA	NA	0.65/B	0.84/D

(a) The proposed project does not have a significant traffic impact during the morning peak hour and/or afternoon peak hour because the ICU and LOS are at acceptable levels, or because there is no change in ICU, or there is a decrease in ICU.

(b This is a CMP intersection with an acceptable LOS of E. The proposed project does not have a significant traffic impact at this intersection because either the ICU and LOS during the one or both peak hours are at acceptable levels and/or there is no change in ICU or there is a decrease in ICU.

(c) Per the approved EIS/EIR: "Currently unidentified future improvements beyond those presented for 2005 will be made to this intersection to maintain an acceptable level of service as agreed to by the City of Tustin and City of Irvine for baseline conditions pursuant to the Transportation Corridor Agencies (TCA), Cities of Tustin and Irvine 1998 Memorandum of Agreement (MOA). Therefore, impacts of the reuse plan are difficult to quantify at this time and could be less at this location because of unknown improvements." Based on this conclusion from the EIS/EIR, no mitigation is suggested for this intersection at this time.

NA = Not applicable

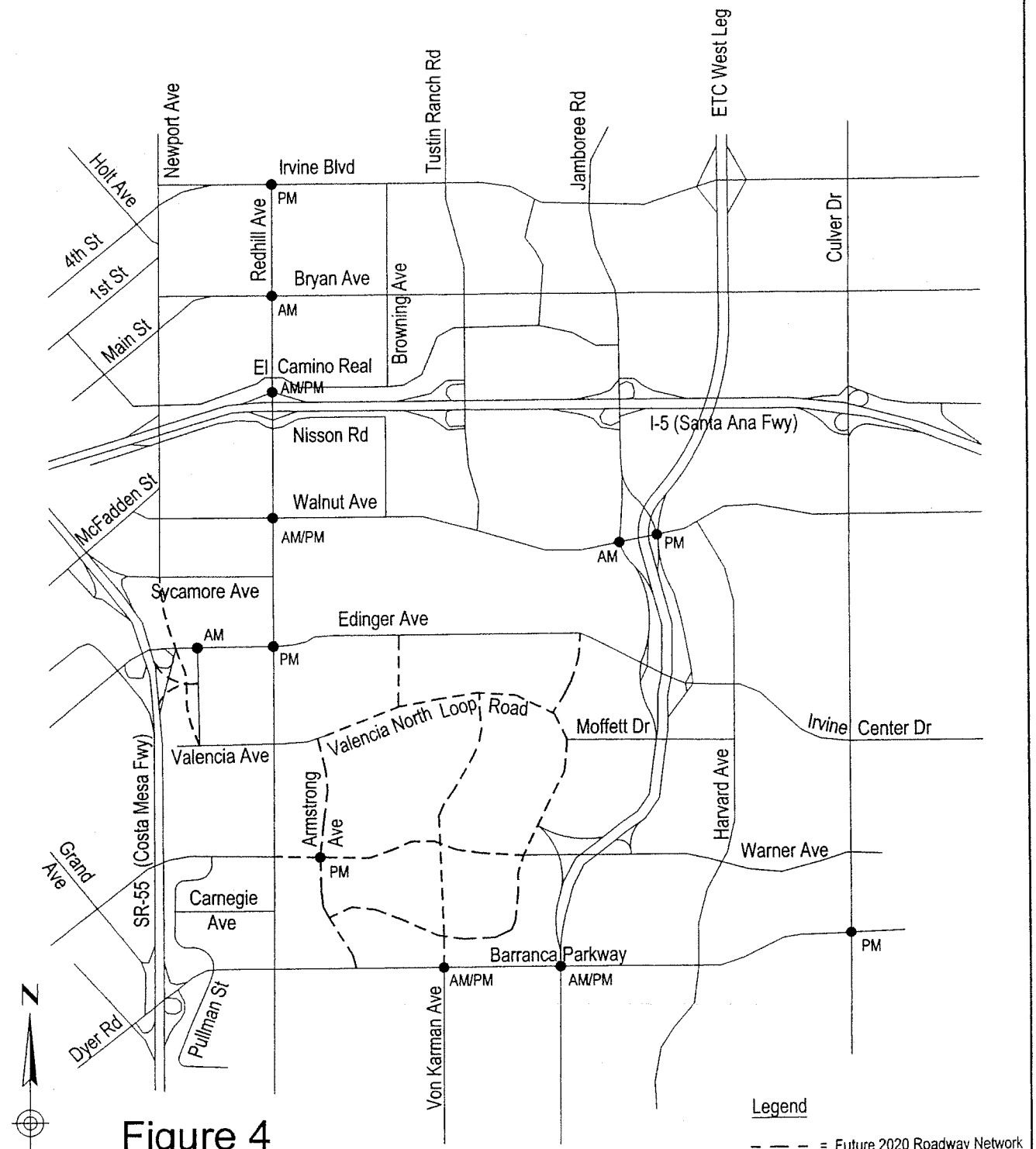


Figure 4
Year 2020 Impacted Intersections Assuming that Tustin Ranch Road is Not Built

NOT TO SCALE

Table 5 indicates that not constructing Tustin Ranch Road between Walnut and Loop Road North would have a significant traffic impact during one or both peak hours at the following intersections that were not identified in the Base Reuse EIS/EIR.

21. Red Hill Avenue/Irvine Boulevard
22. Red Hill Avenue/Bryan Avenue
24. Red Hill Avenue/I-5 NB Ramps
28. Red Hill Avenue/Walnut Avenue
98. Jamboree Road SB/Walnut Avenue
99. Jamboree Road NB/Walnut Avenue
129. Culver Drive/Barranca Parkway
156. Armstrong Avenue/Warner Avenue

Mitigation at these locations is addressed in the Mitigation Measures section of this report.

MITIGATION MEASURES

In this section, mitigation measures are recommended for those intersections where the proposed project has a significant traffic impact per the performance criteria discussed earlier in this study.

Year 2005 Traffic Conditions with the Proposed Project

Under Year 2005 traffic conditions with the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North, there would be significant traffic impacts at one intersection that are additional impacts compared to the results of the EIS/EIR:

77. Red Hill Avenue/Warner Avenue – PM LOS = E

The following mitigation measures would result in acceptable LOS at each of the impacted intersections.

Red Hill Avenue/Warner Avenue – The addition of a westbound shared through/right turn lane would result in LOS D during the afternoon peak hour. This would be an added lane as opposed to re-striping.

Year 2020 Traffic Conditions without the Tustin Ranch Road Extension

Under Year 2020 traffic conditions if Tustin Ranch Road is not built between Walnut Avenue and Loop Road North, there would be significant traffic impacts at 12 intersections:

15. Newport Avenue/Edinger Avenue
21. Red Hill Avenue/Irvine Boulevard
22. Red Hill Avenue/Bryan Avenue
24. Red Hill Avenue/I-5 NB Ramps
28. Red Hill Avenue/Walnut Avenue
30. Red Hill Avenue/Edinger Avenue
77. Red Hill Avenue/Warner Avenue
98. Jamboree Road SB/Walnut Avenue
99. Jamboree Road NB/Walnut Avenue
103. Jamboree Road/Barranca Parkway
129. Culver Drive/Barranca Parkway
86. Barranca Parkway/Von Karman Avenue
156. Armstrong Avenue/Warner Avenue

Mitigation measures were recommended in the Base Reuse EIS/EIR for the intersections of Newport/Edinger, Red Hill/Edinger, Red Hill Warner, and Jamboree/Barranca. For the intersection of Jamboree/Barranca the EIS/EIR states "Currently identified future improvements beyond those presented for 2005 will be made to this intersection to maintain an acceptable level of service as agreed to by the City of Tustin and City of Irvine for baseline conditions pursuant to the Transportation Corridor Agencies (TCA), Cities of Tustin and Irvine 1998 Memorandum of Agreement (MOA). Therefore, impacts of the reuse plan are difficult to quantify at this time and could be less at this location because of unknown improvements." Based on this conclusion from the EIS/EIR, no mitigation is suggested for this intersection at this time.

The intersections of Newport/Edinger, Red Hill/Edinger and Red Hill/Warner would not operate at an acceptable LOS with the EIS/EIR mitigation. Additional mitigation measures are presented for these three intersections along with mitigation measures for other intersections where not extending Tustin Ranch Road would have significant impacts.

The following mitigation measures would result in either acceptable LOS at the intersections or would bring the ICU value back to baseline or better.

Newport Avenue/Edinger Avenue – The addition of a second eastbound right turn lane, coupled with the mitigation measures recommended in the approved EIR/EIS, would improve the morning peak hour LOS to C.

Red Hill Avenue/Irvine Boulevard – The provision of a separate eastbound right turn lane would improve the afternoon peak hour LOS to a level better than baseline.

Red Hill Avenue/Bryan Avenue - The provision of a separate eastbound right turn lane would improve the morning peak hour LOS to D.

Red Hill Avenue/I-5 NB Ramps – The provision of a separate southbound right turn lane and the addition of a second westbound right turn lane would improve the morning and afternoon peak hour LOS to D.

Red Hill Avenue/Walnut Avenue - The provision of a separate southbound right turn lane and the addition of a second eastbound left turn lane would improve the morning and afternoon peak hour LOS to D.

Red Hill Avenue/Edinger Avenue – The addition of a fourth northbound through lane and a second westbound right turn lane, coupled with the mitigation measures recommended in the approved EIR/EIS, would improve the morning and afternoon peak hour LOS to D.

Red Hill Avenue/Warner Avenue - The addition of a second northbound right turn lane would improve the morning peak hour LOS to D.

Jamboree Road Southbound/Walnut Avenue - The addition of a second eastbound right turn lane would improve the morning peak hour LOS to D.

Jamboree Road Northbound/Walnut Avenue - The provision of three northbound through lanes would improve the afternoon peak hour LOS to C.

Culver Drive/Barranca Parkway – The implementation of advance transportation management systems (ATMS) at this intersection would improve the afternoon peak hour LOS to D.

Barranca Parkway/Von Karman Avenue - The addition of a second northbound right turn lane and the addition of a second westbound right turn lane would improve the morning peak hour LOS to C and the afternoon peak hour LOS to a level better than baseline.

Armstrong Avenue/Warner Avenue - The addition of a fourth westbound through lane would improve the afternoon peak hour LOS to D.

REDUCTION IN MITIGATION MEASURES RECOMMENDED IN THE EIS/EIR

As previously mentioned, in the Base Reuse EIS/EIR, Year 2005 conditions were analyzed without the Tustin Ranch Road extension between Walnut Avenue and Loop Road North, but not with the extension. As part of this supplemental traffic analysis, Kimley-Horn has reviewed the mitigation measures that were recommended under Year 2005 traffic conditions in the Base Reuse EIS/EIR to determine if there would be any reduction in recommended mitigation measures once the extension of Tustin Ranch Road between Walnut Avenue and North Loop Road under Year 2005 traffic conditions was completed.

There are three intersections that are common to this study and the Base Reuse EIS/EIR that required mitigation as part of the EIS/EIR analysis. The intersections are:

75. SR-55 SB Ramps/Edinger Avenue
86. Barranca Parkway/Von Karman Avenue
103. Jamboree Road/Barranca Parkway

All three of these intersections were called out in the EIS/EIR as impacted intersections. All three intersections continue to operate unacceptably under Year 2005 traffic conditions with the extension of Tustin Ranch Road between Walnut Avenue and Loop Road North. Therefore, the mitigation measures at these intersections would be needed.

Under 2020 conditions, not constructing Tustin Ranch Road between Walnut Avenue and Loop Road North, would not eliminate the need for any mitigation measures. It is understood that the configuration of the intersections of Tustin Ranch Road/Walnut Avenue and Tustin Ranch Road/Loop Road North would be different if Tustin Ranch Road is not constructed.

APPENDICES

Appendix D: Noise Study

Draft Tustin Ranch Road Overpass Noise Study

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May 25, 2004

TABLE OF CONTENTS

LIST OF TABLES

LIST OF EXHIBITS

LIST OF APPENDICES

SECTION 1
INTRODUCTION

In order to better accommodate local traffic, the City of Tustin proposes to construct an extension of Tustin Ranch Road between Walnut Avenue to the north, and the future alignment of Valencia North Loop Road to the south. A loop road would then connect this extension with Edinger Avenue. The proposed roadway would bridge over the Orange County Flood Control District right-of-way, the Atchison, Topeka, and Santa Fe Railroad right-of-way, and Edinger Avenue, returning to Edinger by means of a semi-circular earth ramp and a signalized T-type intersection. The extension would have an ultimate roadway section width of up to 130 feet with three lanes in each direction. Other project improvements include a modification of the existing signal at Tustin Ranch Road/Walnut Avenue intersection, street lights along the easement, and a concrete noise barrier wall along the west side of the extension. This wall is proposed to reduce the exterior noise levels at the residences along the proposed extension. Modeling indicates that portions of this wall would be as high as 12 feet relative to the grade of the proposed alignment.

SECTION 2
FUNDAMENTALS OF TRAFFIC NOISE

2.1 Noise Definitions

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Most people can detect changes in sound levels of approximately 3 dBA under normal, quiet conditions. Changes of 1 to 3 dBA are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A change of 5 dBA is readily discernable to most people in an exterior environment. A change of 10 dBA is usually perceived as a doubling or halving of noise.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all but are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Noise may be generated from a point source, such as a piece of construction equipment, or from a line source, such as a road containing moving vehicles. Because the area of the sound wave increases as the sound gets further and further from the source, less energy strikes any given point over the surface area of the wave. This phenomenon is known as "spreading loss." Due to spreading losses, noise attenuates (decreases) with distance. The typical atmospheric spreading loss rate for point source noise is 6 dBA per doubling of the distance. A line source will also attenuate with distance, but the rate of attenuation is a function of both distance and, due to reflection and absorption, the type of terrain over which the noise passes. Over hard sites, such as developed areas with paving, noise attenuates at a rate of 3 dBA per doubling of the distance. Over soft sites, such as undeveloped areas, open space, and vegetated areas, noise attenuates at a rate of 4.5 dBA per doubling of the distance. Objects that block

the line-of-sight attenuate the noise source if the receptor is located within the "shadow" of the blockage (such as behind a sound wall). If a receptor is located behind the wall, but has a view of the source, the wall will do little to attenuate the noise.

2.2 Noise Measurement Scales

Several rating scales (or noise "metrics") exist to analyze adverse effects of noise, including traffic-generated noise, on a community. These scales include the equivalent noise level (Leq), the community noise equivalent level (CNEL), and the day-night noise level (Ldn). Leq is a measurement of the sound energy level averaged over a specified time period (usually 1 hour). Leq represents the amount of variable sound energy received by a receptor over a time interval in a single numerical value. For example, a 1-hour Leq, designated as Leq(h), noise level measurement represents the average amount of acoustic energy that occurred in that hour. Other values of concern include the Lmin and Lmax. These are the minimum and maximum root-mean-square values recorded over a brief period; typically of 1 second.

Unlike the Leq metric, the CNEL noise metric is based on 24 hours of measurement. CNEL also differs from Leq in that it applies a time weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when quiet time and sleep disturbance is of particular concern). Noise occurring during the daytime period (7:00 a.m. to 7:00 p.m.) receives no penalty. Noise produced during the evening time period (7:00 p.m. to 10:00 p.m.) is penalized by 5 dBA, while nighttime (10:00 p.m. to 7:00 a.m.) noise is penalized by 10 dBA. The Ldn noise metric is similar to the CNEL metric except that the period from 7:00 p.m. to 10:00 p.m. receives no penalty. Both the CNEL and Ldn metrics yield approximately the same 24-hour value (within 1 dBA) with the CNEL being the more restrictive (i.e., higher) of the two.

Another descriptor for noise, the percentile sound level, is the statistical A-weighted noise level exceeded a given percentage of the time during a specified measurement period. Percentile sound levels are used to define the ambient environment. For example, the L_{50} is the level exceeded 50 percent of the time and can be used to approximate the average sound level. The L_{90} is exceeded 90 percent of the time and can be used to describe the quietness of an area or to quantify the contribution to the time-varying noise environment from continuously operated noise sources. Percentile values are frequently used to demonstrate compliance with local regulation for continual or stationary noise sources. For example, the City's noise ordinance states that a given value is not to be exceeded for a period of 15 minutes in any hour. This 15-minute period represents 25 percent of the hour, or an L_{25} value.

SECTION 3
REGULATORY BACKGROUND

3.1 Federal Guidelines and Standards

The Federal Highway Administration (FHWA) has developed noise standards which are typically used for federally funded roadway projects or projects that require either federal or Caltrans review. These noise standards are based on Leq and L_{10} values. (Note that L_{10} is typically about 3 dBA greater than the Leq value.) The FHWA values are the maximum desirable values by land use type and area based on a "trade-off" of what is desirable and what is reasonably feasible. These values recognize that in many cases lower noise exposures would result in greater community benefits. FHWA design noise levels are included in Table 1.

Table 1: FHWA Design Noise Levels

Activity Category	Design Noise Levels[1]		Description of Activity Category
	Leq (dBA)	L10 (dBA)	
A	57 (exterior)	60 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	70 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties, or activities not included in Categories A or B, above
D	—	—	Undeveloped lands.
E	52 (interior)	55 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

[1] Either Leq or L10 (but not both) design noise levels may be used on a project.

In addition to FHWA standards, the United States Environmental Protection Agency (EPA) has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an Leq of 70 dB will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an Leq of 55 dB and interior levels at or below 45 dB. While these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

In addition to the Leq limitations discussed above, in accordance with Page 2-3 24 CFR, Part 51, Subpart B "Noise Abatement and Control," (US Department of Housing and Urban Development, August 1984), the EPA set 55 dBA Ldn as the basic goal for residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA Ldn, have settled on the 65-dBA Ldn level as their standard. At 65 dBA Ldn, activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established three zones. These include:

- 65 dBA Ldn or less - an *acceptable zone* where all projects could be approved,
- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn - a *normally unacceptable zone* where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area, and
- Exceeding 75 dBA Ldn - an *unacceptable zone* in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather, a *goal* of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction, any building will provide sufficient attenuation so that if the exterior level is 65 dBA Ldn or less, the interior level will be 45 dBA Ldn or less. Thus, structural attenuation is assumed at 20 dBA. Note that HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of other sensitive land uses such as schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility's Health and Safety Plan. With the exception of construction workers involved in project development, occupational noise is irrelevant to this study and is not further addressed in this document.

3.2 State Guidelines and Standards

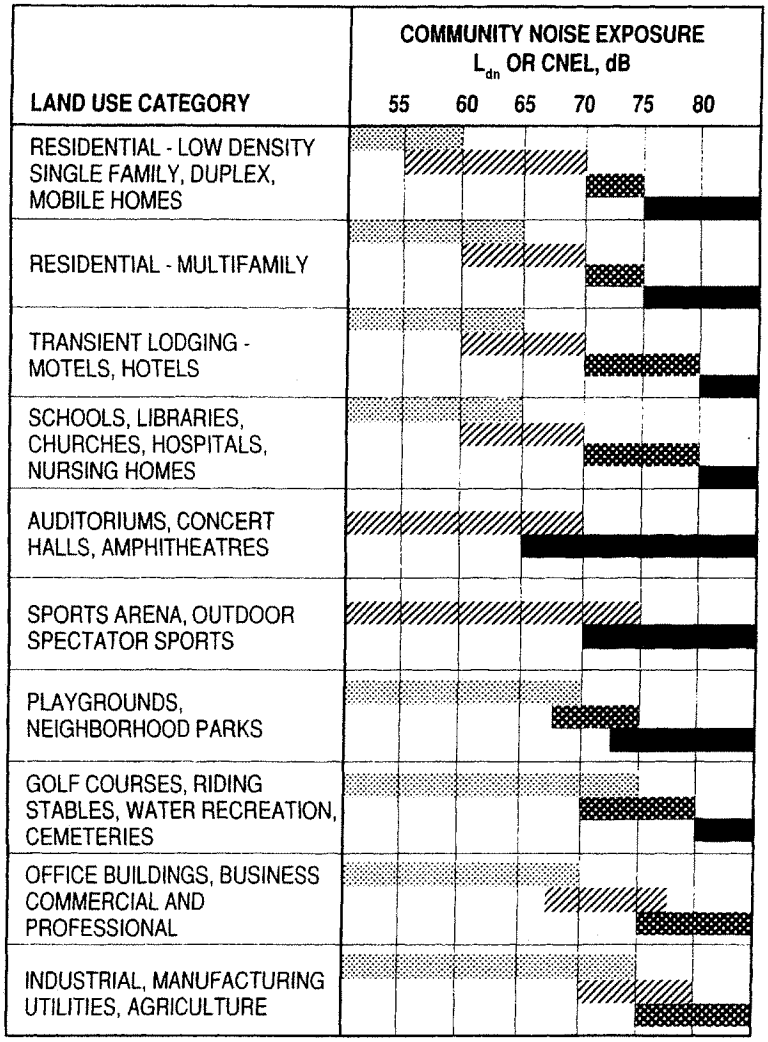
The California Department of Health Services' (DHS) Office of Noise Control has studied the correlation of noise levels and their effects on various land uses. As a result, the DHS has established four categories for judging the severity of noise intrusion on specified land uses.

Exhibit 1 presents a land use compatibility chart for community noise prepared by the California Office of Noise Control. It identifies "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" noise levels for various land uses. A "conditionally acceptable" designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a "normally acceptable" designation indicates that standard construction can occur with no special noise reduction requirements. Note that there is some overlap between the various categories.

As shown in Exhibit 1, single-family residences are "normally acceptable" in exterior noise environments up to 60 dBA CNEL and "conditionally acceptable" in areas up to 70 dBA CNEL. Multi-family residential uses are "normally acceptable" in exterior environments up to 65 dBA CNEL and "conditionally acceptable" in those up to 70 dBA CNEL. Schools, libraries, churches, offices, business, commercial, and professional uses are "normally acceptable" in exterior noise environments up to 70 dBA CNEL.

3.3 California Department of Transportation (Caltrans) Noise Standards

Section 2.4.2 of the Caltrans *Traffic Noise Analysis Protocol* (October 1998) (*Protocol*) outlines the A-weighted noise level (dBA Leq) Noise Abatement Criteria (NAC). For residential development and sensitive land uses which exist along the proposed project, Caltrans follows the FHWA standards and an exterior NAC of 67 dBA Leq for the peak noise hour is the maximum allowable exterior noise level for sensitive residential uses. In order for the proposed noise abatement measures to be considered feasible, a minimum of 5-dBA-noise reduction *must* be achieved at the impacted receivers (Section 2.7 of the *Protocol*). In addition to the NAC, Caltrans requires that noise barriers should provide the following:



LEGEND

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: California Department of Health, Guidelines for the Preparation and Content of Noise Elements of The General Plan, February, 1976

Source: California Department of Health.

NORTH

Michael Brandman Associates

Exhibit **1**

Noise and Land Use Compatibility

- A minimum height of 1.8 meters (6.0 feet) as measured from the top of the barrier to the top of the foundation,
- A maximum height of 4.3 meters (14.0 feet) as measured from the pavement surface at the face of the safety shape barrier when located 4.5 meters (14.7 feet) or less from the edge of the traveled way, and should not exceed 5.0 meters (16.4 feet) in height above the ground line when located more than 4.5 meters (14.7 feet) from the traveled way,
- Intercept the line-of-sight from the exhaust stack of a truck to the noise receptor. The truck stack height is assumed to be 3.5 meters (11.5 feet) above the pavement. The receptor is assumed to be 1.5 meters (5.0 feet) above the ground and is located 1.5 meters (5.0 feet) from the living unit nearest the roadway, and
- Should not be designed to shield the second story of two-story residences unless it provides attenuation for a substantial number of residences at a reasonable increase in cost.

3.4 City of Tustin Policy

The primary purpose of the City of Tustin Noise Element is to reduce the number of people exposed to excessive noise and minimize the future effects of noise on the City. The Noise Element defines the City's goals and policies with respect to noise intrusion. The Element defines three primary goals of the City. These include the use of noise control measures to reduce the impact from transportation-related noise, the incorporation of noise considerations into land use planning decisions, and the development of measures to control non-transportation noise impacts. The goals are to be pursued through the various policies included in the Element. The City sets a noise compatibility goal of 65 dBA CNEL for exterior habitable areas and 45 dBA CNEL for interior habitable areas for new residential land uses and acceptable noise levels from development. Because typical State of California Title 24 construction results in an attenuation level in excess of 20 dBA with windows closed, the 45 dBA CNEL is easily achieved so long as the units are equipped with forced air ventilation thereby allowing residents to leave their windows closed. These compatibility levels are included in Table 2.

Table 2: City of Tustin Interior and Exterior Noise Standards in the City of Tustin Noise Element

Land Use	Noise Standard[1]	
	Interior [2,3]	Exterior
Residential - Single family, multifamily, duplex, mobile home	45 dBA CNEL	65 dBA CNEL [4]
Residential - Transient lodging, hotels, motels, nursing homes, hospitals	45 dBA CNEL	65 dBA CNEL [4]
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting rooms, etc.	45 dBA Leq(12)	—
Schools	45 dBA Leq(12)	67 dBA Leq(12) [5]
General offices, reception, clerical, etc.	50 dBA Leq(12)	—
Bank lobby, retail store, restaurant, typing pool, etc.	55 dBA Leq(12)	—
Manufacturing, kitchen, warehousing, etc.	65 dBA Leq(12)	—
Parks, playgrounds	—	65 dBA CNEL [5]
Golf Courses, outdoor spectator sports, amusement parks	—	70 dBA CNEL [5]

[1] CNEL: Community Noise Equivalent Level. Leq(12): the A-weighted equivalent sound level averaged over a 12-hour period (usually the hours of operation).
[2] Noise standard with windows closed. Mechanical ventilation shall be provided per UBC requirements to provide a habitable environment.
[3] Indoor environment excluding bathrooms, toilets, closets, and corridors.
[4] Outdoor environment limited to rear yard of single family homes, multi-family patios, and balconies (with a depth of 6 feet or more) and common recreation areas.
[5] Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.

The City regulates noise though Chapter 6 of Article 4 of the Tustin City Code. The Code presents permissible noise intrusion levels by land use as included in Table 3. These standards are not to be exceeded for a cumulative period of 30 minutes in any hour. However, greater noise levels are permissible for shorter durations. The standards are not to be exceeded by 5 dBA for a cumulative period of 15 minutes in any hour, by 10 dBA for a cumulative period of 5 minutes in any hour, by 15 dBA for a cumulative period of 1 minute in any hour, or by 20 dBA for any period of time. In the event that the ambient noise already exceeds these standards, the allowable noise shall be increased to reflect the ambient noise accordingly. Note that these standards do not apply to noise that is preempted by other State or federal standards (such as that produced by motor vehicles when operating on City streets).

Table 3: City of Tustin Exterior Noise Standards in the City of Tustin Municipal Code[1]

Land Use	Noise Level	Time Period
Residential	55 dBA 50 dBA	7:00 a.m. - 10:00 p.m. 10:00 p.m. - 7:00 a.m.
Commercial	60 dBA	Any time
Industrial	70 dBA	Any time
Institutional (e.g., hospitals, convalescent homes, schools, libraries, churches)	55 dBA	Any time
Mixed Use	60 dBA	Any Time

[1] These standards do not apply to noise that is preempted by other state or federal standards (i.e., motor vehicles operating on city streets).

Source: Chapter 6 of Article 4 of the Tustin City Code, 1982, revised 1988 and 2003.

The Tustin City Code recognizes that some forms of noise are required for urban development and maintenance and are difficult to control. Section 4617(e) "Exemptions," exempts "Noise sources associated with construction, repair, remodeling, or grading of any real property between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and the hours of 9:00 a.m. and 5:00 p.m. on Saturdays, excluding City observed federal holidays." Note that in accordance with Section 4616 (1) this exemption also applies to "Trucks, vehicles and equipment that are making or are involved with material deliveries, loading or transfer of materials, equipment service, maintenance of any devices or appurtenances to any construction project in the City."

SECTION 4
EXISTING ENVIRONMENT

The project consists of the extension of Tustin Ranch Road from Walnut Avenue to south of Edinger Avenue. To the north of the project site, Tustin Ranch Road includes three north and three southbound lanes. This configuration will also be used in the proposed extension. Tustin Ranch Road is designated as 45 mph to the north of the extension. Walnut Avenue is designated as 40 mph both to the east and west of the extension while Edinger Avenue is designated as 55 mph. The project location includes single-family residential uses as well as commercial uses adjacent to its west and east sides, respectively.

With respect to sensitive land uses, the area of concern includes those residential units located along the west side Tustin Ranch Road and the proposed extension, and along the north side of Edinger Avenue. The most significant and common source of noise in the project area is transportation-related and specifically, vehicles traveling on Tustin Ranch Road, Walnut Avenue, and Edinger Avenue. Rail operations along the AT&SF also add to both short-term and ambient levels. Aircraft constitute occasional short-term noise intrusion, but their integrated contribution is small.

4.1 Locations of Sensitive Land Uses

The extension follows the existing Tustin Ranch Road easement south of Walnut Avenue. The west side of the easement is adjacent to one and two-story single-family residential units located at the cul-de-sacs of Fig Tree Drive, Basswood Circle, Sable Tree Circle, Ana Tree Place, Caper Tree Drive, Silk Tree Drive, Coco Palm Drive, and Apple Tree Drive.

Additionally, single-family residential units are also located to the north of the extension along the west side of Tustin Ranch Road and to the west backing up to Walnut Avenue and the OCWD and AT&SF easements along Edinger Avenue. The area to the east of the project is largely commercial and light industrial. The area south of Edinger Avenue includes agricultural land in and around the proposed alignment.

4.2 Field Monitoring

Synectecology conducted noise monitoring on September 12, 2001 using a Quest Technologies Model 2900 Type 2 Integrating/logging Sound Level Meter (S/N CD5030027). The unit meets the American National Standards Institute (ANSI) Standard S1.4-1983 for Type 2, International Electrotechnical Commission (IEC) Standard 651 - 1979 for Type 2, and IEC Standard 651 - 1979 for Type 2 sound level meters. The unit was initially field calibrated to a 114.0 dB standard at 9:30 a.m. and rechecked

at 12:45 p.m. at the completion of the readings. A Quest Technologies QC-10 calibrator (S/N QE4100253) was used in the calibration procedure. The accuracy of the calibrator is maintained through a program established through the manufacturer and is traceable to the National Bureau of Standards. The unit meets the requirements of ANSI Standard S1.4-1984 and IEC Standard 942: 1988 for Class 1 equipment.

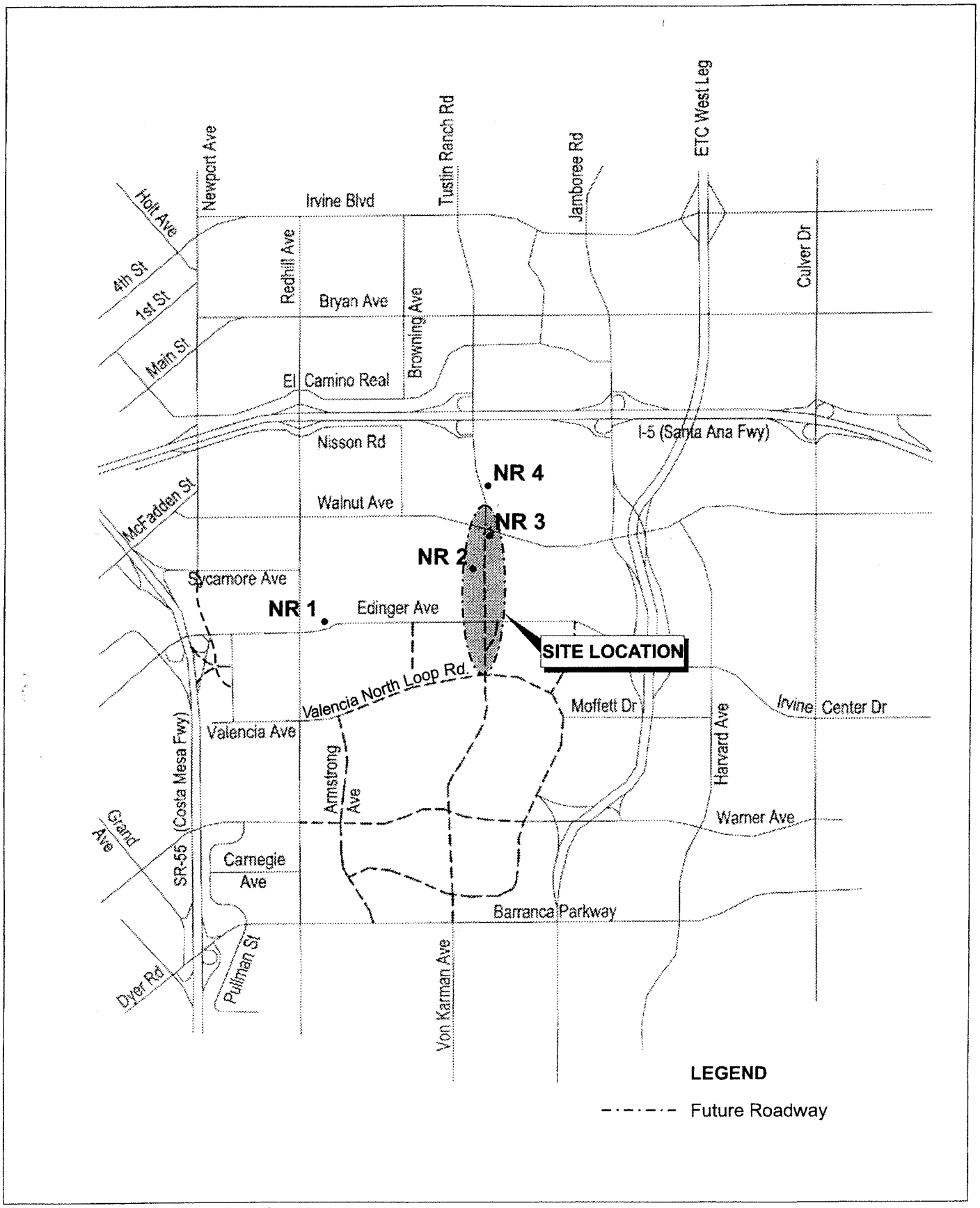
The field study included four noise readings (NR-1 though -4) at the locations indicated in Exhibit 2. To best represent the acuity of the human ear, the meter was set to A-weighting and slow response mode. The Leq, L_{02}, L_{10}, L_{25}, L_{50}, Lmin, and Lmax values were recorded. As discussed above, the Leq value is representative of the equivalent noise level or logarithmic average noise level obtained over the measurement period. The L_{02}, L_{10}, L_{25}, L_{50} values represent the levels are exceeded for a period of 1, 6, 15, and 30 minutes during a 1-hour period (if the reading were extrapolated out for a duration of 1 hour). The Lmin and Lmax represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second. With the exception of the Leq, the L_{02}, L_{10}, L_{25}, L_{50}, Lmin, and Lmax values are included for informational purposes only. The results of the readings are included in Table 4. Note that all readings were transcribed directly from the meter so that no data printouts are available. Each reading is summarized below.

Table 4: Noise Level Measurements[1]

Noise Reading	Leq	L02	L10	L25	L50	Lmin	Lmax
NR-1	67.9	73.1	69.4	66.7	62.7	46.1	91.1
NR-2	45.6	51.2	47.4	45.7	44.3	39.9	60.4
NR-3	64.8	71.9	68.0	65.8	62.7	50.3	77.2
NR-4	65.7	71.8	69.2	67.0	63.7	51.0	75.0

[1] All values are in dBA. The Leq represents the equivalent sound level and is the numeric value of a constant level that over the given period of time transmits the same amount of acoustic energy as the actual time-varying sound level. The L02, L10, L25, and L50 are the levels that are exceeded 2, 10, 25, and 50 percent of the time, respectively. Alternatively, these values represent the noise level that would be exceeded for 1, 6, 15, and 30 minutes during a 1-hour period. The Lmin and Lmax represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second.

NR-1 - This reading was obtained to determine noise levels generated along Edinger Avenue as well as the ratio of automobiles, medium trucks, and heavy trucks and to determine the validity of the Caltrans Sound32 Noise Model that is ultimately used in projecting traffic-generated noise levels. Because no representative location for a noise reading could be obtained directly at the proposed alignment, the reading was obtained in the vacant lot located to the east of the parking lot of the "Barn" approximately 500 feet east of Redhill Avenue. Because there are no major intersections between the project site and the monitored location, both the vehicle counts and ratios would be equivalent to those at the actual project site. The meter was placed at a distance of 50 feet from the



SOURCE: Kimley-Horn and Associates, Inc.

NOT TO SCALE

Michael Brandman Associates

Exhibit 2

Noise Monitoring Locations

00190022 · 12/2003

TUSTIN RANCH ROAD EXTENSION • CITY OF TUSTIN

centerline (grease stain) of the near lane along the north side of Edinger Avenue. This placed the meter approximately 87 feet from the centerline of the road.

A 20-minute reading was taken from 9:50 a.m. with simultaneous vehicle counts. Traffic was light during this period and eastbound traffic included 92 autos, three medium trucks, and two heavy trucks. Westbound traffic included 130 autos, four medium trucks, and six heavy trucks. The posted speed at the reading location is 45 mph and vehicles were estimated near this speed. A Metroliner train passed within approximately 50 feet of the meter during the measurement (accounting for the elevated Lmax). Winds were calm and skies were clear during the duration of the field study.

NR-2 - This reading was obtained within the Tustin Ranch Road extension easement. As noted, single-family residential units are located along the west side of the extension. Toward the north end of the extension, these homes are above the grade of the existing extension terrain. The homes are protected by a 6-foot high masonry wall atop a 4-foot berm. Proceeding toward the south, the base level of the extension rises and while the homes to the west still have a 6-foot wall on a 4-foot berm, the elevation of the road rises to height that is higher than the second story roofs. Due to the presence of local roadways as well as the railroad, noise along the proposed extension increases as one approaches either Walnut or Edinger Avenue. The meter was placed approximately 600 feet south of the Walnut Avenue near the center of the easement. This location would be roughly equivalent to the noise levels at most of the residents located immediately west of the alignment. A 25-minute reading was obtained from 10:22 a.m. Ambient noise included vehicles on Walnut Avenue and distant tree trimmers using chainsaws and chippers.

NR-3 - This reading was obtained to determine noise levels generated along Walnut Avenue as well as the ratio of automobiles, medium trucks, and heavy trucks. The reading also documents the ambient noise at the exterior of the First Baptist Church. The meter was located in the grassy area of the First Baptist approximately 200 feet east of the southeast corner of the intersection of Tustin Ranch Road and Walnut Avenue. The meter was placed at a distance of 50 feet from the centerline (grease stain) of the near lane along the south side of Walnut Avenue. This placed the meter approximately 75 feet from the centerline of the road.

A 20-minute reading was taken from 11:30 a.m. with simultaneous vehicle counts. Eastbound traffic included 193 autos, eight medium trucks, and one heavy truck. Westbound traffic included 263 autos, 12 medium trucks, and two heavy trucks. The posted speed at the reading location is 40 mph. Additional noise included tree trimming in the background as well as automobiles operating in the parking lot behind the meter.

NR-4 - This reading was obtained to determine vehicle ratios and noise levels generated along Tustin Ranch Road. The meter was located on the bermed area along the east side of the road midway between Walnut Avenue and the I-5 Freeway. The meter was placed at a distance of 50 feet from the centerline (grease stain) of the near lane. This placed the meter approximately 91 feet from the centerline of the road.

The 20-minute reading began at 12:10 p.m. with simultaneous vehicle counts. Northbound traffic included 166 autos and four medium trucks. Southbound traffic included 183 autos, six medium trucks, and two heavy trucks. The road is posted for 45 mph. Additional noise emanated from the light industrial facility located approximately 50 feet behind the meter. Facility noise included the use of pneumatic tools a compressor, and grinding noise was noted. Additionally, automobiles and trucks operating in the parking lot behind the meter were observed.

4.3 Noise Level Modeling

4.3.1 Sound32 Modeling of Observed Traffic

To verify the accuracy of the Sound32 (Caltrans version of Stamina2/Optima) noise prediction model, the observed volumes of vehicles were extrapolated out to a 1-hour period and these volumes, along with roadway logistics, were modeled for the three noise readings obtained along the roadways. These vehicles were assumed to travel at the posted speed limit. Model results are included in Table 5. Model runs are included in the Appendix.

Table 5: Observed Versus Modeled LEQ Noise Levels[1]

Noise Reading	Observed Leq	Speed Limit	Modeled Leq(h) (Hard Site)	Difference	Modeled Leq(h) (Soft Site)	Difference
NR-1	67.9	45	66.9	1.0	65.5	2.4
NR-3	64.8	40	67.1	2.3	65.5	0.7
NR-4	65.7	45	67.1	1.4	65.5	0.2

[1] All values Leq(h) in dBA.

The model shows a close correlation with the measured field readings. Reading NR-1 was taken in a 45 mph area immediately west of a 55 mph zone. As such, the actual vehicle speeds were probably closer to about 50-55 mph and the model would predict values of 1 to 2 dBA greater, respectively. Additionally, a passing train did raise the observed value over what would have been noted for just the vehicle traffic. Reading NR-3 was taken over a grassy area with proximate bushes and is representative of a typical "soft site." Similarly, NR-4 was taken in a bermed, bushy area and is also typical of a "soft site."

Based on the nature of the site, some model discrepancies would be expected. In accordance with Section 5460 "Tolerances" of Caltrans' Technical Noise Supplement (October 1998) (*TENS*), "Given the inherent uncertainties in the measurements and calibration procedures, model calibration should definitely not be attempted when calculated and measured noise levels agree within 1 dBA. If there is a great confidence in the accuracy and representativeness of the measurements, calibration may be attempted when calculated noise levels are within 2 dBA of the measured values. Differences of 3 - 4 dBA may routinely be calibrated unless the validity of the measurements is in serious doubt. Because the readings show a fairly close correlation, they are accepted "as is."

4.3.2 Sound32 Modeling of Existing Traffic

Up until this point, this analysis has focused on the noise levels noted at the monitored locations. While these locations are indicative of the project area, they are not inclusive of all of the local receptors. The modeling presented here would be indicative of the various noted sensitive land uses though the project area.

The analysis considers the area from the I-5 Freeway, to the north, to Edinger Avenue to the south, and Jamboree Road to the east to Redhill Avenue to the west. These roads would realize the greatest changes due to project implementation. A change of 1 dBA would require that traffic increase by 26 percent. Because a change of less than 1 dBA is not discernable to the human ear, and no other roads in the project area would be subject to this level of change, no other roads need be examined.

To determine the CNEL noise level produced by traffic, the percentage contribution from each hour of traffic was determined from an Orange County, year 2003 run of the BURDEN2002 computer model distributed by the California Air Resources Board. The ratio of each hour of traffic to the total daily traffic was then calculated. Traffic between the hours of 7:00 p.m. and 10:00 p.m. was assigned a 5-dBA penalty whereas the traffic predicted between 10:00 p.m. and 7:00 a.m. was assigned a 10-dBA penalty. The resultant noise associated with each hour was then logarithmically summed and averaged so that an attenuation factor could be ascertained and applied to the entire volume of traffic as if it were to occur in a one-hour period. Under these premises, this CNEL value is 10.2 dB less than the model results that are predicted if the entirety of the traffic were modeled to occur in a one-hour period. As such, the CNEL can be represented by modeling the average daily traffic as if it were to occur in a one-hour period and subtracting 10.2 dBA from this value. This method works well where passing traffic provides the dominant noise source that directly impacts receptors.

Similar to the CNEL, the Leq(12) noise level produced by traffic was also determined from the percentage contribution from each hour of traffic determined from the BURDEN model. In this case the ratio only considers traffic produced between 7:00 a.m. and 7:00 p.m. and no penalty is added to evening or nighttime traffic as is done in the calculation of the CNEL. This 12-hour period

encompasses the most traffic resulting in the highest Leq(12) of any consecutive 12-hour period. The resultant noise associated with each hour was logarithmically summed and averaged so that an attenuation factor could be ascertained and applied to the entire volume of traffic as if it were to occur in a one-hour period. Under these premises, this Leq(12) value is 11.9 dB less than the model results that are predicted if the entirety of the traffic were modeled to occur in a one-hour period. As such, the Leq(12) can be represented by modeling the average daily traffic as if it were to occur in a one-hour period and subtracting 11.9 dBA from this value. Again, this method works well where passing traffic provides the dominant noise source that directly impacts receptors.

For the purposes of this analysis, the ratio of automobiles, medium trucks, and heavy trucks was based on data obtained in the field study. NR-1 obtained along Edinger Avenue east of Redhill Avenue included 93.67 percent autos, 2.95 percent medium trucks, and 3.38 percent heavy trucks. NR-3, taken along Walnut Avenue immediately east of Tustin Ranch Road, included 95.19 percent autos, 4.19 percent medium trucks, and 0.62 percent heavy trucks. Finally, Tustin Ranch Road north of Walnut Avenue included 96.68 percent autos, 2.77 percent medium trucks, and 0.55 percent heavy trucks. When the three measurements are considered, an overall ratio of 95.36 percent autos, 3.44 percent medium trucks, and 1.20 percent heavy trucks is calculated. This vehicle mix includes more trucks than that reported in a memo issued by Paul Wang of Orange County Environmental Management Agency, that was reportedly representative of arterial roadways within the Southern California Area Governments (SCAG) area of jurisdiction. The County's recommended ratio includes 97.42 percent automobiles, 1.84 percent medium trucks, and 0.74 percent heavy trucks. Because trucks add disproportionately to vehicle-generated noise, the provided analysis may then over-predict vehicle-generated noise, but does serve as a worst-case scenario. Vehicle speeds are as based on the posted speed limits. Table 6 presents the projected noise levels along site access roads in the project area as well as the distances to the 70, 65, and 60 dBA CNEL noise contours. The analysis does not include any walls, berms, or obstructions that may reduce noise from the modeled levels. Based on their actual distance to the centerline of the road, as well as the presence of any existing walls or structures, some sensitive receptors may already be exposed to noise levels in excess of the City's 65-dBA compatibility level.

Table 6: Existing CNEL Noise Levels with the Project Area[1]

Location	ADT	SPEED	CNEL @ 50 Feet	Distance to 70 dBA CNEL	Distance to 65 dBA CNEL	Distance to 60 dBA CNEL
Walnut Avenue						
Redhill - Browning	15,000	35	66.9	<50	67	144
Browning - Tustin Ranch	15,000	40	68.2	<50	82	176

Table 6 (Cont.):Existing CNEL Noise Levels with the Project Area[1]

Location	ADT	SPEED	CNEL @ 50 Feet	Distance to 70 dBA CNEL	Distance to 65 dBA CNEL	Distance to 60 dBA CNEL
Tustin Ranch - Jamboree	10,000	40	66.4	<50	62	134
Edinger Avenue						
Redhill - Browning	18,000	45	70.2	52	111	239
Browning - Tustin Ranch	18,000	55	72.3	71	153	330
Tustin Ranch - Myford	18,000	55	72.3	71	153	330
Myford - Jamboree	18,000	55	72.3	71	153	330
Redhill Avenue						
Edinger - Sycamore	37,000	40	72.1	69	149	320
Sycamore - Walnut	35,000	40	71.9	67	144	311
Walnut - I-5	38,000	40	72.2	70	151	325
Tustin Ranch Road						
Walnut - I-5	18,000	45	70.2	52	111	239
Jamboree Road						
Irvine Center - Walnut	41,000	60	76.8	142	306	659
Walnut - I-5	42,000	60	76.9	144	311	669

[1] As measured from the centerline of the road. Distances based on soft site modeling.

SECTION 5
IMPACT ANALYSIS

5.1 Standards of Significance

The State CEQA Guidelines indicate a project will normally have a significant effect on the environment related to noise if it will:

> "...increase substantially the ambient noise levels for adjoining areas...", or
>
> "...conflict with adopted environmental plans and goals of the community where it is located..."
>
> "...exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels."

The applicable noise standards governing the project site are the City of Tustin Noise Standards. Mobile sources of noise, such as truck deliveries and railroad operations are exempt from local ordinance but are still subject to CEQA and would be significant if the project generates a volume of traffic which would result in a substantial increase in mobile source-generated noise or sites the roadway next to sensitive land uses such that its resultant noise is incompatible with those uses.

An applicable groundborne noise vibration standard is provided by Caltrans in the Caltrans Transportation-Related Earthborne Vibration, February 20, 2002. According to Caltrans, a significant groundborne vibration impact occurs if the vibration is 2.0 millimeters per second or greater.

The included analysis is supplemental to the EIR prepared for the closure of the Tustin Marine Corp Air Station (December 1999) and the criteria are retained for this analysis. As such, an exterior noise impact would be considered as potentially significant if the project were to expose sensitive receptors to a noise level of 65 dBA CNEL. If existing or existing with project exterior noise levels are to exceed 65 dBA, the criterion for a significant impact is set at an increase of 3 dBA CNEL. This level has been found to be barely audible to a typical person in an exterior environment.

Furthermore, if the project were to expose sensitive receptors to an interior noise level of greater than 45 dBA CNEL, a significant impact would occur. The State noise guidelines indicate that sensitive land uses may be placed in areas with external noise levels of up to 60 dBA CNEL with no requirement for mitigation. This would infer that typical residential construction could provide 15 dBA of attenuation even with windows open as forced air ventilation is not warranted. Both Caltrans and the Federal Highways Administration also note an exterior/interior reduction of 15 dBA in their standards.

5.2 Impacts

5.2.1 Short-Term Noise Impacts

Noise disturbances in the areas adjacent to existing development are expected during construction. These disturbances will be due to site preparation and subsequent construction of the proposed roadway and bridge. Noise from construction could be substantial. As with most construction projects, construction would require the use of a number of pieces of heavy equipment, such as bulldozers, backhoes, loaders, concrete mixers, etc. In addition, trucks, both heavy and light, would be required to deliver construction materials. Furthermore, excess vibration is typically associated with pile driving activities, which are proposed during the construction effort.

Two types of noise impacts could occur during the construction phase. First, the transport of workers and equipment to the construction site would incrementally increase noise levels along site access roadways. Even though there would be a relatively high single event noise exposure potential with passing trucks (a maximum noise level of 86 dBA at 50 feet), the increase in noise would be less than 1 dBA when averaged over a 24-hour period, and would therefore have a less than significant impact on noise receptors along the truck routes.

The second type of impact is related to noise generated by on-site construction operations and local residents would be subject to elevated noise levels due to the operation of on-site construction equipment. Construction activities are carried out in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow noise ranges to be categorized by work phase. Table 7 lists typical construction equipment noise levels recommended for noise impact assessment at a distance of 50 feet.

Noise ranges have been found to be similar during all phases of construction. The grading and site preparation phase tends to create the highest noise levels, because the noisiest construction equipment is found in the earthmoving equipment category. This category includes excavating machinery (backfillers, bulldozers, draglines, front loaders, etc.) and earthmoving and compacting equipment (compactors, scrapers, graders, etc.) Typical operating cycles may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels at 50 feet from earthmoving equipment range from 73 to 96 dBA while Leq noise levels range up to about 89 dBA. The later construction, such as the pouring of forms, is somewhat reduced from this value and the physical presence of the structure may break up line-of-sight noise propagation.

Table 7: Noise Associated with Typical Construction Equipment

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)	Suggested Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000-18,000 ft-lb/blow	81-96	93
Rock Drills	83-99	96
Jack Hammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	68-80	77
Dozers	85-90	88
Tractor	77-82	80
Front-End Loaders	86-90	88
Hydraulic Backhoe	81-90	86
Hydraulic Excavators	81-90	86
Graders	79-89	86
Air Compressors	76-86	86
Trucks	81-87	86

Residential units lie to the immediate south and west of the project site, the most proximate of which are on the order of 20 to 50 feet from roadway easement. Based on an Leq value of 89 dBA as measured at a distance of 50 feet, resultant noise levels could be on the order of 89 to 97 dBA Leq. During the vast majority of the construction period, however, noise levels would be 30 to 40 dBA lower, ranging from 50 to 60 dBA, due to lower power settings and sound attenuation effect provided by longer distances and partial blocking. Interior noise levels would be further reduced in excess of 20 dBA with windows closed. This range of noise levels is considered acceptable during daytime hours. Ambient noise levels in the project vicinity would increase during the construction phase, but would drop considerably after construction of the proposed roadway is completed.

As identified previously, the project includes pile driving activities during the construction phase. The project includes 2 abutments with 30 piles each and 3 bents with 36 piles each. The total number of piles will be 168. The distance of the nearest pile in the abutment on the north side of the proposed bridge to the nearest existing residence is 125 feet. According to the Caltrans Transportation-Related Earthborne Vibration, February 20, 2002, pile driving activities that are at 125 feet (38 meters) generate a vibration of 1.7 millimeters per second. This is less than the Caltrans threshold of 2.0 millimeters per second; therefore, the vibration impacts from pile driving activities will be less than significant.

The City recognizes that the control of construction noise is difficult at best and provides exemption for this type of noise when the work is performed between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and the hours of 9:00 a.m. and 5:00 p.m. on Saturdays. Mandatory adherence to the Municipal Code will ensure that any noise impacts remain less than significant.

5.2.2 Long-Term Impacts

As noted above, long-term impacts could be significant if the project creates off-site impacts by attracting traffic which raises the ambient noise levels along local roads by 3 dBA CNEL if existing or existing with project noise levels exceed the 65-dBA CNEL standard. This level of change has been found to be barely discernable in an exterior environment under normal conditions and is typically used in environmental impact analyses. Additionally, an impact may be significant if the project introduces a new noise source that would be expose local sensitive land uses to ambient noise levels in excess of 65 dBA. Each case is addressed below.

Year 2005

Impacts Along Existing Roadways. For an impact to be significant, project-generated traffic would have to raise the ambient noise levels by a minimum of 3 dBA CNEL, a barely detectable level. The Year 2005 analysis, without and with project implementation, is based on the traffic volumes included in the Traffic Analysis. These values were then modeled using the Caltrans Sound32 noise prediction model. The "with project" noise levels are compared with year 2005 "without project" levels and also the existing noise levels and presented in Table 8. Note that the project would contribute less than 3 dBA CNEL to the year 2005 "without project" levels and any direct impact is less than significant. Furthermore, in many cases, the project would create a redistribution of traffic that would remove vehicles from the existing roadways resulting in a net reduction in noise.

Table 8: Existing, Year 2005 Without, and Year 2005 With Project CNEL Noise Levels within the Project Area[1]

Location	Existing CNEL dBA @ 50 Feet	Year 2005 Without Project ADT	Year 2005 Without Project CNEL dBA @ 50 Feet	Year 2005 With Project ADT	Year 2005 With Project CNEL dBA @ 50 Feet	Increase (Decrease) Over Without Project CNEL (dBA)
Walnut Avenue						
Redhill - Browning	66.9	17,000	67.5	13,000	66.3	(1.2)
Browning - Tustin Ranch	68.2	20,000	69.4	17,000	68.7	(0.7)
Tustin Ranch - Jamboree	66.4	11,000	66.8	14,000	67.9	1.1

Table 8 (Cont.): Existing, Year 2005 Without, and Year 2005 With Project CNEL Noise Levels within the Project Area[1]

Location	Existing CNEL dBA @ 50 Feet	Year 2005 Without Project ADT	Year 2005 Without Project CNEL dBA @ 50 Feet	Year 2005 With Project ADT	Year 2005 With Project CNEL dBA @ 50 Feet	Increase (Decrease) Over Without Project CNEL (dBA)
Edinger Avenue						
Redhill - Browning	70.2	31,000	72.5	44,000	74.0	1.5
Browning - Tustin Ranch	72.3	31,000	74.6	40,000	75.7	1.1
Tustin Ranch - Myford	72.3	31,000	74.6	26,000	73.9	(0.7)
Myford - Jamboree	72.3	29,000	74.3	25,000	73.7	(0.6)
Redhill Avenue						
Edinger - Sycamore	72.1	35,000	71.9	24,000	70.2	(1.7)
Sycamore - Walnut	71.9	38,000	72.2	28,000	70.9	(1.3)
Walnut - I-5	72.2	41,000	72.6	37,000	72.1	(0.5)
Tustin Ranch Road						
Walnut - I-5	70.2	24,000	71.4	36,000	73.2	1.8
Jamboree Road						
Irvine Center - Walnut	76.8	79,000	79.6	71,000	79.2	(0.4)
Walnut - I-5	76.9	49,000	77.5	46,000	77.3	(0.2)

1 As measured from the centerline of the road. Distances based on soft site modeling.

Impacts at Adjacent Receptors. An impact could also be significant if the project creates a new source of ambient noise that exceeds a level of 65 dBA CNEL, the level designated by the City as compatible with residential land uses, at the adjacent sensitive receptor locations. Projected traffic volumes along the Tustin Ranch Extension were modeled using the Sound32 noise model for the 20 receptors that lie immediately adjacent to the roadway easement. The analysis also considers the First Baptist Church and office uses located along the east side of the proposed alignment. These uses do not include habitable exterior space but could be subject to impact if interior noise levels exceed City standards. The City sets an interior standard of 45 dBA Leq(12) for sensitive uses such as churches and schools and 50 dBA Leq(12) for general office space.

The analysis examines the projected noise levels without any walls, with the existing residential walls, and with 6, 8, and 10-foot high sound walls placed along the edge of the proposed roadway. In the case of the existing walls, a 6-foot wall was assumed. Rather than measure the exact placement of each existing wall relative to the dwelling, the analysis considers that the wall is placed 20 feet behind the most proximate point of the structure. Additionally, the base of the wall is assumed to be the same as the structure. In all cases the receptors are modeled at a height of 5 feet above the grade of the structure. These results of this analysis are included in Table 9. The 20 receptors are numbered from the north to the south and shown on Exhibit 3. Receptors to the east are separated from the project site by chain link fencing and do not have existing walls.

Modeling indicates that in the absence of any walls, project-generated noise could be on the order of 69 to 72 dBA CNEL at the residential locations. While modeling was conducted for receptors located five feet above grade, similar noise levels would be projected at the height of the second story for any structures so equipped. The presence of the existing walls would reduce these noise levels to between about 63 and 68 dBA CNEL for ground level residents. (The walls would not effectively attenuate second-story noise levels.) Interior noise levels without windows closed would be 15 dBA lower than exterior noise levels. The greatest level of attenuation associated with the existing walls is toward the northern portion of the project area. These homes sit above the grade of the road and their existing 6-foot masonry walls are effectively situated on a berm with respect to the roadway surface. Proceeding to the south, the elevation of the roadway increases while that of the homes decreases, slightly. In these cases the existing walls are well below the level of the roadway and provide very little in the way of acoustic shielding as the noise travels over the wall. These homes then see a greater benefit from the roadside wall that rises with the grade of the road creating an effectively higher wall with respect to the homes.

As noted, the existing and proposed walls would not effectively shield second-story habitable rooms. Exterior noise levels are projected at approximately 69 to 72 dBA CNEL. Assuming a conservative attenuation of 20 dBA with windows closed for residential structures, second floor interior noise levels could be on the order of 49 to 52 dBA CNEL. This exceeds the City's standard of 45 dBA CNEL for interior habitable spaces and the impact is potentially significant. Mitigation would also be required to reduce interior habitable space to no more than 45 dBA CNEL. Measures to achieve this second-floor interior level are discussed further in the analysis. The roadside wall would need to be approximately 10 feet in height relative to Receptor 2 to reduce noise to less than the 65 dBA CNEL noise standard for ground level receptors. The 10-foot high section need not run the length of the project. Sound32 modeling indicates that the 10-foot high section only need be placed along the entirety of the back of the Receptor 2 (2361 Fig Tree). The wall can transition from 6 feet at its north end to this 10-foot height, then back down to 6 feet to the south of the residence. Modeling indicates that this would result in an exterior noise level of 64.5 dBA CNEL at the residence thereby reducing the exterior noise level impact to less than significant. With a 64.5 dBA CNEL exterior noise level, the interior noise

Source: Moffatt & Nichol Engineers.

NORTH

NOT TO SCALE

Michael Brandman Associates

00190022 • 12/2003 | 3_modeled receptor locations.cdr

level (with windows open) would be 49.5 dBA CNEL which exceeds the City's interior standard of 45 dBA CNEL. Therefore, the project would result in a significant impact on interior noise levels. Relative to a continual 6-foot wall, the transition would also reduce noise at Receptors 1 and 3 slightly with modeled exterior values at 63.1 and 63.9 dBA CNEL, respectively. Again, interior values would be at 15 dBA CNEL lower without windows closed, thereby reducing interior noise levels to 48.1 to 48.9 dBA CNEL, respectively.

Table 9: Projected CNEL Noise Levels at Proximate Receptor Locations[1]

Receptor	Distance from Road (Feet)[2]	Year 2005 CNEL (dBA)				
		Without Walls/ Second Story[3]	Existing Walls	6 Foot Wall	8 Foot Wall	10 Foot Wall
1	60	70.8	63.2	63.1	63.2	62.8
2	17	72.5	65.1	65.1	65.1	64.5
3	33	71.3	63.9	63.9	64.0	63.3
4	27	71.4	64.3	64.2	64.3	63.4
5	37	70.8	63.7	63.7	63.6	62.5
6	29	71.2	64.6	64.6	64.0	62.2
7	38	70.7	64.3	64.2	63.0	61.0
8	23	71.6	65.7	63.8	61.9	59.8
9	42	70.5	65.1	62.6	60.9	59.3
10	71	69.3	64.7	61.2	59.8	58.2
11	33	71.2	66.0	61.6	59.6	58.0
12	42	70.8	66.3	60.6	58.8	57.3
13	55	70.2	67.0	58.3	56.8	55.6
14	28	71.6	64.4	56.6	55.5	54.6
15	85	68.9	68.0	57.3	55.8	54.6
16	56	70.0	67.7	55.9	54.7	53.7
17	57	69.8	67.9	55.4	54.3	53.4
18	78	68.9	68.3	55.4	54.2	53.1
19	75	68.9	68.1	54.6	53.5	52.6
20	75	68.8	67.9	54.2	53.2	52.3
First Baptist Church	56	69.0	69.0	65.1	63.8	62.7
Offices	106	66.7	66.7	63.6	63.3	63.0

[1] Noise values for residential structures are presented in terms of the CNEL while the church and offices are expressed in terms of Leq(12).
[2] As measured at a distance of 5 feet out from the closest point of the structure for residential units.
[3] Due to their elevation above grade, no wall (existing or proposed) attenuation is assumed for second story receptors.

Significant interior noise impacts would occur at Receptors 1 through 12 with the proposed 6-foot high or greater soundwalls along the west side of Tustin Ranch Road. Receptors 13 through 20 would experience exterior noise levels of less than 60 dBA CNEL, and therefore interior noise levels without windows closed would be 45 dBA CNEL or less.

With respect to the church at the southeasterly corner of Walnut Avenue and Tustin Ranch Road, a 6-foot high wall would reduce exterior noise to approximately 65.1 dBA Leq(12). Assuming 20 dBA of attenuation for the structure, interior levels would be reduced to no more than 45.1 dBA Leq(12). While most structures do in fact provide in excess of about 22 dBA of attenuation, the use of an 8-foot high wall would ensure that interior noise levels would not exceed 45 dBA Leq(12) on the ground floor. The wall should be extended from the Walnut Avenue easement to a point no less than the church property line to the south. Second story interior levels could continue to exceed the 45-dBA Leq(12) standard for church and classroom uses and structural modification to the church may be in order to protect second-story occupants. Mitigation is as specified for the residential structures further in this analysis.

Year 2020

Impacts Along Existing Roadways. Like year 2005, year 2020 "without project" and "with project" traffic volumes were modeled using the Caltrans Sound32 noise prediction model. The "with project" noise levels are compared with the "without project" levels and also to the existing levels and included in Table 10.

Again, for an impact to be significant, project-generated traffic would have to raise the ambient noise levels by a minimum of 3 dBA CNEL, a barely detectable level. The Year 2020 analysis, "without project" and "with project" implementation, included in the Traffic Analysis were modeled using the Caltrans Sound32 noise prediction model. The "with project" noise levels are compared with year 2020 "without project" levels and also the existing levels. Note that the project will contribute less than 3 dBA to the year 2020 "without project" levels and any direct impact is less than significant. Furthermore, in some cases, the project would create a redistribution of traffic that would remove vehicles from the existing roadways resulting in a net reduction in noise.

Table 10: Existing, Year 2020 Without, and Year 2020 With Project CNEL Noise Levels within the Project Area[1]

Location	Existing CNEL dBA @ 50 Feet	Year 2020 Without Project ADT	Year 2020 Without Project CNEL dBA @ 50 Feet	Year 2020 With Project ADT	Year 2020 With Project CNEL dBA @ 50 Feet	Increase (Decrease) Over Without Project CNEL (dBA)
Walnut Avenue						
Redhill - Browning	66.9	18,000	67.7	14,000	66.6	(1.1)
Browning - Tustin Ranch	68.2	21,000	68.7	18,000	69.0	(0.7)
Tustin Ranch - Jamboree	66.4	12,000	67.2	13,000	67.6	0.4
Edinger Avenue						
Redhill - Browning	70.2	44,000	74.0	55,000	75.0	1.0
Browning - Tustin Ranch	72.3	38,000	75.5	49,000	76.6	1.1
Tustin Ranch - Myford	72.3	38,000	75.5	35,000	75.1	(0.4)
Myford - Jamboree	72.3	43,000	76.0	37,000	75.4	(0.6)
Redhill Avenue						
Edinger - Sycamore	72.1	42,000	72.7	30,000	71.2	(1.5)
Sycamore - Walnut	71.9	43,000	72.8	31,000	71.3	(1.5)
Walnut - I-5	72.2	49,000	73.3	43,000	72.8	(0.5)
Tustin Ranch Road						
Walnut - I-5	70.2	25,000	71.6	44,000	74.0	2.4
Jamboree Road						
Irvine Center - Walnut	76.8	121,000	81.5	102,000	80.7	(0.8)
Walnut - I-5	76.9	59,000	78.4	53,000	77.9	(0.5)

[1] As measured from the centerline of the road. Distances based on soft site modeling.

Impacts at Adjacent Receptors. An impact could also be significant if the project creates a new source of ambient noise that exceeds a level of 65 dBA CNEL, the level designated as compatible with residential land uses, at the adjacent sensitive receptor locations. As with the year 2005 analysis, traffic volumes along the Tustin Ranch Extension were modeled using the Sound32 noise model for the 20 residential receptors that lie immediately adjacent to the roadway's western easement, and for

the church and proximate offices along the eastern side of the alignment. The analysis examines the projected noise levels without any walls, with the existing residential walls, and with 6, 8, 10, and 12-foot-high sound walls placed along the edge of the proposed roadway. These results of this analysis are included in Table 11. Receptors are numbered from the north to the south.

Modeling indicates that in the absence of any walls, project-generated noise could be on the order of 70 to 73 dBA CNEL at the residential receptor locations. The presence of the existing walls would reduce these exterior noise levels to approximately 65 and 70 dBA CNEL (interior noise levels of 50 to 55 dBA CNEL). Again, the greatest level of attenuation associated with the existing walls is toward the northern portion of the project area whereas homes to the south benefit more from a wall placed along the side of the road.

In this case, the roadside wall would need to be approximately 12 feet in height relative to Receptors 2 and 4 to reduce noise to less than the 65 dBA CNEL exterior noise standard. The 12-foot high section need not run the length of the project but would need to be placed along the entirety of the back of the Receptors 2 (2361 Fig Tree), 3, (2362 Fig Tree) and 4 (2351 Basswood). The wall could transition from 6 feet at its north end to this 12-foot height, then back down to 10 feet to the south of the Receptor 4, transitioning smoothly down to 6 feet south of Receptor 8. Such a wall would reduce exterior noise such that no receptors would be exposed to roadway noise levels in excess of 65 dBA CNEL.

Table 11: Projected CNEL Noise Levels at Proximate Receptor Locations[1]

Receptor	Distance from Road (Feet)[2]	Year 2020 CNEL (dBA)					
		Without Walls/ Second Story[3]	Existing Walls	6 Foot Wall	8 Foot Wall	10 Foot Wall	12 Foot Wall
1	60	71.6	64.6	64.6	64.6	64.2	63.2
2	17	73.2	66.7	66.7	66.7	66.1	63.9
3	33	72.1	65.6	65.6	65.6	64.9	63.1
4	27	72.3	66.0	66.0	66.0	65.2	63.1
5	37	71.7	65.5	65.4	65.4	64.3	62.2
6	29	72.1	66.4	66.4	65.8	64.0	61.9
7	38	71.6	66.1	66.0	64.8	62.8	61.2
8	23	71.5	67.5	65.7	63.7	61.6	60.0
9	42	71.5	67.0	64.4	62.8	61.1	59.5
10	71	70.4	66.5	63.1	61.6	60.0	58.5
11	33	72.2	67.8	63.4	61.5	59.8	58.4

Table 11 (Cont.): Projected CNEL Noise Levels at Proximate Receptor Locations[1]

Receptor	Distance from Road (Feet)[2]	Year 2020 CNEL (dBA)					
		Without Walls/ Second Story[3]	Existing Walls	6 Foot Wall	8 Foot Wall	10 Foot Wall	12 Foot Wall
12	42	71.9	68.2	62.4	60.6	59.1	57.8
13	55	71.3	68.8	60.2	58.6	57.3	56.3
14	28	72.7	66.3	58.4	57.3	56.4	55.8
15	85	70.0	69.9	59.1	57.6	56.4	55.3
16	56	71.1	69.6	57.7	56.5	55.5	54.7
17	57	70.9	69.7	57.2	56.1	55.2	54.5
18	78	70.0	70.1	57.2	55.9	54.9	54.1
19	75	70.0	70.0	56.4	55.3	54.4	53.7
20	75	69.9	69.8	56.0	55.0	54.1	53.4
First Baptist Church	56	70.7	70.7	66.6	65.3	64.1	62.9
Offices	106	68.5	68.5	65.4	65.1	64.8	64.7

[1] Noise values for residential structures are presented in terms of the CNEL while the church and offices are expressed in terms of Leq(12).
[2] As measured at a distance of 5 feet out from the closest point of the structure for residential units.
[3] Due to their elevation above grade, no wall (existing or proposed) attenuation is assumed for second story receptors.

Significant interior noise impacts would occur at Receptors 1 through 13 with the proposed 6-foot high or greater soundwalls along the west side of Tustin Ranch Road. Receptors 14 through 20 would experience exterior noise levels of less than 60 dBA CNEL, and therefore interior noise levels without windows closed would be 45 dBA CNEL or less.

SECTION 6
MITIGATION

The analysis indicates that the project could result in noise levels above the City standards at receptors located along the proposed alignment. Table 11 presents wall heights that would reduce exterior noise levels to less than the City's exterior noise standard of 65 dBA CNEL for the residents to the west. If these units are equipped with forced air ventilation, the interior noise levels would be reduced to less than significant for ground level habitable rooms. As noted in the table, those (if any) units that do not have forced air ventilation would also require that it be installed to maintain an interior standard of 45 dBA CNEL. Under these circumstances, a wall height of 12 feet relative to the roadway surface would mitigate these impacts to less than significant. Also as noted in the discussion, the 12-foot wall need not run the length of the project. The 12-foot high section only needs to be placed along the entirety of the back of the Receptors 2 (2361 Fig Tree), 3, (2362 Fig Tree), and 4 (2351 Basswood). The wall can transition from 6 feet at its north end to this 12-foot height, then back down to 10 feet to the south of the Receptor 4, transitioning smoothly down to 6 feet south of Receptor 8. Such a wall would reduce noise such that no receptors would be exposed to exterior noise levels in excess of 65 dBA CNEL. Any additional extension of the higher sections (e.g., for aesthetics) would further reduce noise at the receptors.

Regardless of whether the exterior of the first floor is mitigated to 65 dBA CNEL, additional attenuation would be required to protect second-story habitable rooms. Without any walls, modeling shows noise levels of about 70 to 73 dBA at the residents and similar levels would be anticipated for the second-floor regardless of the presence of a wall. Assuming a conservative attenuation factor of 20 dBA for residential structures, interior noise levels could be from 50 to 53 dBA CNEL for those habitable second-story rooms that face the proposed alignment. Mitigation would be required to reduce interior habitable space to no more than 45 dBA CNEL. As noted, typical residential construction provides a minimum of 20 dBA of attenuation with windows closed. The following measures would increase this attenuation and reduce this potential impact to less than significant:

- All second-story windows and/or sliding glass doors in habitable rooms that view the proposed alignment shall be fitted with acoustic-rated window/door assemblies. These assemblies shall have a sound transmission class (STC) rating of no less than 35 and the STC shall be high enough to achieve an interior noise level of no more than 45 dBA CNEL. Non-sensitive uses (e.g., bathrooms) do not require such assemblies.
- All second-story exterior doors in habitable rooms that view the proposed alignment shall be fitted with solid-core assemblies that are well sealed with weather-stripping.

- If not already in-place, all impacted residences shall be equipped with forced air ventilation thereby allowing windows and doors to remain closed.

Mitigation is also required for the church located to the east. The Sound32 noise model indicates that a 10-foot high wall placed along the eastern easement could reduce ground-level noise to less than the City's 45 dBA Leq(12) threshold for churches and schools. However, structural modifications such as sound-rated windows may be required to reduce second-story interior noise levels to less than the City standard. Such windows should have a sound transmission class (STC) of no less than 35.

SECTION 7
REFERENCES

Caltrans, Sound32 Noise Prediction Model, Release 07/30/91

Caltrans, *Technical Analysis Notes*, March 13, 1991

Caltrans, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, October 1998

Caltrans, *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects*, October 1998

City of Tustin, *City of Tustin General Plan Noise Element*, January 16, 2001

City of Tustin, *Final Environmental Impact Statement (FEIS)/ Final Environmental Impact Report (FEIR) for the Disposal and Reuse of the Marine Corp Air Station (MCAS) Tustin, Tustin and Irvine California*, December 1999

City of Tustin, *Tustin City Code, Chapter 6, Noise Control*, January 1996

US Department of Housing and Urban Development, A Guide to HUD Environmental Criteria and Standards Contained in 24 CFR Part 51, August 1984

US Department of Housing and Urban Development, *The Noise Guidebook*, March 1985

U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, Bolt, Beranek, and Newman, 1971

Appendix E: Final EIS/EIR Alternative 1 Environmental Consequences for Traffic/Circulation, Air Quality and Noise

4.12 TRAFFIC/CIRCULATION

The principal resource for the preparation of the Traffic/Circulation section of this EIS/EIR is the *Marine Corps Air Station (MCAS) Tustin Disposal and Reuse Traffic Study* (Austin-Foust 1999), which is included as Appendix F to this EIS/EIR.

4.12.1 Significance Criteria

As defined by CEQA, vehicle traffic impacts would be significant if disposal or reuse of MCAS Tustin would result in any of the following conditions:

- Cause an increase in traffic which is substantial in relation to the traffic load anticipated without the proposed reuse and capacity of the planned street system, i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or the intersection capacity utilization.

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.

Impacts to public transportation systems and bikeways would be significant if disposal or reuse of MCAS Tustin would degrade the operations of a system or would prevent planned improvements to a system.

4.12.2 DON Disposal of MCAS Tustin

Impacts and Mitigation

DON disposal of MCAS Tustin, which would involve a transfer of title, would not have a significant traffic or circulation impact. Disposal would not generate vehicular trips, add use to any transportation or bikeway system, or impede the planned improvement of any transportation system. No mitigation would be required.

4.12.3 Alternative 1

Traffic Impacts

Traffic Analysis Methodology

Traffic impacts for Alternative 1 are analyzed by comparing the intersection and mid-block operating parameters for the forecast Alternative 1 traffic conditions with the same parameters for the traffic conditions without Alternative 1. These comparisons have been completed for three time periods: Existing, 2005, and 2020. Traffic conditions for the post-2020 period are also discussed, but they have not been compared with a without-reuse set of data. Traffic forecasting methodology, development of the modeled roadway systems for each time period, and without-reuse operating conditions are described in Section 3.12 of this EIS/EIR.

Where appropriate, the intersection analyses consider the existing or planned use of ATMS. The ATMS program involves a variety of actions such as camera surveillance and centralized system control, and it is part of the traffic signal system improvements planned for implementation by the City of Tustin and other Orange County jurisdictions over time. The City of Irvine implements ATMS measures for certain intersections, including all of the intersection locations within the IBC. A conservative 0.05 reduction in ICU was used for ATMS improvements at individual locations. The ATMS credit of 0.05 for IBC locations and for locations in Irvine identified as ATMS intersections are not shown in the ICU tables, but have been included in the analysis.

The quantitative determination of significant impacts was made by the application of the performance standards of Table 4.12-1.

Table 4.12-1
Significant Impact Quantitative Standards

Roadway Element	Acceptable performance LOS (or better)	Acceptable Performance V/C or ICU	Acceptable Increase when ICU without proposed action is Unacceptable
CMP intersections	E	≤1.00	≤0.03
IBC intersections	E	≤1.00	≤0.01
CMP freeway ramp intersections	E	≤1.00	≤0.03
All other intersections	D	≤0.90	≤0.01
Mid-block lanes	D	≤0.90	Not applicable

Trip Generation

The traffic analysis for the reuse alternatives is based on the trip generation characteristics of the land uses in each of the alternatives. Trip generation is calculated from the amount and type of proposed land use, and requires a quantification of the land use into designated units (e.g., square feet of floor area, number of dwelling units, etc). The land use areas used for trip generation calculations are shown in Figure 2-1 of this EIS/EIR. The land uses assumed for 2005 are based on the projected land use absorption by 2005. The forecast trip generation for Alternative 1 is ~~108,452~~ 109,804 ADT at the interim stage of development in 2005, and ~~215,093~~ 216,445 ADT at buildout in 2020. The detailed trip generation analysis is included in Appendix F to this EIS/EIR (bound separately). A summary of the trip generation for Alternative 1 is shown in Table 4.12-2.

Reuse Plan Area Roadway Network

The proposed roadway network for Alternative 1 is shown in Figure 4.12-1. The roadway system on site would be oriented around a southwesterly extension of Tustin Ranch Road, which would connect with Von Karman Avenue; extensions of Warner Avenue to provide a through roadway; and the North Loop Road and South Loop Road. Warner Avenue would be discontinuous if the southern blimp hangar is retained, and hence alternate alignments for Tustin Ranch Road and Warner Avenue are also shown. Right-of-way and/or design improvements would be made to Landsdowne , Severyns, and Marble Mountain roadways on site, and to Red Hill Avenue, Barranca Parkway, Harvard Avenue, and Edinger Avenue adjacent to the site. A discussion of the timing of, and responsibility for, the improvements is included in Section 7.2.11 of this EIS/EIR. Amendments to the County MPAH would be made for all roadways classified as Major, Primary Arterials, and Secondary Arterials.

Trip Distribution

The distribution of traffic generated by Alternative 1 is shown in Figure 4.12-2. The percentage of trips is shown on roadway segments with two percent or more of the project-generated trips; segments with no value shown would have one percent or less reuse plan area trips. The trip distribution is determined by the traffic model and the interaction of proposed reuse plan area land uses with each other and with the surrounding land uses. Traffic volumes generated for individual roadways, calculated by combining the trip generation and the trip distribution, would not be directly added to existing or projected traffic volumes on the roadways. Interaction between the reuse plan area land uses and the surrounding land uses would result in a redistribution of traffic which may be

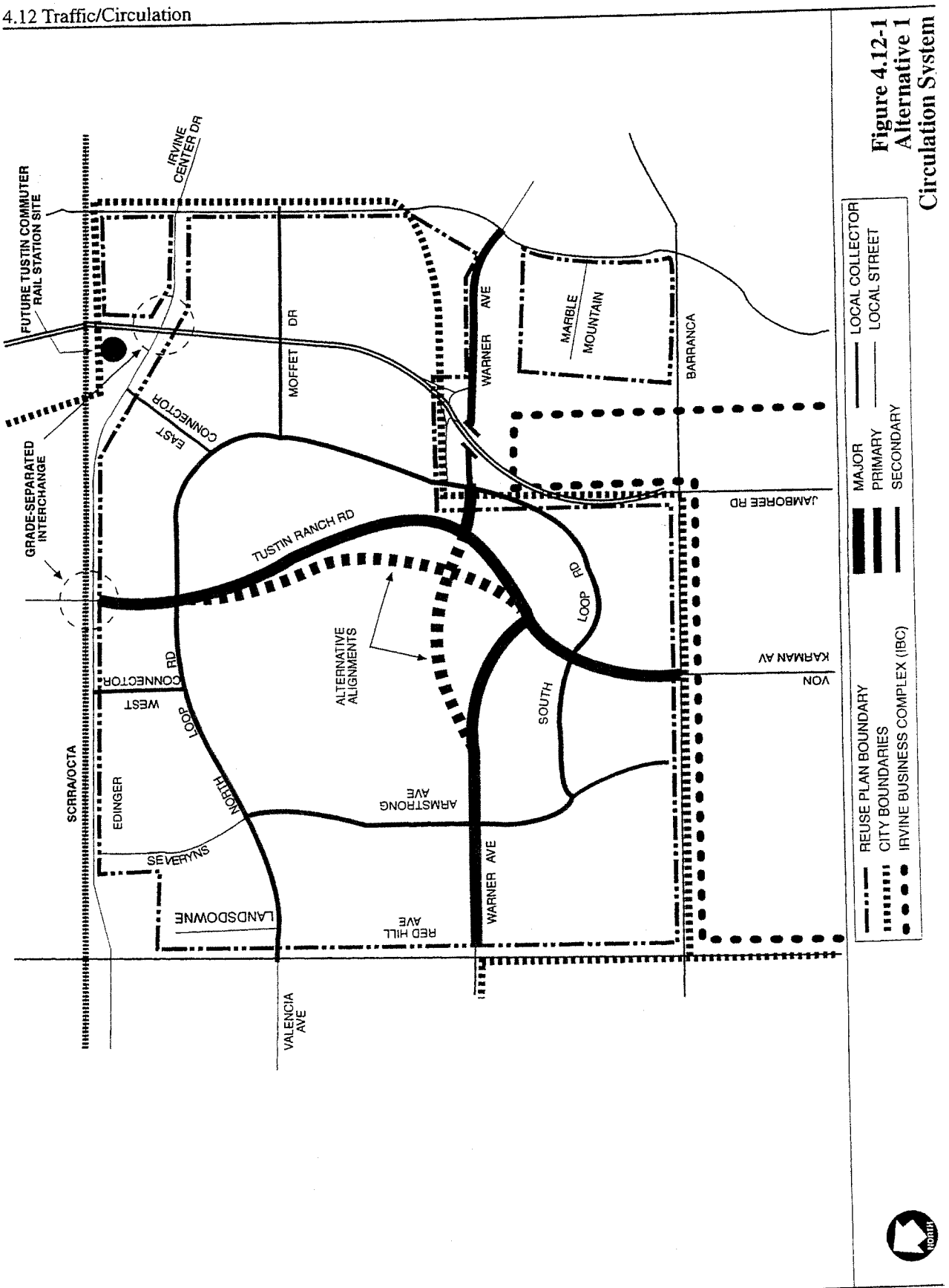


Figure 4.12-1
Alternative 1
Circulation System

summarized as follows: as land uses within the reuse plan area develop over time, travel patterns in the surrounding area would evolve in relation to those land uses. Future residents in the surrounding area would make daily trips within and around the reuse plan area (for school, convenience shopping, etc.), which would be included in the 12 percent internal distribution shown in Figure 4.12-2. Residents would also travel to activity centers such as the IBC and the Santa Ana business and industrial areas for work trips and major shopping trips. The commercial land uses in the reuse plan area would attract trips from the surrounding residential area. It is assumed that no changes would occur to the surrounding land uses and trip generation as a result of the reuse. However, the trips that are already being generated by those land uses may be redirected to or intercepted by the land uses within the reuse plan area. The trip patterns are derived by the traffic model by considering all future land uses in the region.

Impact Analysis

Alternative 1 Plus Existing

"Stand-alone" impacts were determined by superimposing the full development onto existing traffic conditions (1997), which is representative of the baseline. For this analysis, no modifications or additions were assumed to the existing circulation system outside the reuse plan area. ADT volumes and a complete listing of ICU values for intersections and freeway ramps for this analysis are included in Appendix F. Tables 4.12-3 and 4.12-4 list the arterial intersections and freeway ramp intersections where significant impacts would occur under the existing plus Alternative 1 scenario. The locations are shown in Figure 4.12-3. The analysis also indicates that the redistribution of traffic would result in the improvement of one intersection, Jeffrey Road and I-405 northbound ramps in the City of Irvine, from an unacceptable LOS E to an acceptable LOS D under this alternative.

This Alternative 1 plus existing analysis is the worst case scenario and is not realistic for the following reasons: (1) Alternative 1 would not be built all at once, (2) the circulation system outside the reuse plan area would be improved by others in accordance with existing plans; and (3) the proposed action would contribute to off-site improvements as it was developed over time.

Interim Development - 2005

An interim level of development on the site has been analyzed in the year 2005 time frame. The purpose of this 2005 analysis is to determine the type of transportation improvements that would be needed to support phased development of the site. Internal reuse plan area roadways, shown on

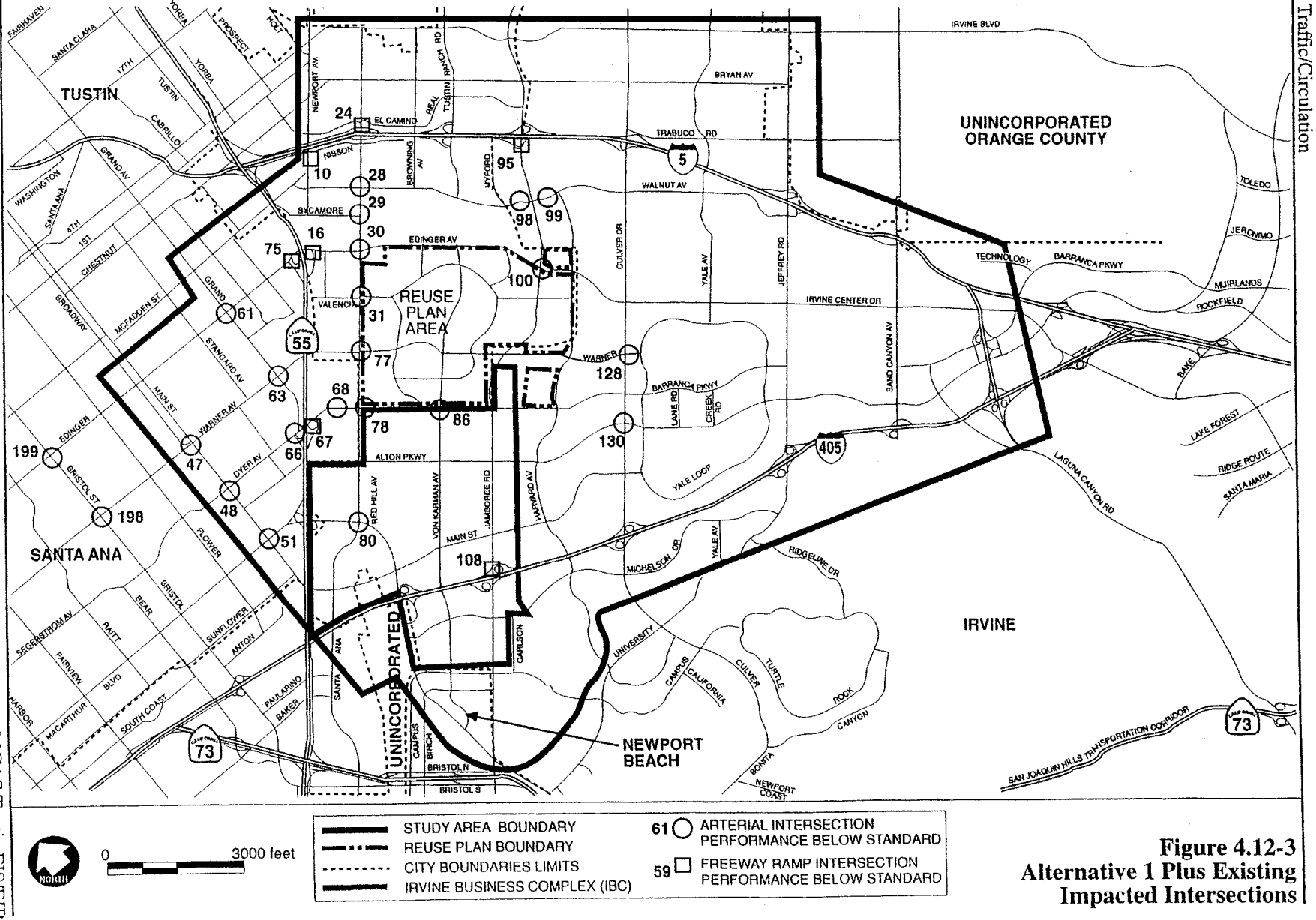


Figure 4.12-3
Alternative 1 Plus Existing Impacted Intersections

Table 4.12-3
Alternative 1 Plus Existing Impacted Arterial Intersections Summary

Location	Without Reuse		With Alt. 1		Difference		Impacts	
	AM	PM	AM	PM	AM	PM	AM	PM
Tustin								
28. Red Hill & Walnut[2]	.97	.89	1.26	1.09	.29	.20	c	p
29. Red Hill & Sycamore[2]	.94	.80	1.36	1.04	.42	.24	c	p
30. Red Hill & Edinger[2]	.83	1.00	1.20	1.59	.37	.59	p	c
31. Red Hill & Valencia[2]	.71	.68	.93	1.02	.22	.34	p	p
100. Jamboree & Edinger[2]	.79	.82	.87	1.07	.08	.25	–	p
Tustin/Santa Ana								
77. Red Hill & Warner[2]	.63	.59	1.54	1.98	.91	1.39	p	p
Tustin/Irvine								
86. Von Karman & Barranca[1]	.57	.79	1.19	1.08	.62	.29	p	p
Tustin/Irvine/Santa Ana								
78. Red Hill & Dyer/Barranca[1, 2]	.83	.75	1.09	.93	.26	.18	p	–
Santa Ana								
47. Main & Warner	.76	.88	.90	1.02	.14	.14	–	p
48. Main & Dyer	.64	.88	.66	.91	.02	.03	–	p
51. Main & MacArthur	.66	.90	.68	.92	.02	.02	–	p
61. Grand & Edinger[2]	.71	.88	.77	.95	.06	.07	–	p
63. Grand & Warner[2]	.54	.75	1.09	1.10	.55	.35	p	p
66. Grand & Dyer[2]	.62	.82	.75	.97	.13	.15	–	p
68. Pullman & Dyer[2]	.48	.73	.76	1.06	.28	.33	–	p
198. Bristol & Warner	.85	.91	.92	.92	.07	.01	p	–
199. Bristol & Edinger	1.13	.98	1.15	.93	.02	–	c	–
Irvine								
80. Red Hill & MacArthur[1]	.78	1.01	.97	1.15	.19	.14	–	c
98. Jamboree (Southbound) & Walnut	.93	.60	1.15	.76	.22	.16	c	–
99. Jamboree (Northbound) & Walnut	.37	.80	.41	.94	.04	.14	–	p
128. Culver & Warner	.74	.67	.76	.96	.02	.29	–	p
130. Culver & Alton	.90	.88	.91	.87	.01	–	p	–

p - project causes deficiency
c - project contributes to deficiency
[1] IBC intersection - credit of .05 for ATMS included in the analysis but not reflected in the ICUs
[2] TSIA intersection
LOS/ICU equivalents: A/≤0.60; B/0.61-0.70; C/0.71-080; D/0.81-0.90; E/0.91-1.00; F/≥1.00

Table 4.12-4
Alternative 1 Plus Existing Freeway Ramp Intersection Impact Summary

Location	Without Reuse		With Alt. 1		Difference		Impacts	
	AM	PM	AM	PM	AM	PM	AM	PM
Tustin								
10. Newport & I-5 Southbound/Nisson[3]	.76	.78	1.00	.86	.24	.08	p	–
16. SR-55 Northbound Ramps & Edinger[2, 3]	.66	.68	1.01	1.22	.35	.54	p	p
24. Red Hill & I-5 Northbound Ramps[3]	.74	.83	.78	1.02	.04	.19	–	p
Santa Ana								
67. SR-55 Northbound Ramps & Dyer[3]	.70	.83	.97	1.43	.27	.60	–	p
75. SR-55 Southbound Ramps & Edinger[2, 3]	.77	.98	.74	1.08	–	.10	–	c
Irvine								
95. Jamboree & I-5 Southbound Ramps[2]	.93	.71	1.13	.78	.20	.07	p	–
108. Jamboree & I-405 Northbound Ramps[1, 2]	1.21	1.06	1.31	1.09	.10	.03	c	c

p - project causes deficiency
c - project contributes to deficiency
[1] IBC intersection - credit of .05 for ATMS included in the analysis but not reflected in the ICUs
[2] CMP monitored intersection
[3] TSIA intersection
LOS/ICU equivalents: A/≤0.60; B/0.61-0.70; C/0.71-080; D/0.81-0.90; E/0.91-1.00; F/≥1.00

Figure 4.12-4, were assumed to be constructed as development occurs in accordance with the Phasing Plan described in Section 7.2.11 of this EIS/EIR. Off-site improvements assumed are those indicated as committed for 2005, as described in Section 3.12 of this EIS/EIR. The 2005 analysis also addresses the requirements of the Growth Management Plan (GMP) and the CMP.

ADT volumes, a complete listing of ICU values for intersections and freeway ramp intersections, and peak hour mid-block link volume data for this analysis are included in Appendix F. Tables 4.12-5 and 4.12-5a lists the arterial and freeway ramp intersections where significant impacts would occur under the interim development scenario. The locations are shown in Figure 4.12-4. The analysis also indicates that the redistribution of traffic would result in the improvement of one intersection, Harvard Avenue and Michelson Drive in the City of Irvine, from an unacceptable LOS E to an acceptable LOS D with Alternative 1. There would be no significant impacts at freeway ramp intersections. The analysis of mid-block lane capacity showed that no significant impacts would occur under this alternative.

Buildout - 2020

The analysis of traffic impacts for 2020 uses the trip generation and reuse plan area roadway system for the fully developed Alternative 1. The off-site roadway system is assumed to be the 2020

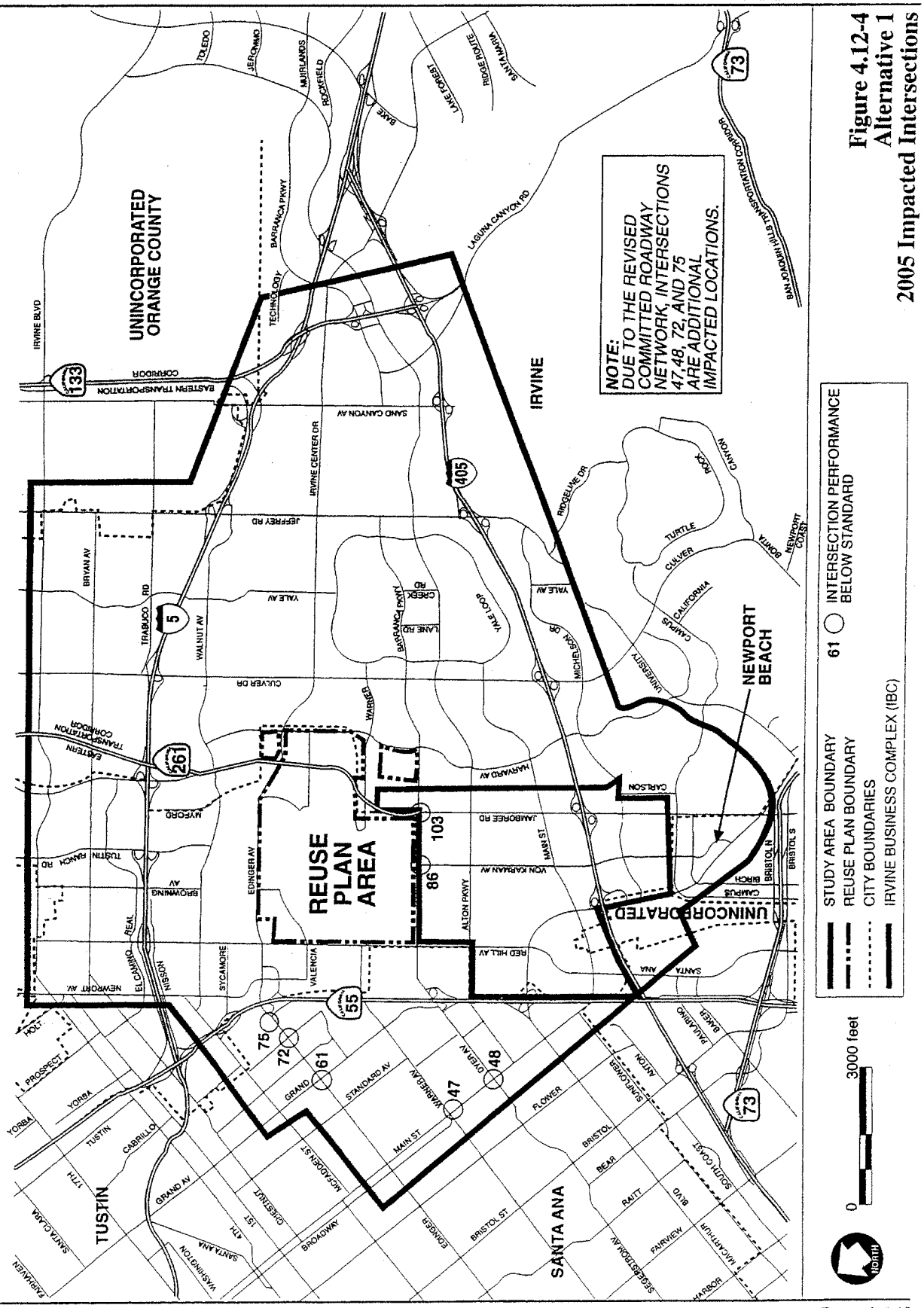


Figure 4.12-4
Alternative 1
2005 Impacted Intersections

Table 4.12-5
Alternative 1 2005 Impacted Intersections Summary

Location	Without Reuse		With Alt. 1		Difference		Impact	
	AM	PM	AM	PM	AM	PM	AM	PM
Tustin/Irvine								
86. Von Karman & Barranca[1]	.63	.95	.62	1.07	–	.12	–	p
103. Jamboree & Barranca[1,2]	.76	.97	.82	1.08	.06	.11	–	p[3]
Santa Ana								
47. Main & Warner	.74	1.05	.79	1.08	.05	.03	–	c
48. Main & Dyer	.79	1.03	.79	1.06	.00	.03	–	c
61. Grand & Edinger[2]	.82	.90	.85	.95	.03	.05	–	p
72. Ritchey & Edinger[2]	.52	.87	.52	.92	.00	.05	–	p

p - project causes deficiency
c - project contributes to deficiency
(1) IBC intersection - credit of .05 for ATMS included in the analysis but not reflected in the ICUs
(2) TSIA intersection
(3) Currently unidentified future improvements will be made to this intersection to maintain an acceptable level of service to be agreed to by the cities of Tustin and Irvine for baseline conditions pursuant to the TCA, Tustin and Irvine 1998 MOA. Only when these improvements are included in the ICU calculations can the impact of reuse be identified. Therefore, impacts from reuse may be overstated, difficult to quantify at this time and could be less at this location because of unknown improvements.
LOS/ICU equivalents: A/≤0.60; B/0.61-0.70; C/0.71-080; D/0.81-0.90; E/0.91-1.00; F/≥1.00

Table 4.12-5a
Alternative 1 2005 Impacted Freeway Ramp Intersections Summary

Location	Without Reuse		With Alt. 1		Difference		Impact	
	AM	PM	AM	PM	AM	PM	AM	PM
Santa Ana								
75. SR-55 SB Ramps & Edinger[1]	.88	1.19	.90	1.27	.02	.08	-	c

c - project contributes to deficiency
(1) CMP monitored and TSIA intersection
LOS/ICU equivalents: A/≤0.60; B/0.61-0.70; C/0.71-080; D/0.81-0.90; E/0.91-1.00; F/≥1.00

committed network as described in Section 3.12 of this EIS/EIR. ADT volumes, a complete listing of ICU values for intersections and freeway ramp intersections, and peak hour mid-block link volume data for this analysis are included in Appendix F. Tables 4.12-6 ~~and 4.12-7~~ lists the arterial intersections ~~and freeway ramp intersections~~ where significant impacts would occur under the full buildout scenario. The locations are shown in Figure 4.12-5. The analysis also indicates that there would be two intersections improved from unacceptable to acceptable operations when compared

Table 4.12-6
Alternative 1 2020 Impacted Intersections Summary

Location	Without Reuse		With Alt. 1		Difference		Impact	
	AM	PM	AM	PM	AM	PM	AM	PM
Tustin								
15. Newport & Edinger[3]	.85	.87	.90	.91	.05	.04	–	p
30. Red Hill & Edinger[3]	.75	.88	.83	.93	.08	.05	–	p
42. Tustin Ranch & Walnut	.84	.89	1.11	1.07	.27	.18	p	p
Tustin/Santa Ana								
77. Red Hill & Warner[3]	.50	.46	.90	.96	.40	.50	–	p
Tustin/Irvine								
86. Von Karman & Barranca[1]	.61	.77	.90	1.01	.29	.24	–	–[2]
103. Jamboree & Barranca[1,3]	.83	1.15	1.01	1.22	.18	.07	–	c[4]
Santa Ana								
~~48. Main & Dyer~~	~~.81~~	~~1.10~~	~~.80~~	~~1.15~~	–	~~.05~~	–	c
53. Hutton Centre & MacArthur	.73	.91	.72	.93	–	.02	–	c
61. Grand & Edinger[3]	~~.98~~ .75	~~1.05~~ .84	~~1.03~~ .80	~~1.15~~ .96	– .05	~~.10~~ .12	c –	c p
63. Grand & Warner[3]	~~.61~~ .57	~~.90~~ .71	~~.85~~ .80	~~1.02~~ .96	~~.24~~ .23	~~.12~~ .25	–	p
66. Grand & Dyer[3]	~~.73~~ .66	~~.97~~ .94	~~.72~~ .72	~~1.09~~ 1.04	– .06	~~.12~~ .10	–	c
70. Lyon & Edinger[3]	.86	.97	.90	1.02	.04	.05	–	c
~~198. Bristol & Warner~~	~~.88~~	~~1.01~~	~~.93~~	~~.98~~	~~.05~~	–	p	–
202. Standard & Edinger	.80	.95	.89	.98	.09	.03	–	c
Irvine								
81. Red Hill & Main[1]	.70	.99	.76	1.15	.06	.16	–	p
89. Von Karman & Michelson[1]	.68	1.07	.85	1.14	.17	.07	–	c
106. Jamboree & Alton[1]	.94	1.01	.91	1.06	–	.05	–	p
118. Harvard & Alton	.85	.89	.94	.88	.09	–	p	–
128. Culver & Warner	.79	.79	.83	.99	.04	.20	–	p
Irvine/Santa Ana								
79. Red Hill & Alton[1]	.68	1.01	.72	1.03	.04	.02	–	–[2]

p - project causes deficiency
c - project contributes to deficiency
[1] IBC intersection - credit of .05 for ATMS included in the analysis but not reflected in the ICUs
[2] Location identified in City of Irvine as an ATMS intersection which discounts the AM and PM peak hour ICUs by .05; therefore there is no project impact at this location.
[3] TSIA intersection
[4] Currently unidentified future improvements will be made to this intersection to maintain an acceptable level of service to be agreed to by the cities of Tustin and Irvine for baseline conditions pursuant to the TCA, Tustin and Irvine 1998 MOA. Only when these improvements are included in the ICU calculations can the impact of reuse be identified. Therefore, impacts from reuse may be overstated, difficult to quantify at this time and could be less at this location because of unknown improvements.

LOS/ICU equivalents: A/≤0.60; B/0.61-0.70; C/0.71-080; D/0.81-0.90; E/0.91-1.00; F/≥1.00

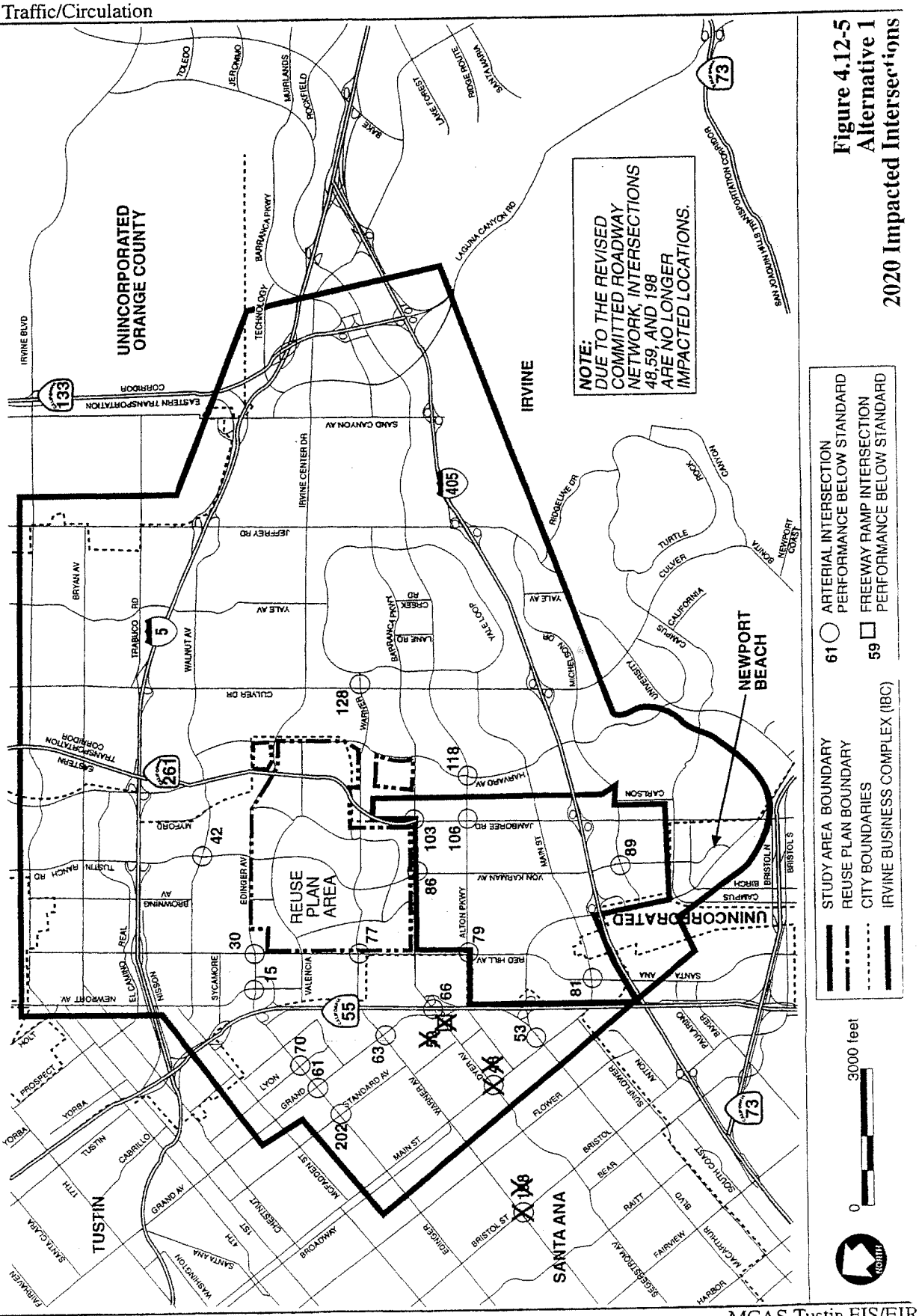


Figure 4.12-5
Alternative 1
2020 Impacted Intersections

~~Table 4.12-7~~
~~Alternative 1 2020 Impacted Freeway Ramp Intersections Summary~~

~~Location~~	~~Without Reuse~~		~~With Alt. 1~~		~~Difference~~		~~Impact~~	
	~~AM~~	~~PM~~	~~AM~~	~~PM~~	~~AM~~	~~PM~~	~~AM~~	~~PM~~
~~Santa Ana~~								
~~59. Hotel Terrace/SR-55 & Dyer[1]~~	~~.68~~	~~.87~~	~~.74~~	~~.94~~	~~.06~~	~~.07~~	~~-~~	~~p~~

~~p = project causes deficiency~~
~~[1] TSIA intersection~~

with the 2020 baseline. The analysis of mid-block lane capacity showed that no significant impacts would occur under this alternative.

Public Transit Impacts

The development proposed for Alternative 1 would impact public transit in Orange County by creating additional demand for transit service. At the same time, the new arterial roadways through the reuse plan area would provide opportunities for future bus routing, serving persons residing and working in the reuse plan area. The new routes would likely provide improved service, with more direct routes for riders not associated with the reuse plan area.

OCTA prepares regular updates of the countywide transit system. Each reuse phase of development would be included as part of that update program so that the potential impacts and opportunities related to reuse would be addressed with each system update.

Implementation of Alternative 1 would not result in any changes to the rail system. However, the proposed commuter rail station planned near the corner of Jamboree Road and Edinger Avenue, an action separate from the proposed reuse, would provide public transit opportunities to residents and workers in the reuse plan area.

Pedestrian and Bicycle Impacts

Development of new roadways in the reuse plan area would provide an opportunity to enhance the bikeway system, providing additional segments and greater connectivity. No specific significant bicycle impacts of Alternative 1 have been identified, and the added bike trails would provide an overall benefit to the county bike trail system.

No pedestrian impacts have been identified for this alternative.

Construction Impacts

Traffic impacts due to construction would occur as a result of development of the site. The primary activities generating construction traffic would be roadway construction, site development, and other infrastructure development (water, sewer, etc.). The magnitude of the impacts would depend on the type and location of such activities, and would be monitored by City of Tustin administrative procedures for such activities. Possible significant impacts could include lane closures with short-term disruption to the public. ~~Such procedures may~~ Measures to minimize conflicts could include designated routes and times for heavy trucks (i.e., major roadways only and avoiding peak hours). The procedures should be coordinated with neighboring jurisdictions that would be affected.

Mitigation Measures

The following mitigation measures would avoid significant traffic impacts or minimize significant impacts at intersections in the study area in the interim development year 2005. However, at buildout (2020), after mitigation, the intersections of Tustin Ranch Road/Walnut Avenue and Jamboree Road/Barranca Parkway would operate at LOS E and F, respectively. The Tustin Ranch Road/Walnut Avenue intersection would experience this condition even after mitigation. For the Jamboree Road/Barranca Parkway intersection, there is no identifiable mitigation. No mitigation would be necessary for public transit, pedestrian, or bicycle movement as there would be no significant impacts.

Mitigation measures for the traffic impacts of Alternative 1 would add lanes or change lane movements to increase capacity and would implement ATMS improvements to increase operating efficiency. At individual intersections, either or both types of improvements may be specified. The addition of lanes and the modification of lane movements may be accomplished by restriping or by construction. As noted above, an ICU reduction of .05 is taken for ATMS at IBC locations and at locations in Irvine identified as ATMS intersections. In addition, mitigation measures in 2005 would provide a new access into the reuse area from Warner Avenue, west of Jamboree Road. It should be noted that mitigation for intersection #86 (Von Karman Avenue and Barranca Parkway) is an interim improvement only and is not necessary for 2020. If subsequent studies demonstrate that trips would not be generated, or impacts would be different than those projected in this EIS/EIR, the mitigation measures may be modified, subject to the approval of the City of Tustin and any other affected jurisdictions, provided that mitigation to the same ~~ICU value~~ level of service would be provided.

~~No specific mitigation measures are warranted for the stand-alone analysis because of the hypothetical nature of that evaluation; that is, immediate full buildout with no change of external conditions is not a feasible development scenario.~~

Construction

T/C-1 In conjunction with the approval of a site development permit, the City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan within Irvine), shall require each developer to provide traffic operations and control plans that would minimize the traffic impacts of proposed construction activity. The plans shall address roadway and lane closures, truck hours and routes, and notification procedures for planned short-term or interim changes in traffic patterns. The City of Tustin and the City of Irvine, as applicable, shall ensure that the plan would minimize anticipated delays at major intersections. Prior to approval, the City of Tustin or the City of Irvine, as applicable shall review the proposed traffic control and operations plans with any affected jurisdiction.

~~Interim~~ Development ~~= 2005~~

T/C-~~1~~2 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), shall ensure that the arterial intersection improvements required in 2005 and 2020 and as indicated in Tables 4.12-~~7~~8 and 4.12-9 are implemented for their respective jurisdictions according to the cumulative ADT thresholds identified in each table and according to the fair share basis noted. The ADT threshold represents the traffic volume which would result in an impact and the fair share percentage reflects the percent of the traffic impact resulting from the reuse generated traffic. In some cases, reuse traffic would generate 100 percent of the impact, thereby assuming full financial responsibility for the identified improvements. In other cases, reuse traffic would generate only a fraction of the traffic impacting the intersection and financial responsibility would correspond.

T/C-3 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), shall contribute, on a fair share basis, to improvements to freeway ramp intersections as listed in Table 4.12-~~8~~10. The method of implementing ~~nature of~~ the improvements, e.g., restriping, ramp widening, shall ~~would~~ be based on ~~the subject of~~ special design studies, in association with Caltrans.

Table 4.12-87
Alternative 1 2005 Mitigation ~~Lanes~~ for Impacted Arterial Intersections

Location		Southbound			Westbound			Northbound			Eastbound			Impact		Result		Implementation Threshold Cumulative ADT	Project Share[5] Percent
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM		
Tustin/Irvine																			
86. Von Karman & Barranca[1][4]	Base	–	–	–	2	3	–	2	–	1	–	3	d	–	p	[illegible]	ma	102,.000	100
	Mit.	–	–	–	2	3	–	2	–	2	–	3	d						
103. Jamboree & Barranca[1, 2, 3]	Base	2	4	f	2	3	f	2	4	f	2.5	2.5	1	–	[6]	[illegible]	ma	92,000	[6]
	Mit.	2	4	f	2	3	f	2	4	f	2.5	2.5	1						
Santa Ana																			
47. Main & Warner	Base	2	3	[illegible]	1	2	[illegible]	2	3	[illegible]	1	2	1	[illegible]	c	[illegible]	mp	78,000	15
	Mit.	2	3	[illegible]	1	3	[illegible]	2	3	[illegible]	1	2	1						
48. Main & Dyer	Base	1	3	[illegible]	1	2	[illegible]	1	2	1	1	2	1	[illegible]	c	[illegible]	mp	78,000	17
	Mit.	2	3	[illegible]	2	2	[illegible]	1	2	1	1	2	1						
61. Grand & Edinger[2]	Base	1	3	–	1	3	–	1	3	–	1	3	–	–	p	[illegible]	ma	32,000	100
	Mit.	1	3	–	1	3	–	2	3	1	1–	3	–						
72. Ritchey & Edinger	Base	1	2	[illegible]	1	3	[illegible]	1	1	[illegible]	1	3	[illegible]	[illegible]	p	[illegible]	ma	70,000	100
	Mit.	1	2	[illegible]	1	3	[illegible]	1	2	[illegible]	1	3	[illegible]						

Base - Intersection lanes without mitigation; Mit. - Intersection lanes with mitigation
d - de facto right-turn; f - free right-turn
L, T, R - left, through, right
Bold - notation indicates lane change from base scenario (without mitigation)
A 0.5 or 1.5 lane designation represents lane sharing between different movements
p - Project causes deficiency; c - project contributes to deficiency.
ma - Mitigated to an adequate level of service; mp - Project portion of impact mitigated, LOS remains less than adequate

(1) IBC intersection
(2) TSIA intersection
(3) Additional access from Warner Avenue west of Jamboree Road
(4) Interim improvement only, not necessary for 2020
(5) Fair share contribution by City of Tustin for project responsibility. TSIA funds would not be used for this portion of the funding. Many of the measures specified for mitigation of traffic/circulation impacts require financial contributions on a fair share basis. Fair share contributions shall be no greater than required for capacity improvements consistent with and assumed in this EIS/EIR, as ~~defined by the City of Tustin Traffic Engineer~~ mutually agreed to by the Cities of Tustin, Irvine, and Santa Ana, as applicable.
(6) Currently unidentified future improvements will be made to this intersection to maintain an acceptable level of service to be agreed to by the cities of Tustin and Irvine for baseline conditions pursuant to the TCA, Tustin and Irvine 1998 MOA. Only when these improvements are included in the ICU calculations can the impact of reuse be identified. Therefore, impacts from reuse may be overstated, difficult to quantify at this time and could be less at this location because of unknown improvements.

Table 4.12-8
Alternative 1 2005 Mitigation for Impacted Freeway Ramp Intersection

Location		Southbound			Westbound			Northbound			Eastbound			Impact		Result		Implementation Threshold Cumulative ADT	Project Share[3] Percent
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM		
Santa Ana																			
75. SR-55 SB Ramps & Edinger[1][2]	Base	1	1	d	1	2	d	1.5	.5	f	1	2	f	c	c	p	mp	37,000	28
	Mit.	1	1	d	1	2	d	1.5	.5	f	1	3	f						

Base - Intersection lanes without mitigation; Mit. - Intersection lanes with mitigation
d - de facto right-turn; f - free right-turn
L, T, R - left, through, right
Bold - notation indicates lane change from base scenario (without mitigation)
A 0.5 or 1.5 lane designation represents lane sharing between different movements
p - Project causes deficiency; c - project contributes to deficiency.
ma - Mitigated to an adequate level of service; mp - Project portion of impact mitigated, LOS remains less than adequate

[1] CMP monitored intersection

[2] TSIA intersection

[3] Fair share contribution by City of Tustin for project responsibility. TSIA funds would not be used for this portion of the funding. Many of the measures specified for mitigation of traffic/circulation impacts require financial contributions on a fair share basis. Fair share contributions shall be no greater than required for capacity improvements consistent with and assumed in this EIS/EIR, as mutually agreed to by the Cities of Tustin, Irvine, and Santa Ana, as applicable.

Table 4.12-9
Alternative 1 2020 Mitigation ~~Lanes~~ for Impacted Arterial Intersections

Location		Southbound			Westbound			Northbound			Eastbound			Impact		Result		Implementation Threshold Cumulative ADT	Project Share[6] Percent
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM		
Tustin																			
15. Newport & Edinger[1, 3]	Base	2	2.5	1.5	1	3	f	2	3	d	2	3	1	–	p	[illegible]	ma	[illegible]	100
	Mit.	2	2.5	1.5	1	3	f	2	3	d	2	3	1						
30. Red Hill & Edinger[1, 3]	Base	2	3	1	2	3	1	2	3	1	2	3	1	–	p	[illegible]	ma	174,000	100
	Mit.	2	3	1	2	3	1	2	3	1	2	3	1						
42. Tustin Ranch & Walnut[2]	Base	2	3	d	1	2	1	2	3	d	1	2	1	p	p	nm	nm	122,000	100
	Mit.	2	3	d	2	2	1	2	3	d	2	2	1						
Tustin/Santa Ana																			
77. Red Hill & Warner[3]	Base	2	4	1	2	3	1	2	4	1	2	3	1	–	p	[illegible]	ma	206,000	100
	Mit.	2	4	1	2	3	2	2	4	1	2	3	1						
Tustin/Irvine																			
103. Jamboree & Barranca[3, 4]	Base	2	4	f	2	3	f	2	4	f	2.5	2.5	1	–	c	[illegible]	nm	141,000	[illegible]
	Mit.	2	4	f	2	3	f	2	4	f	2.5	2.5	1						
Santa Ana																			
~~48. Main & Dyer~~	~~Base~~	~~2~~	~~3~~	~~–~~	~~1~~	~~3~~	~~–~~	~~2~~	~~3~~	~~–~~	~~1~~	~~3~~	~~1~~	~~–~~	~~e~~				
	~~Mit.~~	~~2~~	~~3~~	~~–~~	~~2~~	~~3~~	~~–~~	~~2~~	~~3~~	~~–~~	~~1~~	~~3~~	~~1~~						
53. Hutton Centre & MacArthur	Base	2	1	2	2	3	1	1	.5	1.5	2	3	1	–	c	[illegible]	ma	[illegible]	20
	Mit.	2	1	2	2	4	~~1~~	1	.5	1.5	2	3	1						
61. Grand & Edinger[3]	Base	2	3	~~1~~	~~2~~	3	~~1~~	~~2~~	3	1	~~2~~	3	~~1~~	c	c	[illegible]	ma	172,000	100
	Mit.	2	3	~~1~~	~~2~~	~~3~~	~~1~~	~~2~~	~~3~~	~~1~~	~~2~~	3	~~1~~						
63. Grand & Warner[3]	Base	2	3	~~1~~	2	~~3~~	~~1~~	~~2~~	3	~~1~~	2	3	1	–	p	[illegible]	ma	195,000	100
	Mit.	2	3	~~1~~	2	~~3~~	~~1~~	~~2~~	~~3~~	–	2	3	1						
66. Grand & Dyer[3]	Base	2	–	1	–	~~2~~	1	–	–	–	~~2~~	3	–	–	c	[illegible]	ma	131,000	29
	Mit.	1.5	–	1.5	–	~~2~~	1	–	–	–	~~2~~	3	–						
70. Lyon & Edinger[3]	Base	1	1	1	1	3	1	1	1	2	1	3	–	–	c	[illegible]	mp	152,000	13
	Mit.	~~2~~1.5	~~1~~5	1	1	3	1	1	1	2	1	3	–						
~~198. Bristol & Warner~~	~~Base~~	~~1~~	~~3~~	~~–~~	~~1~~	~~3~~	~~–~~	~~1~~	~~3~~	~~–~~	~~1~~	~~3~~	~~–~~	p	–				
	~~Mit.~~	~~2~~	~~3~~	~~–~~	~~1~~	~~3~~	~~–~~	~~1~~	~~3~~	~~–~~	~~1~~	~~3~~	~~–~~						
202. Standard & Edinger	Base	1	2	–	1	3	–	1	2	–	1	3	–	–	c	[illegible]	ma	181,000	9
	Mit.	1	2	–	1	3	1	1		–	1	3	–						

Table 4.12-9. Continued

Location		Southbound			Westbound			Northbound			Eastbound			Impact		Result		Implementation Threshold Cumulative ADT	Project Share[6] Percent
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM		
Irvine																			
81. Red Hill & Main[4]	Base	1	3	d	2	3	d	2	3	f	1	3	d	–	p	[illegible]	ma	157,000	100
	Mit.	1	3	f	2	3	d	2	3	f	1	3	d						
89. Von Karman & Michelson[4]	Base	1	2	d	1	2	f	1	2	1	1	2	d	–	c	[illegible]	ma	141,000	22
	Mit.	1	2	d	1	2	f	1	2	1	2	2	d						
106. Jamboree & Alton[4]	Base	2	4	d	2	3	d	2	4	1	2	3	d	–	p	[illegible]	ma	(7)	100
	Mit.	2	4	d	2	3	d	2	5	1	2	3	d						
118. Harvard & Alton	Base	1	2	1	2	3	d	1	2	d	2	3	1	p	–	ma	[illegible]	181,000	100
	Mit.	1	2	1	2	3	d	2	2	d	2	3	1						
128. Culver & Warner	Base	1	3	d	1	2	d	1	3	1	1	2	d	–	p	[illegible]	ma	174,000	100
	Mit.	1	3	d	1	2	d	1	3	1	2	2	d						

Base - Intersection lanes without mitigation; Mit. - Intersection lanes with mitigation
ATMS - Advanced Transportation Management System
d - de facto right-turn; f - free right-turn
L, T, R - left, through, right
Bold - notation indicates lane changes from base scenario (without mitigation)
A .5 or 1.5 lane designation represents lane sharing between different movements
p - Project causes deficiency; c - project contributes to deficiency
ma - Mitigated to an adequate level of service; mp - Project portion of impact mitigated, LOS remains less than adequate; nm - Project impact not mitigated
c - Project contributes to deficiency

(1) No lane changes; ATMS measures
(2) Lane changes and ATMS measures
(3) TSIA intersection
(4) IBC intersection
(5) No identifiable mitigation measures
(6) Fair share contribution by City of Tustin for project responsibility. TSIA funds would not be used for this portion of the funding. Many of the measures specified for mitigation of traffic/circulation impacts require financial contributions on a fair share basis. Fair share contributions shall be no greater than required for capacity improvements consistent with and assumed in this EIS/EIR, as ~~defined by the City of Tustin Traffic Engineer~~ mutually agreed to by the cities of Tustin, Irvine, and Santa Ana, as applicable.
(7) Full buildout of Reuse Alternative I
(8) Currently unidentified future improvements will be made to this intersection to maintain an acceptable level of service to be agreed to by the cities of Tustin and Irvine for baseline conditions pursuant to the 1998 MOA between the TCA and cities of Irvine and Tustin. Therefore, the impacts of reuse may be overstated, difficult to quantify at this time, and could be less at this location because of unknown improvements.

~~Buildout - 2020~~

~~T/C-24 The City of Tustin and the City of Irvine, as applicable, shall ensure that the arterial intersection improvements indicated in Table 4.12-9 are implemented for their respective jurisdictions.~~

~~Interim Development - 2005 and Buildout - 2020~~

T/C-4 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area within Irvine), shall ensure that all on-site circulation system improvements for the reuse plan area assumed in the 2005 and 2020 traffic analysis and as shown in Table 4.12-10 are implemented according to the cumulative ADT thresholds identified in the table. Under this Phasing Plan, the City of Tustin shall monitor all new development within the site, accounting for the cumulative ADT generated by development projects. As each ADT threshold is reached, the roadway improvements listed in Table 4.12-10 shall be constructed before any additional projects within the reuse plan area would be approved.

T/C-5 Prior to approval of a site development permit or vesting tract, except for financing or conveyance purposes, for all land use designation areas in Alternative 1 with the exception of the Learning Village, Community Park, and Regional Park, a project developer shall enter into an agreement with the City of Tustin and City of Irvine, as applicable (for that portion of the reuse plan area within Irvine) which assigns improvements required in the EIS/EIR to the development site and which requires participation in a fair share mechanism to design and construct required on-site and arterial improvements consistent with the ADT generation thresholds shown in Tables 4.2-7, 4.2-8, 4.2-9, and 4.2-10.

T/C-6 The City of Tustin and the City of Irvine, as applicable (for that portion of the reuse plan area in Irvine), will monitor new development within the reuse plan area, accounting for the cumulative ADTs generated by development projects within the reuse plan area. As each cumulative ADT threshold shown in Table 4.2-10 is reached, the roadway improvements listed shall be constructed before any additional projects within the reuse plan area are approved.

T/C-7 The City of Tustin shall adopt a trip budget for individual portions of the reuse plan area to assist in the monitoring of cumulative ADTs and the amount and intensity of permitted non-residential uses as evaluated in the EIS/EIR.

Table 4.12-10
Alternative 1 – On-site ADT Development Thresholds

ADT (Cumulative)		Roads Added[1]
27,000	(27,000)	Edinger Avenue Landsdowne Road North Loop Road – Red Hill Avenue to West Connector Road (Build 3 lanes only) West Connector Road
82,800	(109,800)	East Connector Road Marble Mountain Road Moffett Drive North Loop Road – Red Hill Avenue to West Connector Road (Final Buildout) North Loop Road – East Connector Road to Moffett Drive (Build 3 lanes only) Red Hill Avenue/Carnegie Avenue Intersection (East Leg) Red Hill Avenue/Warner Avenue Intersection (East Leg) Severyns Road
26,900	(136,700)	Armstrong Avenue – North Loop Road to Barranca Parkway North Loop Road – West Connector Road to East Connector Road North Loop Road – East Connector to Moffett Drive (Final Buildout) North Loop Road – Moffett Drive to Warner Avenue South Loop Road – Warner Avenue to Tustin Ranch Road Tustin Ranch Road – Edinger Avenue to North Loop Road (6 lanes) Tustin Ranch Road – Warner Avenue to Barranca Parkway (Build 4 lanes only) Warner Avenue – Red Hill Avenue to Jamboree Road (Build 4 lanes only)
39,500	(176,200)	South Loop Road – Armstrong Avenue to Tustin Ranch Road Tustin Ranch Road – North Loop Road to South Loop Road (Build 4 lanes only)
40,200	(216,400)	Widen Tustin Ranch Road to 6 lanes (Final Buildout) Widen Warner Avenue to 6 lanes (Final Buildout)

T/C-~~8~~4 Alternative improvements that provide an equivalent level of mitigation in 2005 or 2020 to what is identified in Tables 4.12-7, 4.12-8, and 4.12-9 may be identified in consultation between the City of Tustin and the City of Irvine, as applicable, and the impacted jurisdiction.

~~T/C-5 The City of Tustin and the City of Santa Ana shall implement necessary roadway improvements for the affected locations within the City of Santa Ana jurisdiction, in accordance with a prior agreement: Tustin/Santa Ana Improvement Agreement (TSIA). For deficient Santa Ana intersections that are not covered in the TSIA, the City of Tustin and the City of Irvine, as applicable, shall participate in these improvements on a fair share basis.~~

~~Table 4.12-10~~
~~Alternative 1 2020 Freeway Ramp Mitigation Summary~~

Location		Southbound			Westbound			Northbound			Eastbound			Impact	
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM
Santa Ana															
59: Hotel Terrace/ SR-55 & Dyer(*)	Base	.5	1.5	1	2	3	1	1.5	.5	2	1	3	-	-	p
	Mit.	.5	1.5	1	2	3	1	1.5	.5	2	1	3	1		

Base - Intersection lanes without mitigation
d - de facto right-turn; f - free right-turn
L, T, R - left, through, right
Bold - notation indicates lane change from base scenario (without mitigation)
A 0.5 or 1.5 lane designation represents lane sharing between different movements
p - Project causes deficiency.
(*) TSIA intersection
Note: Many of the measures specified for mitigation of traffic/circulation impacts require financial contributions on a fair share basis. Fair share contributions shall be no greater than required for capacity improvements consistent with and assumed in this EIS/EIR, as defined by the City of Tustin Traffic Engineer.

T/C-6 The City of Tustin and the City of Irvine, as applicable, shall develop mechanisms to ensure that the roadway improvements needed to adequately serve the reuse plan area are provided. These mechanisms may include, but would not be limited to, developer fees, assessment districts, and tax increments, as determined appropriate by the applicable jurisdictions.

T/C-~~7~~9 The City of Tustin shall enter into agreements with Caltrans and the cities of Santa Ana and Irvine to ensure that the off-site roadway improvements needed to mitigate the effects of the proposed alternative are constructed pursuant to improvement programs established by the respective jurisdiction.

In order to properly coordinate the timing and improvements in the adjacent jurisdictions, the City of Tustin shall hold a scoping-like meeting with the respective jurisdictions. The purpose of said scoping-like meeting shall be to identify the concerns of the respective jurisdictions prior to the initiation of the fair share study. The purpose of the study would be to fully identify, with each jurisdiction, the scope and costs of feasible improvements (as determined by the respective jurisdiction). The improvements would be acceptable to each jurisdiction toward fulfilling the timing and cost of the transportation improvement obligations as required to mitigate transportation impacts in each jurisdiction. The funding for the improvements to be incorporated into the agreement would be utilized by the

respective agency to improve the capacity of the impacted intersections/links or be used for substituted improvements, as determined by mutual agreement.

Prior to execution of the agreement, each jurisdiction would be allowed ten (10) working days to review the technical report prior to being provided with a copy of the proposed agreement. Each jurisdiction would then have ten (10) working days to review and comment as to its concurrence with the improvement programs contained in the agreement. The comments of each jurisdiction would be considered to ensure that the City of Tustin's responsibility for fair share funding of the improvements in each jurisdiction as stated above is fully addressed.

4.12.4 Alternative 2

Traffic Impacts

Traffic Analysis Methodology

Traffic impacts for Alternative 2 were analyzed using the same methodology and parameters used for Alternative 1.

Trip Generation

The land use areas used for trip generation calculations under this alternative are shown in Figure 2-2. The land uses assumed for 2005 are based on the projected land use absorption by 2005. The forecast trip generation for Alternative 2 is 108,246 ADT at the interim stage of development in 2005, and 268,130 ADT at buildout in 2020. The detailed trip generation analysis is include in Appendix F of this EIS/EIR. A summary of the trip generation for Alternative 2 is shown in Table 4.12-11.

4.13 AIR QUALITY

4.13.1 Significance Criteria

Air quality impacts would be considered significant if disposal or subsequent reuse of MCAS Tustin would violate any ambient air quality standard, contribute to an existing or projected air quality violation, or expose sensitive receptors to pollutant concentrations (*Guidelines for the Implementation of CEQA*, Cal. Code Regs., Title 14, Appendix E).

Under NEPA, air quality impacts would be considered significant if the disposal or subsequent reuse of MCAS Tustin would be inconsistent with the assumptions or objectives of the 1994 AQMP, the most recently adopted AQMP by USEPA. Under CEQA, air quality impacts would be considered significant if the disposal or subsequent reuse of MCAS Tustin would be inconsistent with the assumptions or objectives of the 1997 AQMP, the most recently adopted AQMP by the State of California.

One method of quantitative determination for new projects is the comparison with emissions standards set by the local air quality management district. SCAQMD (1993) has established the thresholds shown in Table 4.13-1 as guidance when evaluating when a proposed action should be considered significant. A proposed action would not be considered significant if the forecast emissions from the proposed action have been anticipated in regional and state air quality planning and are included in the applicable AQMP and SIP.

Table 4.13-1
SCAQMD Thresholds of Significance

Activity	Pollutant Emission Rate				
	CO	ROC	NO_X	SO_X	PM_{10}
Construction (tons/quarter)	24.75	2.5	2.5	6.75	6.75
Construction (pounds/day)	550	75	100	150	150
Operations (pounds/day)	550	55	55	150	150

Source: SCAQMD 1993

The emissions to be compared to the SCAQMD thresholds are the net emissions resulting when the baseline emissions are subtracted from those which would result from the implementation of one of the reuse alternatives. The values of the baseline emissions are shown in Section 3.13 of this EIS/EIR.

4.13.2 Methodology

Estimated emission rates and total emissions from many construction and operations activities were calculated using emission factors and methods published in the *Compilation of Air Pollution Emission Factors,* AP-42 (USEPA); the *CEQA Air Quality Handbook* (SCAQMD 1993); and the vehicle emission factors models EMFAC7F and EMFAC7G (CARB 1996). Data from emissions reports and permit applications relative to historical, current, and proposed emissions was also used. Detailed calculations are on file at the City of Tustin.

Construction

In order to determine peak construction emissions, peak year construction activity was estimated by assuming that 60 percent of the five-year phasing development would occur in one year. Peak quarterly construction activity was estimated by assuming that 50 percent of the peak year development would occur in one quarter. Peak daily construction mass grading activity was estimated by assuming that 1/5th of the peak quarter acres would be graded every day that quarter, with a minimum of 15 acres graded each peak day unless the peak quarterly acres graded is less than 15. In this case, the peak quarterly acres graded was assumed to occur on the peak day. Peak daily demolition, asbestos removal, site preparation and utility installation, and building construction activities was estimated by assuming that peak quarterly construction activity occurs over 60 days per quarter.

Construction air emissions would result from the following four discrete construction activities: (1) demolition (which may include asbestos removal); (2) mass grading; (3) site preparation and utility installation; and (4) building construction.

While these discrete activities may not occur simultaneously on any particular development site in the reuse plan area, several different development projects may occur simultaneously. Therefore, a "Simultaneous Construction Activity" scenario was developed by adding 50 percent of each discrete activity emissions to the highest discrete activity emissions for each pollutant. Each group of calculations shows both gross emissions and reduced emissions. The latter category assumes

emission reductions for implementation of required and recommended SCAQMD Rules, control measures, and mitigation measures. Both gross and reduced calculations are included in the tables in the following sections, in accordance with the guidance of the SCAQMD CEQA Air Quality Handbook (1993).

Operation

Operational vehicular source air pollutant emissions were calculated for each of the development phases by estimating the number of trips associated with each particular land use described in Section 2.4 of this EIS/EIR. EMFAC7G emission factors were used for vehicular emissions estimates. Operational stationary source air pollutant emissions were estimated by using CEQA Handbook emission factors for each particular land use (SCAQMD 1993). Gross and reduced calculations of forecast operations emissions are included in the tables in the following sections, as described above for construction emissions.

Net peak operation emissions were calculated by subtracting the baseline emissions, as given in Section 3.13 of this EIS/EIR, from estimated gross operation emissions.

CO "Hot Spot"

In order to determine if a CO "Hot Spot" would be created, the three intersections with the worst LOS and highest A.M. peak hour traffic volumes were chosen for analysis, as suggested by applicable EPA guidance (USEPA 1992). The guidance indicates that these intersections would have the greatest potential for CO hot spots. Both years 2005 and 2020 were analyzed; years in which traffic data is available (Section 4.12, and Appendix F of this EIS/EIR). EMFAC7F was used to estimate mobile emission factors for these two analysis years.

4.13.3 DON Disposal of MCAS Tustin

Impacts

DON disposal of MCAS Tustin would not result in a direct impact to air quality because the disposal is simply a transfer of title and, in and of itself, would not result in a significant effect on air quality.

Mitigation Measures

Disposal of MCAS Tustin would not adversely impact air quality and no mitigation measures would be required.

General Conformity

In order to ensure that federal activities do not hamper local efforts to control air pollution, the Clean Air Act (CAA) (42 U.S.C. § 7491 et seq.) prohibits federal agencies from approving any action that does not conform to an approved SIP. A SIP is required in any area that has been found to be in violation of NAAQS and has been classified as "nonattainment" and in attainment areas which have been reclassified from nonattainment. The purpose of a SIP is the elimination or reduction in severity and number of NAAQS violations.

Conformity provisions first appeared in the CAA Amendments of 1977 (Pub. L. 95-59, Aug. 7, 1977, 91 Stat. 685-796 and Pub. L. 95-190, Nov. 16, 1977, 91 Stat. 1399-1404). Section 176(c) of the CAA, as amended in 1990 (Pub. L. 101-549, Nov. 15, 1990, 104 Stat. 2399), further defines conformity, as follows:

> Conformity to a plan's purpose of elimination or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards; and that such activities will not
>
> - cause or contribute to new violations of the NAAQS;
> - increase the frequency or severity of an existing violation; or
> - delay the timely attainment of a standard, interim emission reduction, or milestone.

On November 30, 1993, USEPA published the Federal General Conformity Rule (40 C.F.R. § 51.100 et seq. and § 93.100 et seq). The U.S. Navy document Chief of Naval Operations Interim Guidance on Compliance with the Clean Air Act General Conformity Rule (U.S. Navy 1994) provides policies and procedures for conformity evaluations.

As specified in 40 C.F.R. § 51.853 and 40 C.F.R. § 93.153, certain actions are exempt from General Conformity determinations including:

- Actions where a total of direct and indirect emissions are below the emissions levels specified for each pollutant in each classification of nonattainment or maintenance area;
- Specified actions which would result in no emissions increase or an increase that is clearly de minimis;
- Actions where the emissions are not reasonably foreseeable:
- Actions which implement a decision to conduct or carry out a conforming program;
- Actions in response to emergencies or natural disasters, which meet certain requirements;
- The portion of an action that includes new or modified stationary sources that require a permit under the new source review program or the prevention of significant deterioration program.

Pursuant to Section 176(c) of the Clean Air Act, 42 U.S.C. § 7401, et seq. (1990) and the General Conformity Rule (40 C.F.R. § 93), the action to dispose of MCAS Tustin is exempt from the conformity determination. The finding is based on the following exemption as stated in 40 C.F.R. § 51.853(c)(2)(xix) and 40 C.F.R. § 93.153(c)(2)(xix): "Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of CERCLA, and where the Federal agency does not retain continuing authority to control emissions associated with the land, facilities, title, or real properties." This is further explained in Volume 58 Number 228 of the *Federal Register*, "Supplementary Information on the Final Rule." Subsection III.J(3)(e) states that "federal land transfers are included in the regulatory list of actions ... exempt from the final conformity rules."

4.13.4 Alternative 1

Impacts

Buildout of Alternative 1 would result in short-term air pollutant emissions from construction activities, long-term emissions from operation of new uses, and may result in long-term emissions from hazardous air pollutants.

Construction

Clearing and grading of sites, and construction of buildings and infrastructure within the reuse plan area would generate fugitive dust and emissions from construction equipment and from workers' vehicles. These emissions would be greatest during grading and clearing of individual development sites.

Development of the site would occur over a period of over 20+ years. According to the development phasing plan for reuse of the site (see Section 2.4), new development would proceed in the following five phases:

Early Phase (by 2005): About 4.3 million square feet of nonresidential and 1,614 units of new residential development. The early phase would also include rehabilitation, as necessary, of the existing residential units within the reuse plan area.

Middle Phase I (2006-2010): About 1.6 million square feet of nonresidential and 559 units of residential development.

Middle Phase II (2011-2015): About 1.7 million square feet of nonresidential and 891 units of residential development.

Later Phase (2016-2020): About 1.1 million square feet of nonresidential development.

Buildout (2020+): About 2.6 million square feet of nonresidential development.

Using the methodology described above, Table 4.13-2 shows the estimated peak quarterly construction activity for Alternative 1.

Tables 4.13-3 and 4.13-4 show the resulting estimated peak quarterly and daily construction emissions for the "Simultaneous Construction Activity" scenario. Each table has data for "peak emissions" and "peak reduced emissions". Peak emissions would occur without the implementation of required SCAQMD control measures. Peak reduced emissions would occur with the use of these measures. The two control actions included in the calculations are watering of active grading sites and measures to reduce emissions from interior and exterior architectural coatings (painting). A reduction in PM_{10} emissions of 34 percent is taken for twice daily watering of grading sites. A reduction of 16 percent in ROC emissions is taken for assuming that five percent of the area to be coated uses each of the following: 1) natural-colored building materials or pre-coated materials, 2) high transfer efficiency equipment, and 3) low-ROC coating materials and high transfer efficiency equipment.

Table 4.13-2
Alternative 1 Estimated Peak Construction Activity

	By 2005	2006-2010	2011-2015	2016-2020	2020+
Grading - Peak Day (acres)	33	15	15	11	15
Grading - Peak Quarter (acres)	211	38	52	11	21
All Other Activities - Peak Quarter					
Single-Family Residential (DU)	9	0	0	0	0
Multi-family Residential (DU)	475	168	267	0	0
Non-Residential Development (TSF)	1,292	492	523	333	782
Golf Course (acres)	48	0	0	0	0

TSF = thousand square foot

Table 4.13-3
Peak Construction Emissions by Phase – Tons per Quarter

	CO	ROC	NO_X	PM_{10}	SO_X
Early Phase (by 2005)					
Peak emissions	1.69	194.13	5.28	28.16	Negl.
Peak reduced emissions	1.69	162.66	5.28	19.28	Negl.
Middle Phase I (2006-2010)					
Peak emissions	0.69	86.34	2.62	12.17	Negl.
Peak reduced emissions	0.69	72.34	2.62	8.13	Negl.
Middle Phase II (2011-2015)					
Peak emissions	0.69	99.23	2.64	12.17	Negl.
Peak reduced emissions	0.69	83.14	2.64	8.13	Negl.
Later Phase (2016-2020)					
Peak emissions	0.38	56.59	1.07	8.83	Negl.
Peak reduced emissions	0.38	47.41	1.07	5.87	Negl.
Buildout					
Peak emissions	0.70	98.16	2.76	12.18	Negl.
Peak reduced emissions	0.70	82.24	2.76	8.14	Negl.
SCAQMD Threshold	24.75	2.50	2.50	6.75	6.75

Note: "reduced emissions" are those that would result assuming implementation of required SCAQMD ~~from reductions associated with~~ control measures. Control measures include watering, use of low-VOC coating materials, etc. Assumed 2020-2025 for Final Phase calculations.

Table 4.13-4
Peak Construction Emissions by Phase – Pounds per Day

	CO	ROC	NO_X	PM_{10}	SO_X
Early Phase (by 2005)					
Peak emissions	56	6,471	176	939	Negl.
Peak reduced emissions	56	5,422	176	643	Negl.
Middle Phase I (2006-2010)					
Peak emissions	23	2,878	87	406	Negl.
Peak reduced emissions	23	2,411	87	271	Negl.
Middle Phase II (2011-2015)					
Peak emissions	23	3,308	88	406	Negl.
Peak reduced emissions	23	2,771	88	271	Negl.
Later Phase (2016-2020)					
Peak emissions	13	1,886	36	294	Negl.
Peak reduced emissions	13	1,580	36	196	Negl.
Buildout					
Peak emissions	23	3,272	92	406	Negl.
Peak reduced emissions	23	2,741	92	271	Negl.
SCAQMD Threshold	550	75	100	150	150

Note: "reduced emissions" are those that would result assuming implementation of required SCAQMD ~~from reductions associated with~~ control measures. Control measures include watering, use of low-VOC coating materials, etc. Assumed 2020-2025 for Final Phase calculations.

As seen in Table 4.13-3, gross quarterly emissions would exceed SCAQMD significance criteria for PM_{10} and ROC during each phase and for NO_x during all but the Later Phase. Control and mitigation measures would reduce overall ROC and PM_{10} emissions, though not below SCAQMD significance criteria, except for PM_{10} during the Later Phase. As seen in Table 4.13-4, gross daily emissions would exceed SCAQMD significance criteria for PM_{10} and ROC during all phases, and would exceed criteria for NO_x during the Early Phase. Control and mitigation measures would reduce PM_{10} and ROC emissions, though not below SCAQMD significance criteria.

PM_{10} emissions would reach their peak during the Early Phase, primarily due to the grading activity that would occur when developing the golf course (see Table 4.13-1). All grading activities on the site would comply with applicable SCAQMD rules and associated control measures, and city grading permit requirements. Compliance with these requirements (Best Available Control Measures) would reduce fugitive dust amounts by 34 to 68 percent. Dust reducing control measures would include, at a minimum, regular watering of actively disturbed soils, restricting construction vehicle travel to established roadways, and suspending operations that create dust during windy conditions.

Levels of ROC that exceed SCAQMD significance criteria would occur in each of the five phases, due primarily to ROC emissions associated with painting activities (e.g., architectural coatings), which are estimated to constitute more than 99 percent of peak daily ROC emissions.

Asbestos emissions due to the demolition of buildings and utilities that contain ACMs would occur during the Early Phase. Daily peak construction activities would result in approximately 1.35 pounds of asbestos emitted on the worst case day during the Early Phase. Assuming that all ACM removal would occur in the first phase, there would be no asbestos emissions in subsequent phases. There are no significance criteria for asbestos emissions; however, asbestos is a carcinogenic air contaminant. As stated in Section 4.11 of this EIS/EIR, ACM removal would be in accordance with applicable regulations. The applicable SCAQMD regulation is Rule 1403, *Asbestos Emissions from Demolition/Renovation Activities*. As noted in the SCAQMD CEQA Handbook (1993), compliance with Rule 1403 would reduce the asbestos emissions to a less than significant level.

Operation

Buildout under the Alternative 1 would result in pollutant emissions from vehicular travel and from regional power plants and facilities (off-site stationary sources) which would supply electricity and natural gas for the site. As discussed in Section 4.12 of this EIS/EIR , implementation of Alternative 1 would result in an estimated 108,452 ADT in year 2005, and 215,093 ADT at buildout (2020). Table 4.13-5 shows the estimated operational stationary and vehicular source air emissions for each of the development phases of Alternative 1. As noted in the footnote, "reduced emissions" assume implementation of SCAQMD control measures. Control efficiencies for reduced emissions are as follows: 7.1 percent for ROC; 9.1 percent for No_x; 9.1 percent for CO and 9.1 percent for PM_{10} for commercial/business land use; and 4.1 percent for ROC, No_x, CO, and PM_{10} for residential land use. As would be expected, with the occupation of the reuse area, ADT and vehicle miles traveled would increase with each phase. The emissions for certain pollutants, however, would not always increase. The variability is due to emission factors which decline in future years to offset the increase in vehicle use.

With implementation of Alternative 1, CO, NO_X, and ROC net operational emissions would exceed SCAQMD significance criteria in each of the five phases of development. SO_X emissions would exceed the significance criteria in the last two phases. Control and mitigation measures would reduce overall CO, NO_X, and ROC emissions, but not below SCAQMD significance criteria, except for ROC during the 2006-2010 period.

Table 4.13-5
Alternative 1 Peak Operational Air Pollutant Emissions by Phase – Pounds per Day

	CO	ROC	NO_X	PM_{10}	SO_X
Early Phase (by 2005)					
Gross emissions	20,543	1,270	2,947	235	161
Gross reduced emissions	19,218	1,202	2,778	221	161
Baseline emissions	~~6,783~~	~~890~~	~~1,305~~	~~147~~	~~94~~
	6,245	725	1,255	164	75
Net emissions	~~13,760~~	~~380~~	~~1,642~~	~~88~~	~~67~~
	14,298	545	1,553	71	86
Net reduced emissions	~~12,435~~	~~312~~	~~1,473~~	~~74~~	~~67~~
	12,973	477	1,523	57	86
Middle Phase I (2006-2010)					
Gross emissions	18,201	1,016	3,114	79	193
Gross reduced emissions	17,042	962	2,942	75	193
Baseline emissions	~~6,783~~	~~890~~	~~1,305~~	~~147~~	~~94~~
	6,245	725	1,255	164	75
Net emissions	~~11,418~~	~~126~~	~~1,809~~	~~-68~~	~~99~~
	11,956	291	1,859	-85	118
Net reduced emissions	~~10,259~~	~~72~~	~~1,637~~	~~-72~~	~~99~~
	10,797	237	1,687	-89	118
Middle Phase II (2011-2015)					
Gross emissions	16,122	1,068	3,676	96	257
Gross reduced emissions	15,060	1,009	3,471	90	257
Baseline emissions	~~6,783~~	~~890~~	~~1,305~~	~~147~~	~~94~~
	6,245	725	1,255	164	75
Net emissions	~~9,339~~	~~178~~	~~2,371~~	~~-51~~	~~163~~
	9,877	343	2,421	-68	182
Net reduced emissions	~~8,277~~	~~119~~	~~2,166~~	~~-57~~	~~163~~
	8,815	284	2,216	-74	182
Later Phase (2016-2020)					
Gross emissions	20,132	1,626	4,201	106	284
Gross reduced emissions	18,742	1,533	3,955	99	284
Baseline emissions	~~6,783~~	~~890~~	~~1,305~~	~~147~~	~~94~~
	6,245	725	1,255	164	75
Net emissions	~~13,349~~	~~736~~	~~2,896~~	~~-41~~	~~190~~
	13,887	901	2,946	-58	209
Net reduced emissions	~~11,959~~	~~643~~	~~2,650~~	~~-48~~	~~190~~
	12,497	828	2,700	-65	209
Buildout					
Gross emissions	21,069	1,690	4,647	117	316
Gross reduced emissions	19,578	1,592	4,371	110	316
Baseline emissions	~~6,783~~	~~890~~	~~1,305~~	~~147~~	~~94~~
	6,245	725	1,255	164	75
Net emissions	~~14,286~~	~~800~~	~~3,342~~	~~-30~~	~~222~~
	14,824	965	3,392	-47	241
Net reduced emissions	~~12,795~~	~~702~~	~~3,066~~	~~-37~~	~~222~~
	13,333	867	3,116	-54	241
SCAQMD Threshold	550	75	100	150	150

Note: "reduced emissions" are those that would result assuming implementation of required SCAQMD ~~from reductions associated with~~ control measures.

As described in Section 3.13 of this EIS/EIR, MCAS Tustin is a facility that is permitted to emit NO_X under RECLAIM. Total RECLAIM annual emissions allocations for MCAS Tustin are shown in Table 3.13-5, and the minimum allocation through 2010, 4,621 pounds per day, exceeds the maximum forecast emissions for the implementation of Alternative 1. Therefore, if the allocated credits are transferred to the reuse, the forecast NO_X emissions would not be significant. RECLAIM credits are not transferrable between RECLAIM and a non-RECLAIM source. The final disposition of the credits is unknown at this time.

The City of Tustin has implemented a TR/TDM plan (City of Tustin 1993) as part of the City's CMP to reduce automobile trips within the City of Tustin, reduce vehicular congestion, and improve air quality. As part of the plan, all new development projects with 100 or more employees, and expanded projects where additional square footage will result in a total of 100 or more employees, are required to prepare a TR/TDM strategy plan to achieve this goal. The City of Irvine also has implemented a TDM program. Due to the requirements of the traffic model, only some of the reductions in vehicular trips associated with the implementation of TR/TDM plans were accounted for in the traffic study. Additional reductions in vehicular trips beyond those accounted for in the traffic study would result from implementation of the TR/TDM plans. These reductions would reduce forecast CO, NO_X, and ROC vehicular emissions, though not below SCAQMD significance criteria.

Both the City of Tustin and the City of Irvine have bicycle transportation plans and policies, as discussed in Section 3.12. The availability of existing and future bicycle transportation infrastructure in the area on the site, particularly Class I bikeways, would encourage some people to use bicycles instead of cars and result in some reduction in vehicular emissions, though not below SCAQMD significance thresholds.

The City of Tustin General Plan (1994a) includes policies that may result in some reduction in operational off-site air emissions. These policies include efforts to promote energy conservation (Policy 4.1) and local recycling of wastes and use of recycled materials (Policy 4.2). These policies are implemented on a city-wide basis.

CO "Hot Spot"

Implementation of Alternative 1 would add vehicular trips and could adversely impact several roadways' LOS. Therefore, the potential exists for localized carbon monoxide (CO) hot spots. A CO hot spot is created when sensitive receptors are exposed to CO levels that exceed either state or

federal CO standards (SCAQMD 1993). The state standards for CO are an average of 9.0 ppm over a 8-hour period and an average of 20 ppm over a 1-hour period. The federal standards for CO are an average of 9.0 ppm over a 8-hour period, and an average of 35 ppm over a 1-hour period.

In order to determine if implementation of Alternative 1 would result in CO levels that exceed these standards, the three intersections with the worst LOS and highest a.m. peak hour traffic volumes were chosen for analysis. Both years 2005 and 2020 were analyzed, the years for which forecast traffic data were available (Section 4.12 and Appendix F of this EIS/EIR).

For the year 2005, two of the three intersections with the highest traffic volume would also have the highest LOS. Therefore, the following four intersections were selected for analysis: Jamboree Road and Barranca Parkway, Jamboree Road and Michelson Drive, Grand Avenue and Edinger Avenue, and Von Karman Avenue and Barranca Parkway.

In the year 2020, one of the three intersections with the highest traffic volume would also have the highest LOS. Therefore, five intersections were analyzed: Jamboree Road and Barranca Parkway, Jamboree Road and Michelson Drive, Tustin Ranch Road and Walnut Avenue, Culver Drive and Irvine Center Drive, and Grand Avenue and Edinger Avenue.

The CALINE-4 dispersion model was used to estimate the CO concentrations from vehicular exhaust at these intersections. Receptor locations were established at 20, 60, and 80 feet from the outer edges of each of the selected roadways.

As shown in Tables 4.13-6 and 4.13-7, the CALINE-4 model demonstrates that CO levels would not be expected to exceed state or federal standards at 20 feet from the outer edges of the selected roadways. CO concentrations would be less at distances greater than at 20 feet. Because no sensitive receptor would be located closer than 20 feet from the outer edges of these roadways, no sensitive receptors at these intersections would be expected to be exposed to CO hot spots in the years 2005 and 2020. Further, because the USEPA guidance indicates that the greatest potential for CO hot spots would occur at the selected intersections, it may be inferred there would be no hot spots at the remainder of the intersection affected by Alternative 1 traffic. Therefore, the CO impact would be less than significant.

Table 4.13-6
Alternative 1 2005 Estimated Peak CO Concentrations at Selected Intersections[1]

Intersection	Estimated Peak 1-hour Concentration (ppm)		State/Federal 1-hour Standard (ppm)	Exceeds Standard?	Estimated Peak 8-hour Concentration (ppm)		State/Federal 8-hour Standard (ppm)	Exceeds Standard?
	Back-Ground	With Project			Back-Ground	With Project		
Jamboree and Barranca	7.7	13.1	20/35	No	4.6	7.9	9/9	No
Jamboree and Michelson	7.7	13.8	20/35	No	4.6	8.3	9/9	No
Grand and Edinger	7.7	11.9	20/35	No	4.6	7.1	9/9	No
Von Karman and Barranca	7.7	10.6	20/35	No	4.6	6.4	9/9	No

[1] All concentrations reported at 20 feet from roadway edge.

Table 4.13-7
Alternative 1 2020 Estimated Peak CO Concentrations at Selected Intersections [1]

Intersection	Estimated Peak 1-hour Concentration (ppm)		State/ Federal 1-hour Standard (ppm)	Exceeds Standard?	Estimated Peak 8-hour Concentration (ppm)		State/ Federal 8-hour Standard (ppm)	Exceeds Standard?
	Back-Ground	With Project			Back-Ground	With Project		
Jamboree and Barranca	7.7	11.8	20/35	No	4.6	7.9	9/9	No
Jamboree and Michelson	7.7	11.6	20/35	No	4.6	8.3	9/9	No
Tustin Ranch and Walnut	7.7	10.5	20/35	No	4.6	6.3	9/9	No
Culver and Irvine Center	7.7	10.4	20/35	No	4.6	6.2	9/9	No
Grand and Edinger	7.7	11.0	20/35	No	4.6	6.6	9/9	No

[1] All concentrations reported at 20 feet from roadway edge.

Air Toxics

Some land uses which may be developed in Alternative 1 may generate air contaminants (other than the criteria pollutants discussed above) that have the potential to harm human health and the environment. The actual amount of these air contaminants cannot be quantified due to a lack of information about specific business uses that may locate in the reuse plan area.

Unless otherwise specified, proposed operations which would emit air pollutants are required to obtain SCAQMD permits (Authority to Construct and Permit to Operate) prior to construction and operation. Exemptions are specified in SCAQMD Rules and Regulations, particularly Rule 219, and are often dependent on the proposed size of facilities or anticipated quantity of emissions. Permits are often required for dry cleaners and gasoline service stations, as well as for certain industries.

These uses would comply with SCAQMD Rules 1421, 1401, and 1402, which would ensure that sensitive receptors that exist at the time the facility is permitted would not be exposed to or burdened by health risks associated with unacceptable (as determined by SCAQMD, the State of California, or USEPA) exposure to toxic air contaminants. After the permit is granted, the SCAQMD would verify, through its compliance and inspection program, that no new sensitive receptors would be exposed to these contaminants.

If, upon consultation, the SCAQMD determines that the proposed business use requires a Rule 1401 permit, the applicant would be required to submit an Air Toxic Emissions Inventory Plan to SCAQMD for approval, in conformance with California Air Toxics Hot Spots Information and Assessment Act of 1987. The permit would be granted on the basis of an independent environmental analysis conducted according to CEQA Guidelines. Part of this analysis would include a public health risk screening assessment of the area within ¼ mile of the proposed use. If SCAQMD approves the inventory plan and grants the Rule 1401 permit, updates of the plan would be submitted every two years. The permit would allocate maximum annual and/or daily amounts of emissions to the individual emitter. Compliance with SCAQMD Rule 1401 would provide adequate safety from exposure to toxic air contaminants for existing and future sensitive receptors on the site.

Consistency with Air Quality Management Plan

The SCAQMD requires that an EIR discuss a project's consistency with the current regional Air Quality Management Plan and other regional plans. The purpose of the consistency finding is to determine whether an alternative would be is consistent with the assumptions and objectives of the regional air quality plans, and thus whether it would interfere with the region's ability to comply with federal and state air quality standards.

Future closure of MCAS Tustin was acknowledged in the 1994 AQMP Draft EIR (SCAQMD 1994b). However, no data has been found to demonstrate that emissions associated with reuse at an intensity comparable with the action proposed in Alternative 1 were included in the 1994 AQMP. Nor has data been found that reuse emissions were included in the 1997 AQMP or the 2000 AQMP, now in preparation. To the contrary, data obtained from SCAG indicates that forecasts for employment within the reuse area used for the 1997 AQMP were significantly less than subsequently included in OCP-96 Modified projections, and projected for Alternative 1 (SCAG 1999). Therefore, Alternative 1 would not be consistent with the 1994 and 1997 AQMPs. This would be a significant, unmitigable impact.

Mitigation Measures

Construction

There would be significant air quality impacts from PM_{10} and ROC emissions during each phase. The following mitigation measures should be included in project development plans to minimize construction air quality impacts, but would not reduce the impact below a level of significance.

AQ-1 If determined feasible and appropriate on a project-by-project basis, the City of Tustin and the City of Irvine, as applicable, shall require individual development projects to implement one or more of the following control measures, if not already required by the SCAQMD under Rule 403:

- Apply water twice daily, or chemical soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces at all actively disturbed sites.
- Develop a construction traffic management plan that includes, but is not limited to, rerouting construction trucks off congested streets, consolidating truck deliveries, and providing dedicated turn lanes for movement of construction trucks and equipment onsite and offsite.
- Use electricity from power poles rather than temporary diesel or gasoline powered generators.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- Pave construction roads that have a traffic volume of more than 50 daily trips by construction equipment or 150 total daily trips for all vehicles.
- Apply approved chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for four days or more).
- Replace ground cover in disturbed areas as quickly as possible.
- Enclose, cover, water twice daily, or apply approved soil binders according to manufacturers' specifications, to exposed piles of gravel, sand, or dirt.

- Cover all trucks hauling dirt, sand, soil, or other loose materials, and maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and top of the trailer).
- Sweep streets at the end of the day if visible soil material is carried over to adjacent roads (use water sweepers with reclaimed water when feasible).
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip.

AQ-2 Unless determined by the City of Tustin and the City of Irvine, as applicable, to be infeasible on a project-by-project basis due to unique project characteristics, each city shall require individual development projects to use low VOC architectural coatings for all interior and exterior painting operations.

Operation

There would be significant operational air quality impacts that cannot be fully mitigated. In order to minimize emissions as much as possible, the following mitigation measures should be included in project development plans:

AQ-3 Prior to the issuance of development permits for new non-residential projects with 100 or more employees, and expanded projects where additional square footage would result in a total of 100 or more employees, the City of Tustin and the City of Irvine, as applicable, shall impose a mix of TDM measures which, upon estimation, would result in an average vehicle ridership of at least 1.5, for each development with characteristics that would be reasonably conducive to successful implementation of such TDM measures. These TDM measures may include one or more of the following, as determined appropriate and feasible by each city on a case-by-case basis:

- Establish preferential parking for carpool vehicles.
- Provide bicycle parking facilities.
- Provide shower and locker facilities.
- Provide carpool and vanpool loading areas.
- Incorporate bus stop improvements into facility design.
- Implement shuttles to shopping, eating, recreation, and/or parking and transit facilities.
- Construct remote parking facilities.

- Provide pedestrian circulation linkages.
- Construct pedestrian grade separations.
- Establish carpool and vanpool programs.
- Provide cash allowances, passes, and other public transit and purchase incentives.
- Establish parking fees for single occupancy vehicles.
- Provide parking subsidies for rideshare vehicles.
- Institute a computerized commuter rideshare matching system.
- Provide a guaranteed ride-home program for ridesharing.
- Establish alternative work week, flex-time, and compressed work week schedules.
- Establish telecommuting or work-at-home programs.
- Provide additional vacation and compensatory leave incentives.
- Provide on-site lunch rooms/cafeterias and commercial services such as banks, restaurants, and small retail.
- Provide on-site day care facilities.
- Establish an employee transportation coordinator(s).

AQ-4 If not required under each individual development's TDM plan, the City of Tustin and the City of Irvine, as applicable, shall implement the following measures, as determined appropriate or feasible by each city on a case-by-case basis:

- Reschedule truck deliveries and pickups for off-peak hours.
- Implement lunch shuttle service from a worksite(s) to food establishments.
- Implement compressed work week schedules where weekly work hours are compressed into fewer than five days, such as 9/80, 4/40, or 3/36.
- Provide on-site child care and after-school facilities or contribute to off-site developments within walking distance.
- Provide on-site employee services such as cafeterias, banks, etc.
- Implement a pricing structure for single-occupancy employee parking, and/or provide discounts to ridesharers.
- Construct off-site pedestrian facility improvements such as overpasses and wider sidewalks.
- Include retail services within or adjacent to residential subdivisions.
- Provide shuttles to major rail transit centers or multi-modal stations.
- Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).
- Synchronize traffic lights on streets impacted by development.

- Construct, contribute, or dedicate land for the provision of off-site bicycle trails linking the facility to designated bicycle commuting routes.
- Include residential units within a commercial development.
- Provide off-site bicycle facility improvements, such as bicycle trails linking the facility to designated bicycle commuting routes, or on-site improvements, such as bicycle paths.
- Include bicycle parking facilities such as bicycle lockers.
- Include showers for bicycling and pedestrian employees' use.
- Construct on-site pedestrian facility improvements, such as building access which is physically separated from street and parking lot traffic, and walk paths.

4.13.5 Alternative 2

Impacts

Construction

Construction emissions from the development of Alternative 2 would be similar to those that would result from the development of Alternative 1. Like Alternative 1, a golf course would be developed in the Early Phase, which would result in PM_{10} emissions that exceed SCAQMD daily and quarterly significance criteria during that phase. Because more development activity would occur during the first three phases compared to Alternative 1, higher peak daily and quarterly emissions would result from the development of Alternative 2. Therefore, it is estimated that PM_{10} emissions from Alternative 2 would exceed SCAQMD daily and quarterly significance criteria during the first three phases, while ROC would exceed daily and quarterly significance criteria during each phase. NOx emissions from Alternative 2 would also be expected to exceed SCAQMD quarterly thresholds in each phase except the later phase and final phase, and daily thresholds during the early phase. Construction emissions from Alternative 2 would exceed those estimated for Alternative 1.

Operation

Development of Alternative 2 would generate air pollutants from vehicular emissions, and emissions associated with production and use of electricity and natural gas. In the years 2005 and 2020, this alternative would result in approximately 108,246 ADT and 260,918 ADT, respectively.

4.14 NOISE

This section discusses noise impacts resulting from DON's disposal of MCAS Tustin, civilian reuse of the reuse plan area, or caretaker status (No Action). Existing and future noise levels along roadways in the reuse plan area and surrounding areas were projected using data from a traffic study prepared for the proposed MCAS Tustin Reuse Plan (AFA 1999), Appendix F, and employing the methodology from the Federal Highway Administration's "Highway Traffic Noise Prediction Model" (FHWA 1978). Noise impacts are analyzed considering a full build-out condition for each of the reuse alternatives. Traffic noise levels were estimated for the roadways discussed in Section 4.12 (Traffic/Circulation). Technical terms used in this section are defined in Section 3.14 (Noise) of this EIS/EIR. Noise level calculations are indicated in tables to tenths of a dB; noise levels in the text are rounded to the nearest whole dB.

4.14.1 Significance Criteria

Noise impacts would be considered significant if noise levels experienced by sensitive receptors would exceed those considered "normally acceptable" for the applicable land use categories in the Noise Elements of the General Plans for the cities of Tustin, Irvine, and Santa Ana (see Tables 3.14-2, 3.14-3, and 3.14-4 in Chapter 3). Residences, schools, libraries, hospitals, and recreational areas are generally considered sensitive noise receptors. Existing on-site residential developments are considered sensitive noise receptors. New development within the reuse area would include sensitive noise receptors, such as residences and schools. The area surrounding the site contains numerous sensitive receptors in the cities of Irvine, Tustin, Santa Ana, and the unincorporated County of Orange. In the case where existing noise levels already exceed normally acceptable levels for any given land use category, then an increase of 3 dB CNEL or greater noise levels experienced by a sensitive receptor would be considered a significant impact (City of San Diego 1994).

4.14.2 DON Disposal of MCAS Tustin

Impacts

DON disposal of MCAS Tustin, which involves a transfer of title, in and of itself would not have a significant noise impact. Disposal is simply a transfer of title and would not generate or reduce aircraft operations or vehicular trips and associated noise.

Mitigation Measures

Disposal of MCAS Tustin would result in less than significant noise impacts, and no mitigation measures would be required.

4.14.3 Alternative 1

Impacts

With implementation of Alternative 1, there would be no aircraft operations occurring in the reuse area. In the baseline condition, aircraft noise levels within most of the reuse area exceeded 65 dBA CNEL, as shown in Figure 3.14-1 of this EIS/EIR. Therefore, the elimination of aircraft operations proposed by Alternative 1 would result in the elimination of the associated noise and a reduction in the overall noise levels within and around the reuse area. This would be a beneficial impact.

Implementation of Alternative 1 would result in additional vehicular noise from traffic generated by new development. Projected vehicle noise levels along major roadways in the area are summarized in Table 4.14-1. Noise levels would also increase in the future without implementation of Alternative 1. As shown in the second to last column in Table 4.14-1, traffic from future cumulative development without Alternative 1 (future baseline condition) would add up to ~~4~~ 7 dB CNEL along existing roadways at a distance of 75 feet from the roadway's centerline. With the implementation of Alternative 1, development closest to major roadways would be affected by noise of 70 dB CNEL or higher. The highest noise levels, ranging from 71 to 74 dB CNEL, are projected along portions of Irvine Boulevard, Tustin Ranch Road, Warner Avenue, Red Hill Avenue, Jamboree Road, and Barranca Parkway. All except Tustin Ranch Road south of Walnut Avenue are existing roadways that carry relatively heavy traffic volumes which generate existing noise levels between 70 and 74 dB CNEL. As shown in the last column of the table, implementation of Alternative 1 would change noise levels on existing major roadways, with increases greater than 3 dB CNEL on four segments: Valencia Avenue west of Red Hill Avenue (City of Tustin), Warner Avenue west of Red Hill Avenue (cities of Tustin and Santa Ana), Warner Avenue east of Grand Avenue (City of Santa Ana), and Warner Avenue west of Harvard Avenue (City of Irvine). All of the areas affected by these noise levels are designated as either Professional Office (City of Tustin), Industrial (cities of Tustin and Santa Ana), or Business and Industrial or Urban and Industrial (City of Irvine) under the respective city's general plan land use designations. The Tustin General Plan Noise Element (1994),

Table 4.14-1
Alternative 1 Noise Impacts From On-site Development and Cumulative Traffic

Roadway Segment [1]	24-hour Traffic Volume			Noise Level (CNEL or Ldn) at Distance from Roadway Centerline										
				Existing Baseline			Future Baseline			Future Baseline Plus Alternative 1			Baseline Change From Existing	Change due to Project
	Existing Baseline	Future Baseline Without Project	Future Baseline Plus Project	75 feet	200 feet	500 feet	75 feet	200 feet	500 feet	75 feet	200 feet	500 feet		
TUSTIN/REUSE PLAN AREA														
Valencia e/o Red Hill		10,000	22,000	–	–	–	65.1	58.2	52.2	68.5	61.6	55.6	–	+3.4
Loop N e/o Armstrong			9,000	–	–	–	–	–	–	64.6	57.7	51.7	–	–
Loop N w/o Tustin Ranch			14,000	–	–	–	–	–	–	66.6	59.7	53.6	–	–
Loop N e/o Tustin Ranch			8,000	–	–	–	–	–	–	64.1	57.2	51.2	–	–
Loop S e/o Armstrong			12,000	–	–	–	–	–	–	65.9	59.0	52.9	–	–
Loop S w/o Tustin Ranch			20,000	–	–	–	–	–	–	68.1	61.2	55.2	–	–
Loop S s/o Warner			6,000	–	–	–	–	–	–	62.9	56.0	49.9	–	–
Moffett e/o Loop		1,000	6,000	–	–	–	55.1	48.2	42.2	62.9	56.0	49.9	–	+7.8
Tustin Ranch s/o Edinger			27,000	–	–	–	–	–	–	69.4	62.5	56.5	–	–
Tustin Ranch s/o Loop N			25,000	–	–	–	–	–	–	69.1	62.2	56.1	–	–
Tustin Ranch s/o Warner			38,000	–	–	–	–	–	–	70.9	64.0	58.0	–	–
Tustin Ranch s/o Loop S			39,000	–	–	–	–	–	–	71.0	64.1	58.1	–	–
Warner e/o Red Hill			51,000	–	–	–	–	–	–	72.2	65.3	59.2	–	–
Warner e/o Armstrong			43,000	–	–	–	–	–	–	71.4	64.5	58.5	–	–
Warner e/o Tustin Ranch			20,000	–	–	–	–	–	–	68.1	61.2	55.2	–	–
Armstrong n/o Barranca			6,000	–	–	–	–	–	–	62.9	56.0	49.9	–	–
Armstrong n/o Loop S			9,000	–	–	–	–	–	–	64.6	57.7	51.7	–	–
Armstrong n/o Warner			11,000	–	–	–	–	–	–	65.5	58.6	52.6	–	–
TUSTIN/OFF SITE														
Irvine w/o Jamboree	26,000	45,000	44,000	69.2	62.3	56.3	71.6	64.7	58.7	71.5	64.6	58.6	+2.3	-0.1
Tustin Ranch s/o I-5	18,000	32,000	44,000	67.7	60.7	54.7	70.1	63.2	57.2	71.5	64.6	58.6	+3.9	+1.4
Tustin Ranch s/o Walnut			40,000	–	–	–	–	–	–	71.1	64.2	58.2	–	–
Valencia w/o Red Hill	4,000	8,000	17,000	61.1	54.2	48.2	64.1	57.2	51.2	67.4	60.5	54.5	+6.3	+3.3
TUSTIN/SANTA ANA														
Red Hill n/o Dyer/Barranca	31,000	26,000	33,000	70.0	63.1	57.1	69.2	62.3	56.3	70.3	63.4	57.3	+0.3	+1.0
Warner w/o Red Hill	15,000	12,000	39,000	66.9	60.0	53.9	65.9	59.0	52.9	71.0	64.1	58.1	+4.1	+5.1
Barranca e/o Red Hill	33,000	34,000	46,000	70.3	63.4	57.3	70.4	63.5	57.5	71.7	64.8	58.8	+1.4	+1.3
TUSTIN/IRVINE														
Barranca w/o Von Karman		30,000	41,000	–	–	–	69.9	63.0	56.9	71.2	64.3	58.3	–	+1.4
Barranca w/o Jamboree	29,000	29,000	44,000	69.7	62.8	56.8	69.7	62.8	56.8	71.5	64.6	58.6	+1.8	+1.8
Harvard n/o Irvine Center	10,000	10,000	12,000	65.1	58.2	52.2	65.1	58.2	52.2	65.9	59.0	52.9	+0.8	+0.8
Harvard s/o Irvine Center	10,000	9,000	14,000	65.1	58.2	52.2	64.6	57.7	51.7	66.6	59.7	53.6	+1.5	+1.9
Harvard n/o Warner	10,000	8,000	11,000	65.1	58.2	52.2	64.1	57.2	51.2	65.5	58.6	52.6	+0.4	+1.4
Jamboree n/o Barranca	34,000	78,000	86,000	70.4	63.5	57.5	74.0	67.1	61.1	74.4	67.5	61.5	+4.0	+0.4
SANTA ANA														
Warner e/o Grand	19,000	18,000	40,000	67.9	61.0	54.9	67.7	60.7	54.7	71.1	64.2	58.2	+3.2	+3.5
IRVINE														
Barranca e/o Jamboree	25,000	24,000	27,000	69.1	62.2	56.1	68.9	62.0	56.0	69.4	62.5	56.5	+0.3	+0.5
Irvine e/o Jamboree	23,000	39,000	38,000	68.7	61.8	55.8	71.0	64.1	58.1	70.9	64.0	58.0	+2.2	-0.1
Warner e/o Harvard	3,000	9,000	15,000	59.9	53.0	46.9	64.6	57.7	51.7	66.9	60.0	53.9	+7.0	+2.2
Warner w/o Harvard	1,000	2,000	14,000	55.1	48.2	42.2	58.1	51.2	45.2	66.6	59.7	53.6	+11.5	8.5

[1] n/o = north of; s/o = south of; e/o = east of; w/o = west of

Santa Ana General Plan Noise Element (1997), and Irvine General Plan Noise Element (1997) consider a CNEL of up to 75 dB compatible for the uses that would be affected by these noise levels. ~~Therefore, this impact~~ Based on the designated land uses, these impacts would be less than significant.

With implementation of Alternative 1, noise levels at a distance of 75 feet from the centerline of Warner Avenue, between Harvard Avenue and Culver Drive, would increase from a future baseline noise level of approximately 65 dB CNEL to a noise level of approximately 67 dB CNEL. There are residential and park uses along this segment of roadway without noise barriers, and the Alternative 1 projected noise level could contribute to the exceedence of the City of Irvine standard of 65 dB CNEL, which would be a significant impact.

The extension of Tustin Ranch Road from Walnut Avenue to Edinger Avenue is a planned City of Tustin project and is not part of Alternative 1. This improvement is forecast to result in traffic noise levels of 71 dB CNEL 75 feet from the roadway centerline, which exceeds the land use compatibility standards for residential uses in the City of Tustin. There are existing single-family residences located along the proposed extension, which, at present, is a cleared corridor. Between the homes and the corridor there are existing walls or earthen berms. The grade separation of the Tustin Ranch Road/Edinger Avenue intersection would be included in Alternative 1. This action would likely result in the future roadway being located at an elevation higher than the existing corridor. In this case, homes adjacent to the elevated portion of Tustin Ranch Road may be exposed to noise levels that are greater than 65 dB CNEL, which would be a significant impact. Future vehicular noise (future baseline plus Alternative 1) from all other existing roadways analyzed in the traffic study (Appendix F) would not exceed the threshold of significance.

Within the reuse plan area, noise levels along future roadways would range from 63 to 72 dB CNEL at a distance of 75 feet from the roadway centerline. Areas affected by traffic noise from Warner Avenue along Harvard Avenue are located within the reuse plan area. The future projected noise levels and contours show that a portion of the existing military housing, which would be converted to civilian uses, would be located within the 70 dB CNEL contours of Jamboree Road and Harvard Avenue. A portion of the proposed housing would also be affected by noise levels above 70 dB CNEL from vehicular traffic on Loop Road, Edinger Avenue, Tustin Ranch Road, Harvard Avenue, and Jamboree Road.

The most noise-sensitive uses within the reuse plan area would be residences and schools, which would be located in the northern and southern portion of the site, and would be affected by traffic noise from major roadways.

Proposed residential units within the reuse plan area adjacent to Edinger Avenue would be affected by noise from SRRCA/OCTA railroad operations and maintenance. This noise may occur at all hours of the day and night and may exceed 70 dB CNEL. The state requirements include a CNEL of 45 dB or less for interior multi-family residential spaces (with closed windows and proper ventilation). The General Plan Noise Elements for Tustin and Irvine require noise analysis and insulation (if necessary) in residences exposed to exterior noise levels of above 60 dB CNEL, with a CNEL above 65 dB considered "normally incompatible with residential uses."

As part of existing routine development conditions, the cities of Tustin and Irvine require, as applicable, all residential lots and new dwellings to be sound attenuated against present and projected noise so as not to exceed an exterior standard of 65 dB CNEL in outdoor living areas and an interior standard of 45 dB CNEL in all habitable rooms. Evidence that these standards would be satisfied in a manner consistent with applicable zoning regulations, prepared by a certified acoustical consultant, must be submitted to each city prior to issuance of any building permits. For non-residential structures, both cities require sound attenuation that meets the interior noise criteria specified in each city's general plan. Development applicants are required to provide evidence prepared by a certified acoustical consultant that these standards would be satisfied in a manner consistent with each city's applicable zoning regulations. These existing requirements, would result in adequate noise protection for future residential uses, including those units affected by SCRRA/OCTA railroad operations and maintenance noise.

Schools would be built in conformance with existing state requirements for school facilities, which would result in adequate noise protections for students and teachers. The state requirements for interior noise levels would be met either through setting classrooms at appropriate distances from the roadways or insulating the school buildings. Since the proposed school sites are 10 or more acres in size, there would be enough flexibility for siting classrooms at adequate setbacks from the roadways. The TUSD and IUSD would be responsible for providing necessary noise attenuation for their facilities.

Summary of Impacts

Existing uses on other roadways surrounding the site would not experience noise levels that exceed those established as acceptable for the affected land use resulting from Alternative 1, and impacts would be less than significant. The proposed extension of Tustin Ranch Road to Von Karman Avenue could expose existing residences to noise levels greater than 65 dB CNEL. With implementation of Alternative 1 and other future development, noise levels at residential and park uses adjacent to Warner Avenue between Harvard Avenue and Culver Drive may be exposed to noise levels greater than 65 dB CNEL, a significant impact.

Within the reuse plan area, future noise-sensitive uses would be developed in accordance with applicable regulations and would have adequate noise protection; thus, this impact would be less than significant. Some existing on-site housing units planned for reuse would experience noise levels greater than 65 dB CNEL. Because these units would experience a noise level higher than that established for residential uses, this impact is considered significant. Therefore, prior to reuse for civilian housing, appropriate noise attenuation measures should be implemented to ensure that these units do not exceed applicable noise standards.

Mitigation Measures

The following mitigation measures shall be implemented to reduce the noise impacts of Alternative 1 to a level less than significant:

N-1 Prior to reuse of any existing residential units within the reuse area for civilian use, The City of Tustin or the City of Irvine, as applicable, and where necessary and feasible, shall require the installation of noise attenuation barriers, insulation, or similar devices to ensure that interior and exterior noise levels at these residential units do not exceed applicable noise standards.

N-2 During design of the grade-separated intersection of Tustin Ranch Road at Edinger Avenue, the City of Tustin shall evaluate potential noise impacts on surrounding properties to the northeast of Edinger Avenue and shall incorporate into the design of this intersection noise attenuation measures determined appropriate and feasible by the City of Tustin, in order to ensure that these surrounding properties do not experience noise levels that exceed City of Tustin noise standards.

N-3 For new development within the reuse area, The City of Tustin and City of Irvine, as applicable, shall ensure that interior and exterior noise levels do not exceed those prescribed by state requirements and local city ordinances and general plans. Plans demonstrating noise regulation conformity shall be submitted for review and approval prior to building permits being issued to accommodate reuse.

N-4 Prior to the connection of Warner Avenue to the North Loop Road or the South Loop Road, the City of Tustin shall conduct an acoustical study to assess reuse traffic noise impacts to existing sensitive receptors adjacent to Warner Avenue, between Harvard Avenue and Culver Drive. If mitigation of reuse traffic noise impacts is required, the City of Tustin and the City of Irvine shall enter into an agreement that defines required mitigation and which allocates the cost of mitigation between the City of Tustin and the City of Irvine on a fair share basis.

4.14.4 Alternative 2

Impacts

With implementation of Alternative 2, there would be no aircraft operations occurring in the reuse area. In the baseline condition, aircraft noise levels within most of the reuse area exceeded 65 dBA CNEL, as shown in Figure 3.14-1 of this EIS/EIR. Therefore, the elimination of aircraft operations proposed by Alternative 2 would result in the elimination of the associated noise and a reduction in the overall noise levels within and around the reuse area. This would be a beneficial impact.

Alternative 2 would result in traffic noise impacts along major streets, similar to Alternative 1. As shown in the last column of Table 4.14-2, implementation of Alternative 2 would add up to 9 dB CNEL to existing roadways over future baseline conditions. Traffic noise levels along these roadways would range from 66 to 72 dB CNEL at 75 feet from the street centerline.

Similar to Alternative 1, the same four roadways would experience more than a 3 dB CNEL increase but would not exceed land use compatibility levels established for the ~~affected~~ designated land use, as these roadways are located in commercial and industrial areas. Vehicular traffic along all other analyzed roadways, as discussed in Section 3.12 (Traffic/Circulation), would not result in more than a 3 dB CNEL increase in the future baseline plus Alternative 2 condition. There could be a significant impact on residential and park uses on Warner Avenue between Harvard Avenue and Culver Drive, as described for Alternative 1.