Appendix K

Supplemental Environmental Evaluation for LAX Expressway and State Route 1 Improvements

Prepared for:

Los Angeles World Airports
U.S. Department of Transportation
Federal Highway Administration
Federal Aviation Administration

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1.0 INTRODUCTION

The Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Los Angeles International Airport (LAX) Proposed Master Plan Improvements project (hereinafter "Draft LAX EIS/EIR) evaluates the environmental consequences of four project alternatives: Alternatives A, B and C, and the No Project/No Action Alternative. The Draft LAX EIS/EIR is being prepared under the direction of the Federal Aviation Administration (FAA) for compliance with NEPA and the City of Los Angeles for compliance with CEQA. The Federal Highway Administration (FHWA) is a cooperating federal agency with FAA with respect to the potential environmental impacts, due to off-airport roadway improvements that interconnect with federal roadways.

The on and off-airport roadway improvements discussed in the Draft LAX EIS/EIR are considered in conjunction with the evaluation of each LAX Master Plan alternative. The off-airport roadway improvements include preliminary concepts for new roadway segments and modifications to existing roadways located within and outside the boundary of the LAX Master Plan. These improvements occur on land which generally is not owned and operated by the Los Angeles World Airports (LAWA) for airport related uses.

Two of the off-airport roadway improvements, the LAX Expressway and State Route 1 improvements, have progressed in terms of planning and preliminary engineering design (Figure 1-1). The two proposed roadway improvement projects are the subject of Project Study Reports (PSR), which considers multiple build alternatives and a "no action" alternative. The PSRs are currently being prepared under the direction of the California Department of Transportation (Caltrans), which also are reviewed by FHWA for coordination with any federally proposed projects. The PSRs consider potential environmental impacts relative to the regulatory requirements of CEQA.

The Draft LAX EIS/EIR provides a program-level analysis that addresses the general environmental impacts associated with these roadways for Master Plan Alternatives A, B and C, which addresses both CEQA and NEPA regulations. The LAX Expressway roadway alignment shown for Alternative B was initially evaluated during the preparation of the PSRs, and determined that the alternative was not viable due to impacts to historic resources. Therefore, the program-level analysis included in the Draft LAX EIS/EIR is considered adequate and no additional detailed evaluation for Alternative B was prepared as part of this document. However, in order to comply with the FHWA standards and NEPA regulations, these two proposed off-airport roadway projects require additional evaluation for Alternatives A and C. This is due to the proposed interconnection with a federal highway (I-405) and the possible use of federal funds for construction of the projects. FHWA requested that LAWA provide more detailed analysis of the potential environmental impacts associated with the construction of the two proposed off-airport roadway improvement projects.

FHWA is considered the lead agency for the preparation of this document, in coordination with FAA. The document has been prepared in order to comply with FHWA standards, which follow the regulatory requirements of NEPA. This report provides supplemental environmental evaluation of the alternatives under consideration for the LAX Expressway and State Route 1 Improvements project. The supplemental analysis considers the FHWA guidelines for preparation of a project-specific Environmental Impact Statement (EIS) for the roadway improvement projects for the Master Plan Alternatives A and C only based on the above reference to Alternative B. The PSR process currently underway by Caltrans will ultimately generate the detailed analysis to comply with CEQA regulations. The analysis provided in this document may be used to incorporate into future environmental documents to also satisfy NEPA

SOURCE: USGS Inglewood, CA and Venice, CA Quad Maps, Photorevised 1981

Prepared By: **URS**
Draft: 10/2000
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LAX Master Plan EIS/EIR	Site Map	Figure 1-1

L:\LAX pa\fig 1.1 site map rev.fh9 12/00 requirements. Table 1-1 provides a summary of the level of analysis for the two roadway improvement projects as they relate to the Master Plan alternatives.

Table 1-1
Off- Airport Roadway Improvement Projects
Environmental Analysis

Project Alternative	Level of Analysis	
	Program (EIS/EIR)	Project- Specific Appendix K
Alternative A	Yes	Yes
Alternative B	Yes	No
Alternative C	Yes	Yes
No Project/No Action	Yes	Yes

If additional detailed analysis is required, further study will be prepared to meet the FHWA standards. This report also addresses the relationship between the alternatives for each roadway project and the LAX Master Plan alternatives. A description of the affected environment and the probable social, economic, and environmental effects are also presented for each alternative. Any refinements to the proposed alignments are included in this document as mitigation that will be incorporated in the subsequent environmental documents prepared during the PSR process for Caltrans.

Overview of Proposed Roadway Improvement Projects

The LAX Expressway project is a new facility proposed to improve access to LAX from the north by diverting airport-related traffic from the I-405 freeway to a new roadway with direct connection to LAX. There are three alternatives considered for the project. All three alternatives would consist of four lanes, two in each direction. The alignment would generally extend along I-405 freeway from Arbor Vitae Street near Hindry Avenue to an alternative point near the existing I-405 freeway ramps at Howard Hughes Parkway, which is identified as Alternative 2-Split Viaduct. The alternative that is preferred by the LAWA staff is Alternative 3. This alternative minimizes the disruption to historic resources, reduces requirements for residential acquisition, and reduces traffic congestion in the region and local neighborhood communities, therefore, resulting in the least amount of potential environmental impacts.

Seven alternatives for the State Route 1 improvements were previously analyzed, of which two build alternatives and a “no action” alternative were selected for further study and refinement in the PSR. The State Route 1 improvements would shift the existing roadway alignment north in order to accommodate runway improvements identified in the LAX Master Plan Alternatives A and C. Alternative 2 is preferred by LAWA and Caltrans staff, based on the unknown future performance of the urban point interchange included in Alternative 3, relative to traffic safety. This design is not a standard Caltrans interchange design, therefore, no historic traffic safety data currently exist in California.

The LAX Expressway and State Route 1 Improvements project alternatives are described in Section 3.0 and evaluated in Sections 4.0 (Affected Environment) and 5.0 (Environmental Consequences).

2.0 PURPOSE AND NEED

The purpose and need for the proposed LAX Expressway and State Route 1 Improvements project are primarily focused on the implementation of the LAX Master Plan. The purpose and need for the Master Plan can be found in Section 2.0 of the Draft LAX EIS/EIR. A new LAX Expressway along the I-405 (San Diego Freeway) that would connect to Arbor Vitae Street and State Route 1 facilities west of the I-405 emerged as partial solutions to existing and forecasted roadway congestion on and around the airport. The State Route 1 improvements are proposed to accommodate proposed runway configurations envisioned under certain airport Master Plan alternatives and projected traffic congestion on Sepulveda Boulevard in the vicinity of LAX. The forecasted roadway congestion is associated with airport Master Plan Alternatives A, B and C, which are described in Section 3.0 of the Draft LAX EIS/EIR.

LAX Expressway

The purpose and need for the proposed LAX Expressway are to:

1) Minimize traffic on local streets north of the airport by providing a direct connection to the airport via an improved Arbor Vitae Street and I-405 freeway;
2) Separate airport – related traffic from non-airport related traffic by providing vehicle lanes that directly connect to the airport;
3) Provide added roadway capacity between the I-405 and LAX; and
4) Contribute to improving circulation and congestion in local communities to the north of the airport.

The LAX Expressway would provide a direct link from on-airport roadways to the I-405, north of Arbor Vitae Street. Southbound traffic on the I-405 destined for the airport complex would transition onto the LAX Expressway at the SR-90 (Marina Freeway) or near Howard Hughes Parkway and proceed south to a point where the LAX Expressway merges with an improved Arbor Vitae Avenue (near Hindry Avenue). Improvements to Arbor Vitae Street between Hindry Avenue and State Route 1 (Sepulveda Boulevard) would be undertaken by the City of Los Angeles in conjunction with the LAX Master Plan, assuming selection of a Master Plan build alternative (refer to Draft LAX EIS/EIR Section 3.0). Arbor Vitae Street improvements include widening from four lanes to six lanes, three in each direction. Reverse traffic flow (vehicles exiting the airport complex) would access the LAX Expressway from Arbor Vitae Avenue (near Hindry Avenue) and proceed to the northbound lanes of the I-405 at the point where the freeway and LAX Expressway merge (SR-90 or Howard Hughes Parkway).

State Route 1

The purpose and need for the proposed State Route 1 improvements are to:

1) Provide continuous movement on State Route 1, which does not currently exist; and
2) Accommodate requirements for roadway realignment due to future extension of airport runways.

In preparing the purpose and need section of this document, key information was extracted from the traffic studies prepared for the off-airport improvements as part of the Draft LAX EIS/EIR and the PSR prepared for these roadway improvements, which are currently being reviewed by Caltrans. The information from both sources is presented in this section, which addresses the existing and future transportation improvements in the region. Section 2.0 is organized into five main subsections:

- **Subsection 2.1 -** explains the relationship between the LAX Master Plan alternatives and the proposed LAX Expressway and State Route 1 improvements in order to establish the dependency of the Master Plan build alternatives on the roadway improvements.
- **Subsection 2.2 -** provides an overview of the regional and local roadway system to establish a framework, which support the projects.
- **Subsection 2.3 -** summarizes the existing traffic conditions and level of service within the roadway system to present the areas with below acceptable levels of service.
- **Subsection 2.4 -** summarizes the existing planned improvements to the roadway system that may affect the level of service and influence the purpose and need for the proposed LAX Expressway and State Route 1 improvements.
- **Subsection 2.5 -** presents information on projected transportation deficiencies that remain after implementation of the planned improvements to the regional and local transportation system.

2.1 RELATIONSHIP TO THE LAX MASTER PLAN EIS/EIR

Upon administrative review and analysis of the Draft LAX EIS/EIR Master Plan project alternatives, a more detailed analysis of the proposed off-airport roadway improvement elements was required by the Federal Highway Administration (FHWA). This report provides supplemental analysis in support of the LAX Master Plan and considers the regulatory requirements set forth by FHWA for preparing environmental documents.

Action on the proposed LAX Master Plan and accompanying Draft LAX EIS/EIR is expected to occur during the first half of the 2001 calendar year. At that time, the Federal Aviation Administration and Los Angeles World Airports will consider the Draft LAX EIS/EIR together with other Master Plan project information, and select one of four Master Plan alternatives evaluated in the Draft LAX EIS/EIR. The four Master Plan alternatives and their relationship to the proposed roadway projects evaluated in this report are briefly discussed below. The Master Plan project provides a contextual background for the LAX Expressway and the State Route 1 Improvements project, background important to the evaluation of environmental consequences and FHWA action on the roadway projects.

The No Action/No Project Alternative is described as the continuation of the existing 1981 Master Plan for the airport (Figure 2.1-1). This airport alternative assumes all construction projects that are fully entitled, approved, or underway, and operational changes such as remote parking of commuter aircraft, and flight scheduling changes.[1] Under this alternative the roadways serving the airport and surrounding areas would remain generally identical to the existing conditions with the exception of the planned roadway improvements listed in Section 2.4 and Caltrans' proposed HOV and Arbor Vitae interchange improvements to I-405. State Route 1 would not be realigned and the LAX Expressway would not be built under the No Action/No Project alternative.

The airport alternatives involving physical and operational changes on the airport property are:

- Alternative A – Fifth Runway, North Airfield (one additional runway)
- Alternative B – Fifth Runway, South Airfield (one additional runway)
- Alternative C – Four Runways (no new runways)

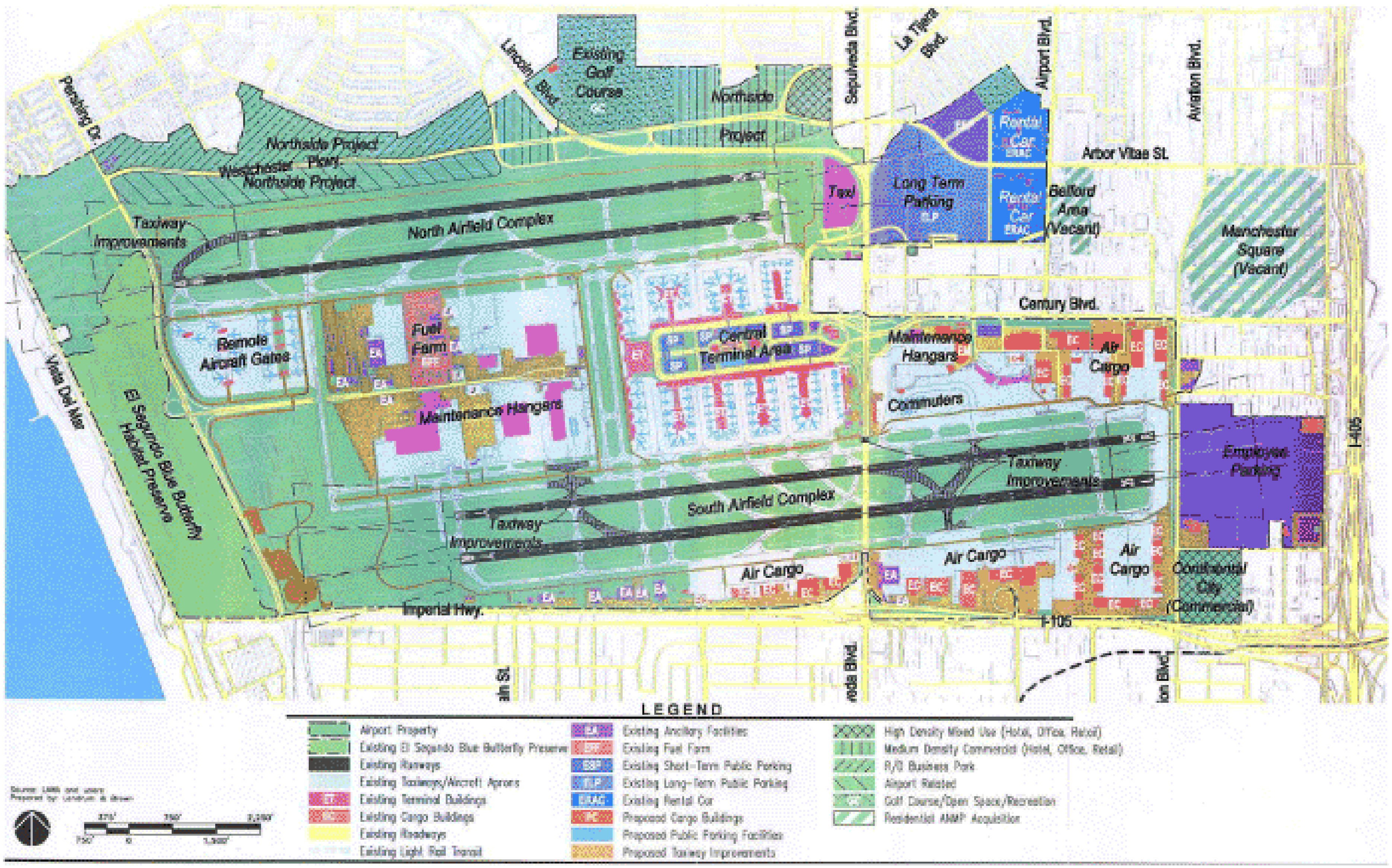
[1] Draft LAX EIS/EIR for LAX Proposed Master Plan Improvements (2000).

These alternatives are also referred to as “build” alternatives. Each build alternative presents a distinct combination of physical and operational improvements on the airport property to meet purpose, objectives, and needs identified for and contained in the LAX Master Plan. The proposed airport activities, summarized in the Draft LAX EIS/EIR Section 3.0, and the associated physical changes to airport facilities under each build alternative would necessitate improvements to the roadway network, including specific modifications to the roadways along the northern fringe of the LAX Master Plan boundary and its vicinity. The need for State Route 1 (Sepulveda and Lincoln Boulevards) roadway improvements is directly related to proposed physical changes to airport facilities (i.e., runways, terminals, etc.) under the build alternatives. The forecasted increase in passenger and aircraft activities accommodated by the build alternatives call for a ground access plan that is more efficient and provides roadway facilities with greater overall capacity. The LAX Expressway is proposed to increase surface transportation capacity, reduce airport-bound traffic on the northern community streets and maximize use of the regional roadway network in the airport vicinity. The proposed LAX Expressway responds to regional access needs. Combined, the LAX Expressway and State Route 1 Improvements project would minimize cut-through traffic thereby reducing impacts on neighborhoods near the airport, particularly those located to the north.

All three Master Plan build alternatives include concepts for connecting I-405 to the airport via a new LAX Expressway and State Route 1 realignment as well as a proposed Ring Road along the outside perimeter of the airport boundary. The Ring Road would connect portions of Westchester Parkway, SR-1, Arbor Vitae Street, the I-105/Imperial Highway and Pershing Drive to form a continuous loop around the airport boundaries and to allow direct connection between the I-405 and the airport road network. Alternative A-Fifth Runway, North Field includes a new runway on the north airfield complex and other major project elements such as passenger terminals, roadways, and cargo facilities proposed to meet the purpose and objectives of the LAX Master Plan and would accommodate forecast demand of 97.9 million annual passengers (MAP) in 2015 (Figure 2.1-2). Alternative B-Fifth Runway, South Field includes a new runway on the south airfield. Alternative B also includes passenger terminals, roadways, cargo facilities, and other improvements to meet the purpose and objectives of the LAX Master Plan and would accommodate forecast demand of 97.9 MAP in 2015 (Figure 2.1-3). Alternative C would retain the existing four-runway configuration (Figure 2.1-4). Passenger terminals, roadways, cargo facilities, and other improvements are proposed. Alternative C would accommodate 89.6 MAP in 2015. The LAX Expressway is targeted for completion in Phase 2 of the Master Plan. The State Route 1 improvements are targeted for completion in Phase 1(alternatives A, B, and C) to meet the purpose and objectives of the LAX Master Plan. Both roadway projects supported by the Southern California Association of Governments Regional Transportation Plan adopted April 16, 1998.

2.1.1 Safety

Creating an environment for safe, efficient, and compatible movement of vehicles, pedestrians, and cyclists is an important planning principle for new facilities and improvements to existing roadways. In addition to neighborhood traffic control devices (i.e., stop signs, signage, etc.) and traffic management programs, roadway improvements such as the LAX Expressway and State Route 1 Improvements project can incorporate features that support safe, efficient, and compatible circulation for vehicles, pedestrians, and cyclists. Adequate right-of-way to accommodate multiple modes of transportation (e.g., vehicular, pedestrian, transit, bicycle, etc.), location and signage of pedestrian and bicycle paths, and traffic controls are among the planning considerations.



LAX Master Plan EIS/EIR	No Action/No Project Alternative (2005/2015)	Figure 2.1-1

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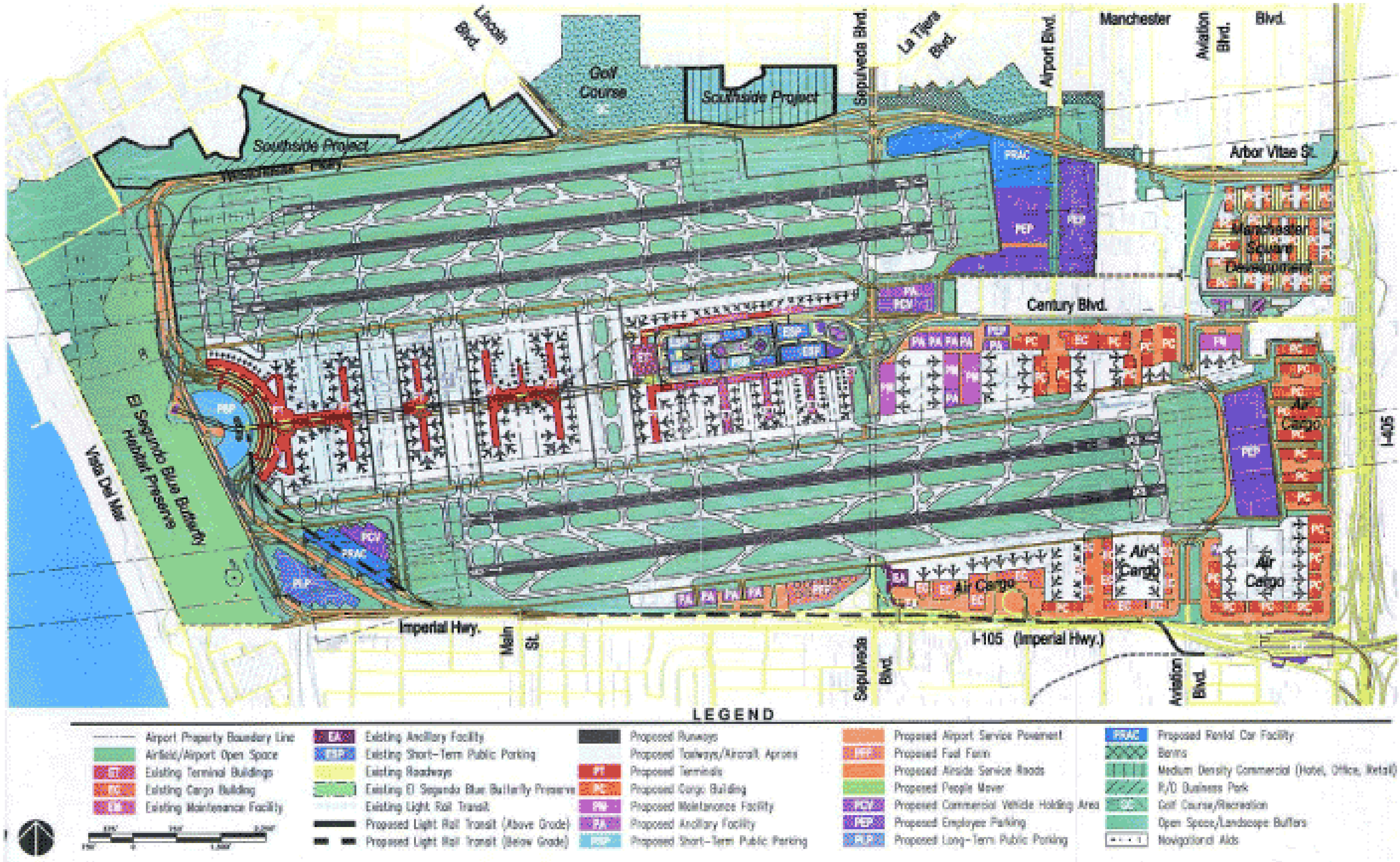
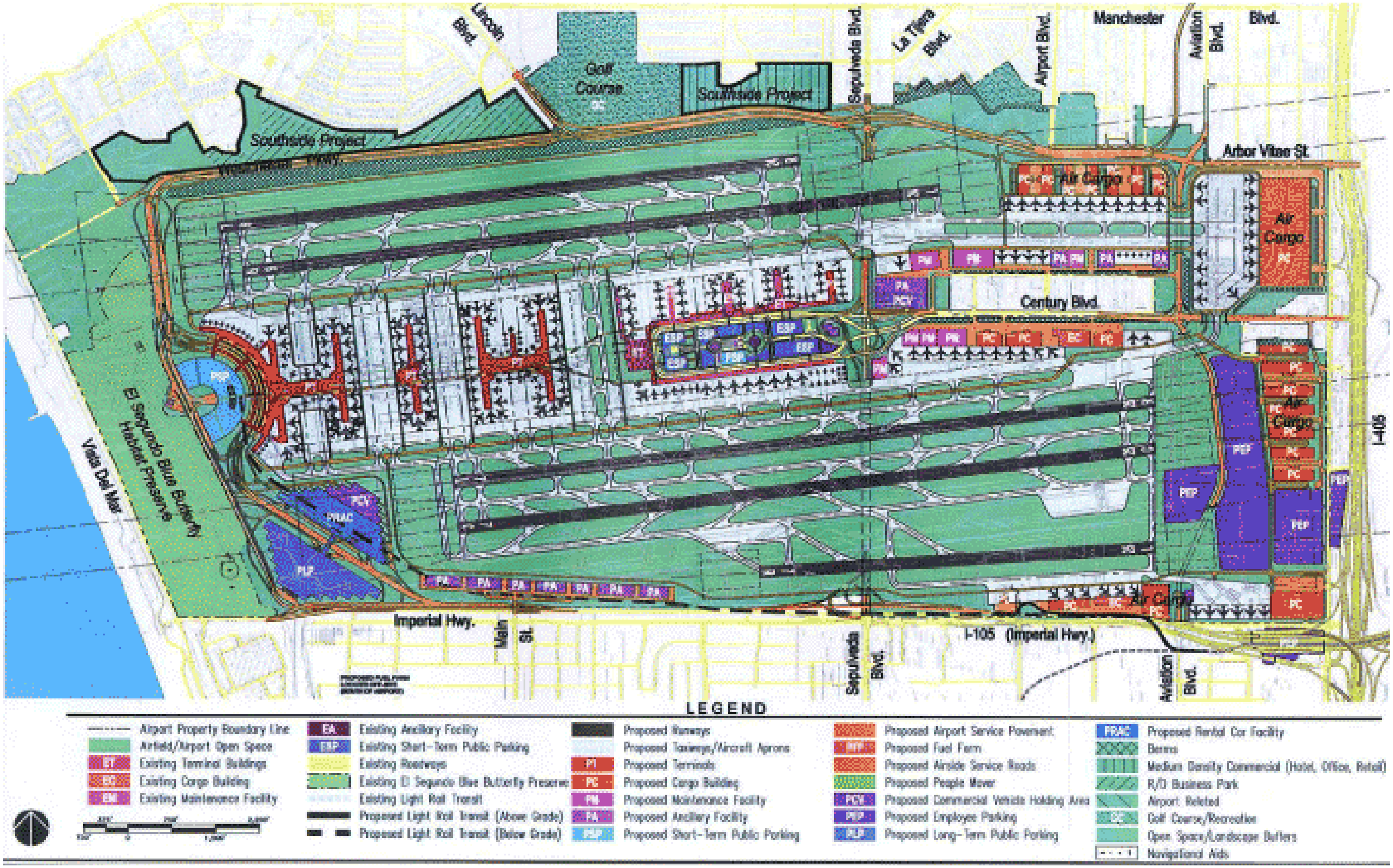


LAX Master Plan EIS/EIR	Alternative A - 2015 Fifth Runway - North Airfield	Figure 2.1-2



LAX Master Plan EIS/EIR	Alternative B - 2015 Fifth Runway - South Airfield	Figure 2.1-3

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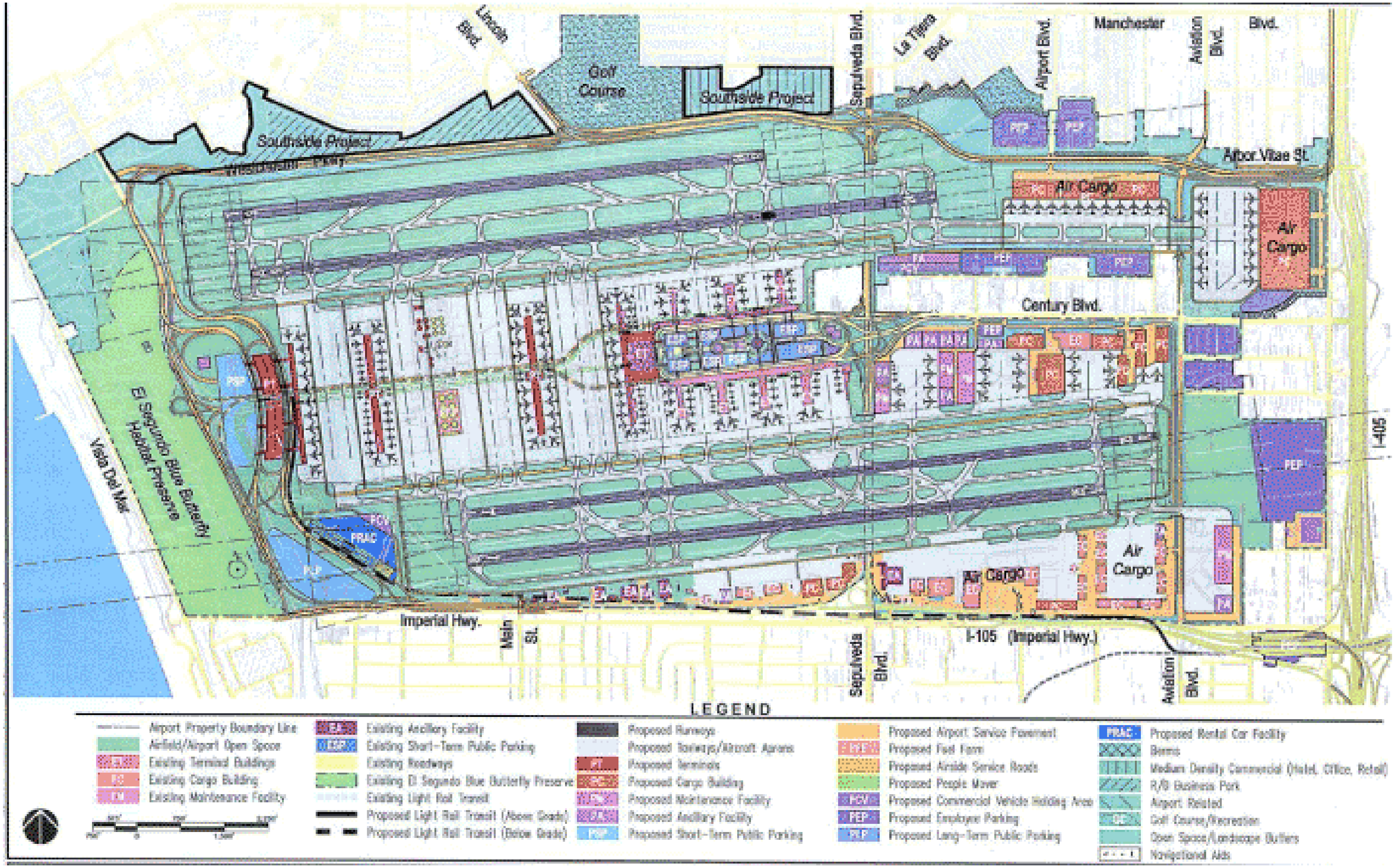

LAX Master Plan
EIS/EIR

Alternative C - 2015
Four Runways

Figure 2.1-4

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Along the LAX perimeter, spill-over effects of airport-related traffic can include high traffic volumes on neighborhood streets and "lost" motorists mistakenly turning onto residential streets.[2]

Conceptual plans for the LAX Expressway and State Route 1 improvements would minimize neighborhood "cut-through" traffic by providing direct alternate routes to and from the airport complex. A reduction in neighborhood through traffic would reduce potential conflicts and contribute toward safer and more efficient movement among motorists, pedestrians, and cyclists.

2.1.2 Modal Interrelationships

The Ground Access Plan for LAX proposes several transit improvements including relocation of the Airport LAX Transit Center, shuttle service connecting the existing Green Line rail station at Imperial Highway near Aviation Boulevard and LAX, and flyaway shuttle services to remote parking lots such as the Van Nuys Flyaway service. Other public transit services providing access to and from the LAX area include Los Angeles County Metropolitan Transportation Authority, Torrance Transit, Santa Monica Municipal Bus Lines, Culver City Municipal Bus Lines, and Los Angeles Department of Transportation.

The LAX Expressway and State Route 1 Improvements project would provide existing public transit operators, private airport shuttle operators, and other similar services with direct access to LAX via I-405, from areas north of the airport.

2.2 ROADWAY SYSTEM

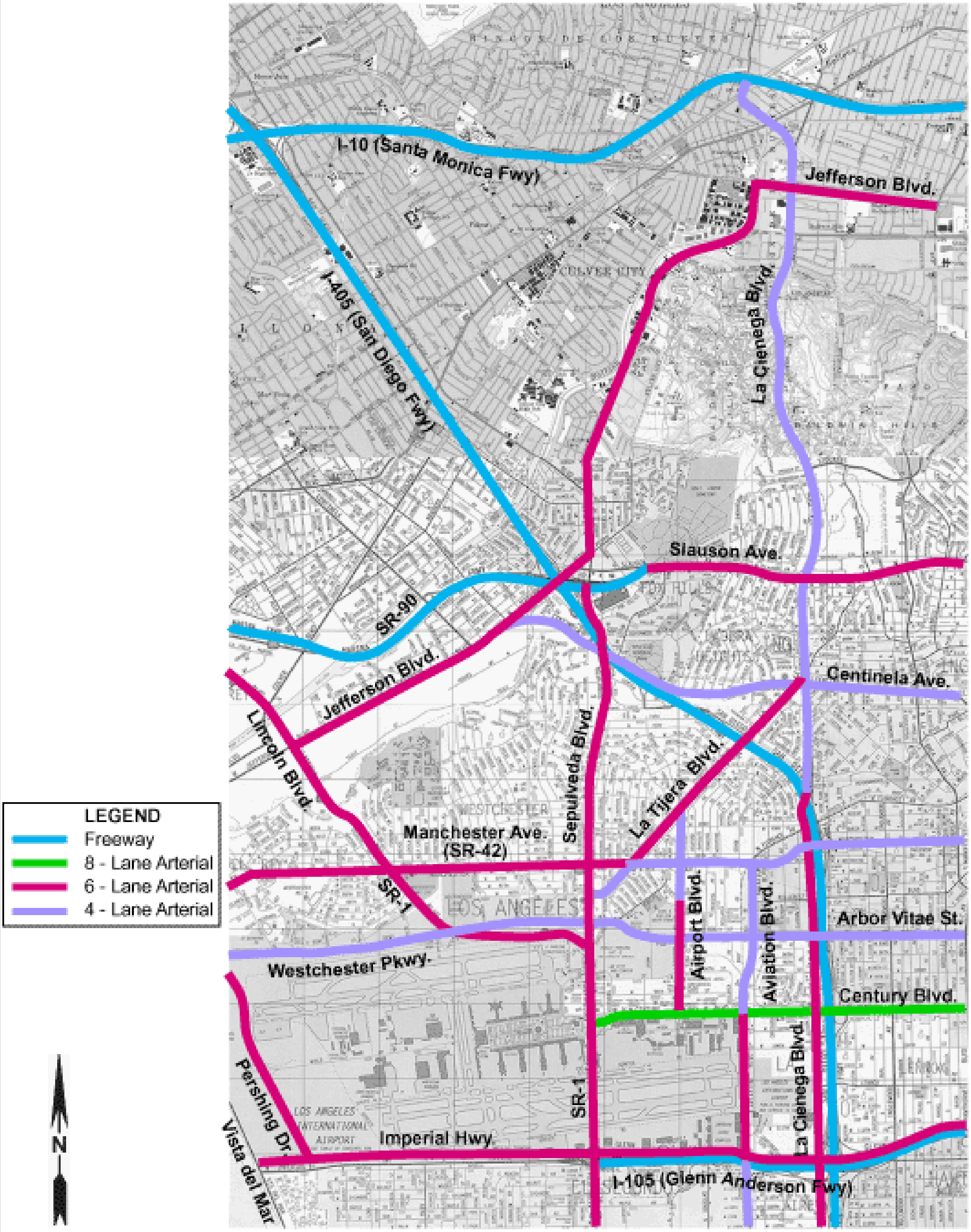
The roadway system in the vicinity of the proposed LAX Expressway and State Route 1 improvements consists of a hierarchy of roadways, including freeways, state routes, and local roadways. A technical traffic report prepared by Barton-Aschman Associates, Inc. (2000) in support of the PSR for the LAX Expressway and State Route 1 improvements identifies the study area and several key roadways pertinent to the projects. Below is a brief description of these key roadways (Refer Figure 2.2-1).

2.2.1 Freeway Network

The freeway network in the vicinity of the proposed projects consists of four facilities – the Interstate (I)-405 (San Diego Freeway), Interstate (I)-105 (Glenn Anderson Freeway), Interstate (I)-10 (Santa Monica Freeway), and State Route (SR) 90 (Marina Freeway).

- The San Diego Freeway is a high-volume, north-south freeway that provides regional access to coastal communities within Los Angeles and Orange counties. Near LAX, I-405 has four mixed-flow lanes in each direction and auxiliary lanes used for entering and exiting the freeway. Northbound and southbound High Occupancy Vehicle (HOV) lanes are currently provided from Century Boulevard southerly to Vermont Avenue (near the 110 Freeway). Caltrans has two HOV design projects in progress for the I-405. These HOV projects involve installation of HOV lanes between Century and Wilshire boulevards. The target year for completion of these projects is 2005.
- The Glenn Anderson Freeway, also commonly known as the "Century Freeway", is an east-west freeway that extends from Sepulveda Boulevard on the west to the I-605 (San Gabriel River Freeway) on the east. This freeway provides three mixed-flow lanes and one HOV lane in each direction. Interchanges nearest to the airport area include Sepulveda Boulevard, Imperial

[2] Barton-Aschman Associates, Inc., *Off-Airport Ground Access Impacts and Mitigation Measures* (October 10, 2000).



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LAX Master Plan
EIS/EIR

Existing Highway Infrastructure

Figure
2.2-1

Highway, and Nash Street. The Metro Green Line rail, located within the center median, provides light rail transportation to patrons.

- The Santa Monica Freeway is an east-west freeway that extends from Pacific Coast Highway through Los Angeles, San Bernardino, and Riverside counties. The I-10 is located approximately 5.1 km (3.2 miles) north of the proposed LAX Expressway's northern terminus.
- The Marina Freeway is an east-west freeway extending from Slauson Avenue on the east to Lincoln Boulevard on the west. This freeway is approximately 4.8 km (3.0 miles) in length and consists of four mixed-flow lanes in each direction from Slauson Avenue to Culver Boulevard and 2 mixed flow lanes in each direction from Culver Boulevard to Lincoln Boulevard. The I-405/SR-90 interchange provides full access to mixed-flow lanes on both freeways and the surrounding communities.

2.2.2 State Routes Network

The state routes network in the vicinity of the proposed projects consists of three facilities – Sepulveda Boulevard (State Route 1), Manchester Avenue (SR42), and Lincoln Boulevard, also referred to as State Route 1. These routes are depicted on Figure 2.2-1.

- Sepulveda Boulevard is a major north-south roadway with a total of up to 8 lanes. Sepulveda Boulevard is designated State Route 1 between Lincoln Boulevard on the north and Artesia Boulevard (City of Hermosa Beach) on the south.
- Manchester Avenue is an east-west major roadway with four lanes west of Hawthorne Boulevard and six lanes east of Hawthorne Boulevard. This facility is designated SR42 and is identified as Manchester Boulevard through the City of Inglewood.
- Lincoln Boulevard is a major north-south roadway. Lincoln Boulevard provides up to six travel lanes during the morning and evening peak hours; four travel lanes and on-street parking is provided during off-peak hours. Lincoln Boulevard is designated State Route 1 between Sepulveda Boulevard on the south and the Santa Monica Freeway on the north.

2.2.3 Local Roadway Network

For purposes of this analysis, eleven roadways are identified as principal facilities in the local roadway network. A brief description of each facility follows.

- **Jefferson Boulevard** is a 4-6-lane, major east-west roadway which extends from Lincoln Boulevard on the west to Central Avenue on the east, in the vicinity of downtown Los Angeles.
- **La Tijera Boulevard** is a 4-6-lane roadway in a southwest-northeast configuration that extends approximately 4.8 km (3.0 miles) from La Cienega Boulevard on the east to Sepulveda Boulevard on the west. West from Lincoln Boulevard, this street continues an additional 2.4 km (1.5 miles).
- **Century Boulevard** is an eight-lane mostly divided roadway with an east-west orientation. This major roadway extends from the LAX entrance at Sepulveda Boulevard to Central Avenue on the east. A full interchange is provided at Century Boulevard and I-405.
- **Imperial Highway** is a major six-lane roadway which extends from Vista Del Mar on the west to beyond the Los Angeles County boundary on the east. This roadway generally runs parallel to and/or under the Glenn Anderson Freeway between Sepulveda Boulevard and the I-405. Full interchanges are provided at the locations where Imperial Highway crosses the I-405 and I-105 freeways.

- **Centinela Avenue** is a four-lane major roadway with a northwest-to-southeast orientation. This roadway extends from Florence Avenue on the south to Ocean Park Boulevard on the north. North of Ocean Park Boulevard, this roadway is identified as Bundy Drive.
- **Sepulveda Boulevard** is a major north-south roadway designated State Route 1 between Artesia Boulevard on the south and Lincoln Boulevard on the north. This roadway provides six travel lanes south of Centinela Avenue.
- **Aviation Boulevard** is a four-lane roadway, extending in a north-south direction between Manchester Boulevard on the north and Pacific Coast Highway on the south. Aviation Boulevard widens to six lanes between Century Boulevard and Imperial Highway.
- **La Cienega Boulevard** is a major north-south roadway with four lanes north of the I-405 freeway and six lanes south of the I-405 freeway. South of the I-405, the La Cienega Boulevard alignment is parallel to the west side of the I-405 freeway.
- **Airport Boulevard** is a major roadway which provides 4 travel lanes between La Tijera Boulevard and just past Manchester Boulevard. It widens to approximately 6 travel lanes between Manchester Boulevard and Arbor Vitae Street.
- **Arbor Vitae Street** is a four-lane roadway.
- **Westchester Parkway** is a continuation of Arbor Vitae Street, west of Airport Boulevard. This roadway is four lanes between Airport Boulevard and La Tijera Boulevard.
- **Manchester Avenue** is a six-lane roadway between La Tijera Parkway and Pershing Drive.
- **Pershing Drive** is a six land arterial connecting Culver Boulevard at the north to W. Imperial Highway at the south and borders the west end of LAX airport.

2.3 EXISTING LEVELS OF SERVICE

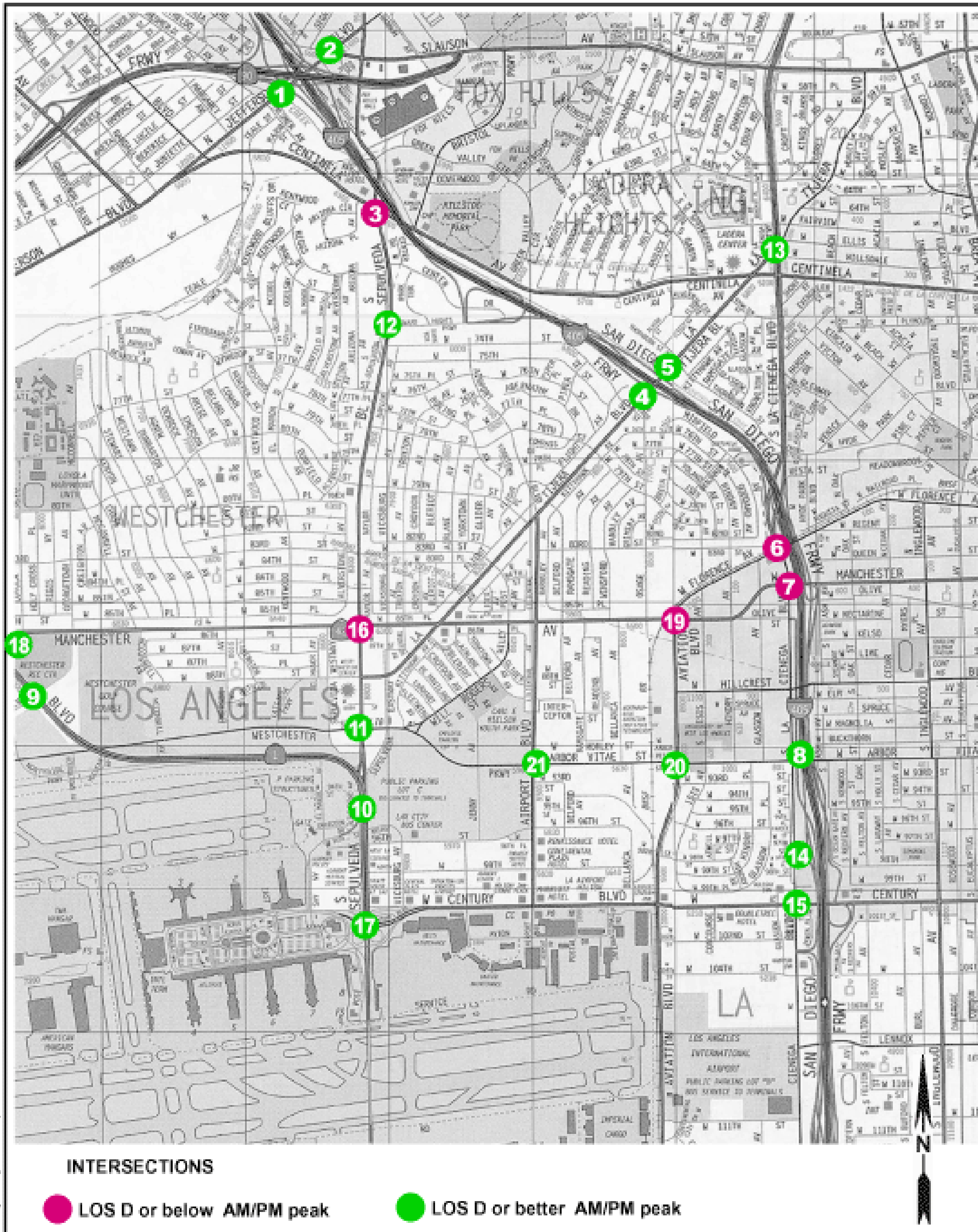
The existing levels of service for 21 intersections and four roadway segments in the vicinity of the LAX Expressway and State Route 1 Improvements project were calculated by Barton-Aschman Associates, Inc. (2000). Below is a summary of the existing levels of service of intersection roadways affected by the proposed project.

2.3.1 Intersections

The intersections depicted in Figure 2.3-1 were selected for evaluation by Barton-Aschman Associates, Inc. in consultation with Caltrans and the City of Los Angeles. These were selected as part of the PSR process that refined the alternatives for further study. The intersections were selected based on future planned improvements that may affect the need for the proposed project improvements.

To estimate levels of service, turning movement data for the morning and afternoon peak periods defined as 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m., respectively, was obtained from the City of Los Angeles. The turning movement data was supplemented with traffic counts collected as a part of the Draft LAX EIS/EIR. The calculation of intersection level of service is a qualitative measure of the ability of an intersection to handle traffic based on conditions at the intersection (e.g., turning movements, signal timing, etc.). Levels of service range from A (free flow) through F (extreme congestion).

The morning and afternoon peak period levels of service for each of the 21 intersections analyzed are presented in Table 2.3-1. As shown, 16 of the 21 intersections currently operate at acceptable levels of service, which is LOS D or better, during the weekday morning and afternoon peak periods. Five



LAX Master Plan EIS/EIR	Primary Study Area and Key Study Intersections	Figure 2.3-1

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intersections are considered to operate at congested or deficient levels of service. During the morning peak period, 18 intersections operate at LOS D or better, 2 operate at LOS E, and 1 intersection operates at LOS F. During the afternoon peak period, 19 intersections operate at LOS D or better and 2 operate at LOS E. Level of service E reflects severely congested conditions while LOS F reflects service breakdown.

Table 2.3-1
Year 2000 Weekday Peak Period Levels of Service For Intersections

No.	Intersection Name	AM Peak Period		PM Peak Period	
		VC	LOS	V/C	LOS
1	I-405 SB Ramps – Jefferson Boulevard	0.415	A	0.517	A
2	I-405 NB Ramps – Jefferson Boulevard	0.411	A	0.344	A
3	Sepulveda Boulevard – Centinela Avenue	1.007	F	0.861	D
4	I-405 SB Ramps – La Tijera Boulevard	0.689	B	0.689	B
5	I-405 NB Ramps – La Tijera Boulevard	0.679	B	0.552	A
6	La Cienega Boulevard – Florence Avenue	0.749	C	0.999	E
7	La Cienega Boulevard – Manchester Avenue	0.820	D	0.948	E
8	La Cienega Boulevard – Arbor Vitae Street	0.558	A	0.641	B
9	Lincoln Boulevard – La Tijera Boulevard	0.382	A	0.393	A
10	Sepulveda Boulevard – Lincoln Boulevard	0.677	B	0.742	C
11	Sepulveda Boulevard – Westchester Parkway	0.497	A	0.632	B
12	Sepulveda Boulevard – Howard Hughes Pkwy	0.743	C	0.778	C
13	La Cienega Boulevard – La Tijera Boulevard	0.719	C	0.703	C
14	La Cienega Boulevard – I-405 SB Ramps	0.567	A	0.636	B
15	La Cienega Boulevard – Century Boulevard	0.627	B	0.740	C
16	Sepulveda Boulevard – Manchester Avenue	0.909	E	0.863	D
17	Sepulveda Boulevard – Century Boulevard	0.450	A	0.489	A
18	Lincoln Boulevard – Manchester Avenue	0.831	D	0.783	C
19	Aviation Boulevard – Manchester Avenue	0.927	E	0.820	D
20	Aviation Boulevard – Arbor Vitae Street	0.611	B	0.660	B
21	Airport Boulevard – Arbor Vitae Street	0.533	A	0.743	C
Source: Barton-Aschman Associates, Inc. (2000).					

Level of Service (LOS)	Interpretation	Volume to Capacity (V/C)
A	Uncongested operations; all vehicles clear in a single cycle.	0.000-0.600
B	Uncongested operations; all vehicles clear in a single cycle.	0.0601-0.700
C	Light congestion; occasional backups on critical approaches.	0.701-0.800
D	Congestion on critical approaches, but intersections functional. Vehicles required to wait through more than one cycle during short peaks. No long standing lines formed.	0.801-0.900
E	Severe congestion with some long standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements.	0.901-1.000
F	Total breakdown with stop-and-go operations.	1.001+

Source: Barton-Aschman Associates, Inc. (2000).

2.3.2 Roadways

Four roadway links were selected for evaluation of existing levels of service. These roadways are currently used for primary access and circulation from the north and south communities. They were selected to assess the potential change in LOS and comparison of the planned improvements with the proposed projects. The roadway segments are:

- Lincoln Boulevard (State Route 1), south of Manchester Avenue.
- Westchester Parkway between Lincoln and Sepulveda boulevards.
- Sepulveda Boulevard north of Lincoln Boulevard.
- Sepulveda Boulevard (State Route 1) north of Century Boulevard.

The definitions of level of service for roadway segments are similar to the definitions for intersection level of service. Level of Service A reflects favorable, free-flow conditions. Gradations to LOS F represent gradual deterioration in service levels, with LOS F reflecting forced-flow conditions with considerable delays.

The results of the level of service analysis for each direction of the four roadway segments are listed in Table 2.3-2. During the morning peak period, 5 of the 8 directional segments operate at an acceptable Level of Service C or better, while the remaining 3 directional segments operate at LOS E or F, indicating an operational deficiency. The deficient directional segments are northbound and southbound directions on Sepulveda Boulevard (State Route 1) north of Century Boulevard, and the northbound directional segment of Sepulveda Boulevard north of Lincoln Boulevard.

Table 2.3-2
Year 2000 Weekday Peak Period LOS For Roadway Segments

No	Street	Link Location	Lane Capacity	AM Peak Period							PM Peak Period						
				No. of Lanes	North Bound/East Bound			South Bound/West Bound			No. of Lanes	North Bound/East Bound			South Bound/West Bound		
					Vol	V/C	LOS	Vol.	V/C	LOS		Vol	V/C	LOS	Vol	V/C	LOS
1	State Route 1-Lincoln Blvd	South of Manchester Ave	800	3	1,800	0.750	C	1,230	0.513	A	3	1,914	0.798	C	1,914	0.798	C
2	Westchester Pkwy	Between State Route 1 & Sepulveda	800	2	258	0.161	A	408	0.255	A	2	186	0.116	A	538	0.336	A
3	Sepulveda Blvd	North of Lincoln Blvd	800	3	4,118	1.716	F	1,770	0.737	C	3	4,015	1.673	F	2,277	0.949	E
4	State Route 1	North of Century Blvd	800	3	3,340	1.392	F	2,366	0.986	E	3	2,722	1.134	F	3,007	1.253	F
Source: Barton-Aschman Associates, Inc. (2000).																	

2.4 PLANNED ROADWAY IMPROVEMENTS

Following is a list of currently planned or approved roadway improvement projects involving facilities in the vicinity of the LAX Expressway and State Route 1 Improvements project. These projects are additional to those proposed in the Master Plan and are included as part of city and county general plans.

Lincoln Boulevard will be improved with an additional northbound through lane between 83rd Street and Manchester Avenue and an additional lane in each direction from north of 83rd Street to north of Culver Boulevard.

The number of left turn lanes on La Cienega Boulevard at Centinela Avenue will be increased from one to two lanes in both directions.

Sepulveda Boulevard is proposed for improvements between Lincoln Boulevard on the south and Howard Hughes Parkway on the north. One lane would be added in each direction for the exclusive use of buses, shuttles, taxis, and possible carpool vehicles.

La Tijera Boulevard bridge over the I-405 freeway is proposed to accommodate additional left turn lanes and storage.

Although most of the local roadways within the study area for the LAX Expressway and the State Route 1 improvements are built to roadway master planned widths, several key roadways are not constructed to their ultimate right-of-way width. A brief description of such roadways and potential constraints to full improvements is provided below.

Airport Boulevard south of La Tijera Boulevard is a four-lane roadway approximately 17.7 meters (58.0 feet) in width. It widens to 6 lanes between Manchester Avenue and Arbor Vitae Street. In order to construct Airport Boulevard to its full master planned width of 24.3 meters (80.0 feet) along this portion of the roadway, single-family residential and commercial properties would need to be obtained.

Airport Boulevard just south of Manchester Avenue widens to approximately 18.3 meters (60.0 feet) in width within a 24.0 to 28.0 meter (80.0 to 93.0 feet) right-of-way. Widening of this roadway would require commercial and residential property acquisition.

Arbor Vitae Street east and west of Aviation Boulevard is 17.0 meters (56.0 feet) to 18.3 meters (60.0 feet) in width within a 22.8 to 25.5 meter (75.0 to 84.0 foot) right-of-way. Improvements to this facility are planned under the LAX Master Plan build alternatives.

Aviation Boulevard north of Arbor Vitae Street, within the City of Inglewood, is 17.0 meters (56.0 feet) in width and has two lanes in each direction. The ultimate width of this roadway is 22.8 meters (75.0 feet). Commercial and University of West Los Angeles property would need to be acquired in order to improve Aviation Boulevard to its planned width.

Aviation Boulevard south of Manchester Avenue, within the City of Inglewood, is a four-lane facility approximately 16.1 meters (53.0 feet) in width within a 20.1 meters (66.0 feet) right-of-way. Road widening to its planned width would require acquisition of commercial property.

Aviation Boulevard south of Arbor Vitae Street is a four-lane roadway approximately 18.3 meters (60 feet) in width. Commercial and residential property acquisition would be necessary in order to construct Aviation Boulevard to its master plan width of 25.5 meters (84.0 feet).

Aviation Boulevard between Imperial Highway and Century Boulevard is 21 meters (70 feet) in width within a right-of-way of 24 meters (79 feet). Widening this roadway to its master plan width is constrained by the existing railroad right-of-way on the west side and commercial property on the east side.

La Cienega Boulevard north of the I-405 freeway ramps located at 97th Street, is of a sufficient width to accommodate a third southbound lane, however, additional study is needed. The east side of this roadway is located within the City of Inglewood.

La Tijera Boulevard, between Sepulveda Boulevard and Manchester Avenue, is sufficiently wide to accommodate an additional lane in each direction. Removal of parking along residential and commercial frontages would be required to install these additional travel lanes.

2.5 PROJECTED DEFICIENCIES

Levels of service at the 21 intersections evaluated are expected to decrease by the year 2015 without the LAX Expressway and State Route 1 Improvements project. By comparing the existing morning peak period LOS noted in Table 2.3-1 to the projected LOS noted in Table 2.5-1, 6 intersections are expected to decrease in level of service to LOS E or worse by 2015. During the afternoon peak periods, 12 intersections are expected to decrease in level of service to LOS E or worse by 2015.

Table 2.5-1
Year 2015 Weekday Peak Hour Levels of Service For Intersections
Without the LAX Expressway and State Route 1 Improvements

No.	Intersection Name	AM Peak Period		PM Peak Period	
		VC	LOS	V/C	LOS
1	I-405 SB Ramps – Jefferson Boulevard	0.534	A	0.622	B
2	I-405 NB Ramps – Jefferson Boulevard	0.963	E	1.054	F
3	Sepulveda Boulevard – Centinela Avenue	1.479	F	1.271	F
4	I-405 SB Ramps – La Tijera Boulevard	0.888	D	1.120	F
5	I-405 NB Ramps – La Tijera Boulevard	1.089	F	1.045	F
6	La Cienega Boulevard – Florence Avenue	0.969	E	1.245	F
7	La Cienega Boulevard – Manchester Avenue	0.775	C	0.933	E
8	La Cienega Boulevard – Arbor Vitae Street	2.407	F	1.798	F
9	Lincoln Boulevard – La Tijera Boulevard	0.766	C	1.032	F
10	Sepulveda Boulevard – Lincoln Boulevard	0.818	D	0.661	B
11	Sepulveda Boulevard – Westchester Parkway	0.703	B	1.556	F
12	Sepulveda Boulevard – Howard Hughes Pkwy	0.732	C	0.839	D
13	La Cienega Boulevard – La Tijera Boulevard	0.753	C	0.978	E
14	La Cienega Boulevard – I-405 SB Ramps	0.745	C	0.659	B
15	La Cienega Boulevard – Century Boulevard	1.083	F	0.934	E
16	Sepulveda Boulevard – Manchester Avenue	0.853	D	1.083	F
17	Sepulveda Boulevard – Century Boulevard	0.565	A	0.668	B
18	Lincoln Boulevard – Manchester Avenue	01.097	F	1.671	F
19	Aviation Boulevard – Manchester Avenue	0.859	D	0.945	E
20[a]	Aviation Boulevard – Arbor Vitae Street (South) Aviation Boulevard – Arbor Vitae Street (North)	0.545 0.805	A D	0.725 0.557	C A
21[b]	Airport Boulevard – Arbor Vitae Street	0.000	A	0.000	A

Source: Barton-Aschman Associates, Inc. (2000).
[a] Change due to LAX Master Plan improvements resulting in two intersections.
[b] This intersection would not exist in 2015 due to proposed LAX Master Plan improvements.

3.0 ALTERNATIVES

The LAX Expressway and the State Route 1 Improvements project are two of the major improvements included as elements of the LAX Master Plan build alternatives. The build alternatives are:

- Alternative A – Fifth Runway, North Airfield
- Alternative B – Fifth Runway, South Airfield
- Alternative C – Four Runways (No added runway)

This section presents a description of each project and the alternatives evaluated.

3.1 LAX EXPRESSWAY AND ALTERNATIVES

The LAX Expressway concept evolved in response to surface transportation and ground access needs associated with the airport Master Plan build alternatives. Guiding principles for airport surface transportation planning and ground access are:

1. Maximize use of the regional transportation system.
2. Explore opportunities to connect to regional transit systems.
3. Minimize impacts to local streets.
4. Protect neighborhoods.

Several alternative concepts for addressing ground access needs in accordance with principles 1, 3, and 4 were developed to a conceptual stage, evaluated, and rejected as part of the LAX Master Plan (as part of this supplemental analysis). A direct connection between the airport and SR-90 (Marina Freeway) was considered and rejected due to the potential impacts on wetlands and conflicts with the Playa Del Rey development. In addition, preliminary traffic calculations proved unfavorable. An I-405 to Sepulveda Boulevard trench was evaluated and considered not a viable alternative on the basis of potential cut-through traffic within the surrounding neighborhoods and the potential aesthetic impacts of the facility. This concept also proved unfavorable based on preliminary traffic calculations. The third concept evaluated was a viaduct along Airport Avenue. This concept was rejected due to the potential disruption and division it might cause to the surrounding community and the visual, aesthetic impacts of the structure. The fourth concept connected Florence Avenue to Arbor Vitae Street via the railroad corridor. This concept was rejected due to the potential impacts on historic resources (i.e., Merle Norman building) and the constraints that such a proposal would place on future use as a passenger rail facility.

Two build alternatives were selected for evaluation in this report along with a No Action alternative. The three alternatives for the LAX Expressway project are described below.

3.1.1 Alternative 1 – No Action

Alternative 1-No Action essentially maintains I-405 in its current configuration. No improvements are proposed under this alternative. As such, no direct connection between the regional surface transportation network and the northern portion of the airport would be constructed and traffic patterns, including cut-through traffic within neighborhoods north of the airport, would likely continue and worsen.

3.1.2 Alternative 2 – Split Viaduct

Alternative 2 will provide a direct connection between I-405 and the planned airport ring road via an LAX Expressway. The LAX Expressway would primarily consist of two elevated viaducts with two lanes each for both north and southbound travel. The viaducts would be approximately 6 meters (20 feet) in height and centered on pillars approximately 2 meters (6.6 feet) wide along both the west and east side of the I-405. The LAX Expressway lanes would be approximately 3.6 meters (11.8 feet) with shoulders 1.5 meters (5 feet) to 3 meters (10 feet) in width.

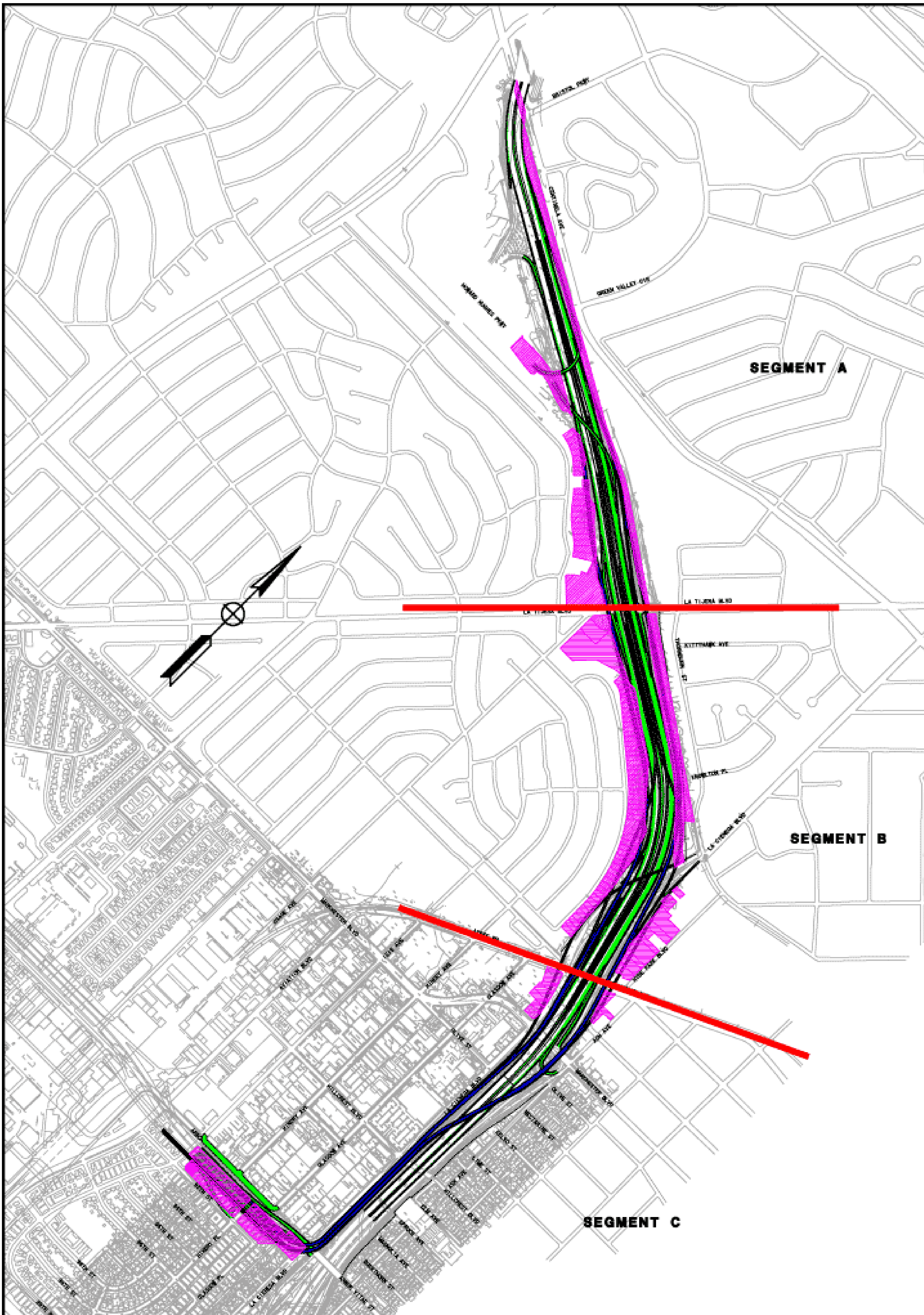
Figure 3.1-1 depicts LAX Expressway Alternative 2 as three distinct segments- Segment A, B, and C. At its most northern terminus represented in Segment A, the southbound LAX Expressway would begin at Howard Hughes Parkway on the west side of the I-405 and accommodate a southbound HOV connection from the I-405 to the LAX Expressway just north of La Tijera Boulevard. Northbound LAX Expressway travel would be on the east side of the I-405 and merge with the I-405 at Howard Hughes Parkway (Figure 3.1-2). Segment B depicts the LAX Expressway as two distinct viaducts on either side of the I-405. It also depicts the southbound elevated HOV ramp of the I-405 and where it merges with the proposed LAX Expressway just north of Florence Avenue. Segment B also depicts access to the LAX Expressway from La Cienega Boulevard on the east side which would involve another ramp crossing over both north and southbound travel lanes of the I-405 (Figure 3.1-3). A northbound HOV ramp connecting LAX Expressway HOV travel and I-405 HOV travel would also be provided between Florence Avenue and Manchester Boulevard (Figure 3.1-4). Segment C depicts the LAX Expressway's southern most terminus near Hindry Avenue. Just north of Hillcrest Boulevard, the two separate viaducts merge on the west side of the I-405 and continue toward and onto Arbor Vitae Street. This end of the LAX Expressway would affect approximately two blocks of mixed-use developments. The area affected along Arbor Vitae Street on the south side is part of an on-going land acquisition program known as the Airport Noise Mitigation Program. Figure 3.1-5 depicts the typical cross sections of the Alternative 2 Split Viaduct.

Noise abatement consisting of walls 4.3 meters (14 feet) in height are proposed along the east and west sides of the I-405 to mitigate existing roadway noise conditions at sensitive receptor locations. This feature is discussed in further detail in Section 4.6 and 5.6.

I-405 widening between Magnolia Avenue and Bristol Parkway to accommodate the planned HOV lanes on the freeway and direct HOV connectors to the LAX Expressway would affect existing bridges and freeway ramps along this segment of the I-405. Alternative 2-Split Viaduct does not include widening associated with the HOV connectors to the LAX Expressway.

3.1.3 Alternative 3 – Single Viaduct

Alternative 3 involves constructing a single four-lane viaduct along the east side of the I-405. Figure 3.1-6 depicts Alternative 3 as four distinct segments. The four-lane LAX Expressway would extend approximately 7.4 kilometers (4 miles) from the SR-90 (Marina Freeway) to Arbor Vitae Street and Hindry Avenue. Segments A, B, and C depict the approximate location of the elevated LAX Expressway primarily along the east side of the I-405 and its connection SR-90 (Figures 3.1-6, 3.1-7, 3.1-8 and 3.1-9). Segment D depicts approximately where the facility will bend in an east-west direction from a north-south direction and where the facility crosses over both north and southbound lanes of the I-405 (Figure 3.1-10). The proposed improvements at the southern terminus (Segment D) of the LAX Expressway are identical to Alternative 2-Split Viaduct. The LAX Expressway improvements would alter Arbor Vitae Street near Hindry Avenue as described in subsection 3.1.2. No HOV connectors between the LAX Expressway and I-405 are proposed under this design. The noise abatement features described under



BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

POTENTIALLY AFFECTED PARCELS

LAX EXPRESSWAY ALTERNATIVE 2

FIGURE 3.1-1

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BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

POTENTIALLY AFFECTED PARCELS

R – RESIDENTIAL PARCELS

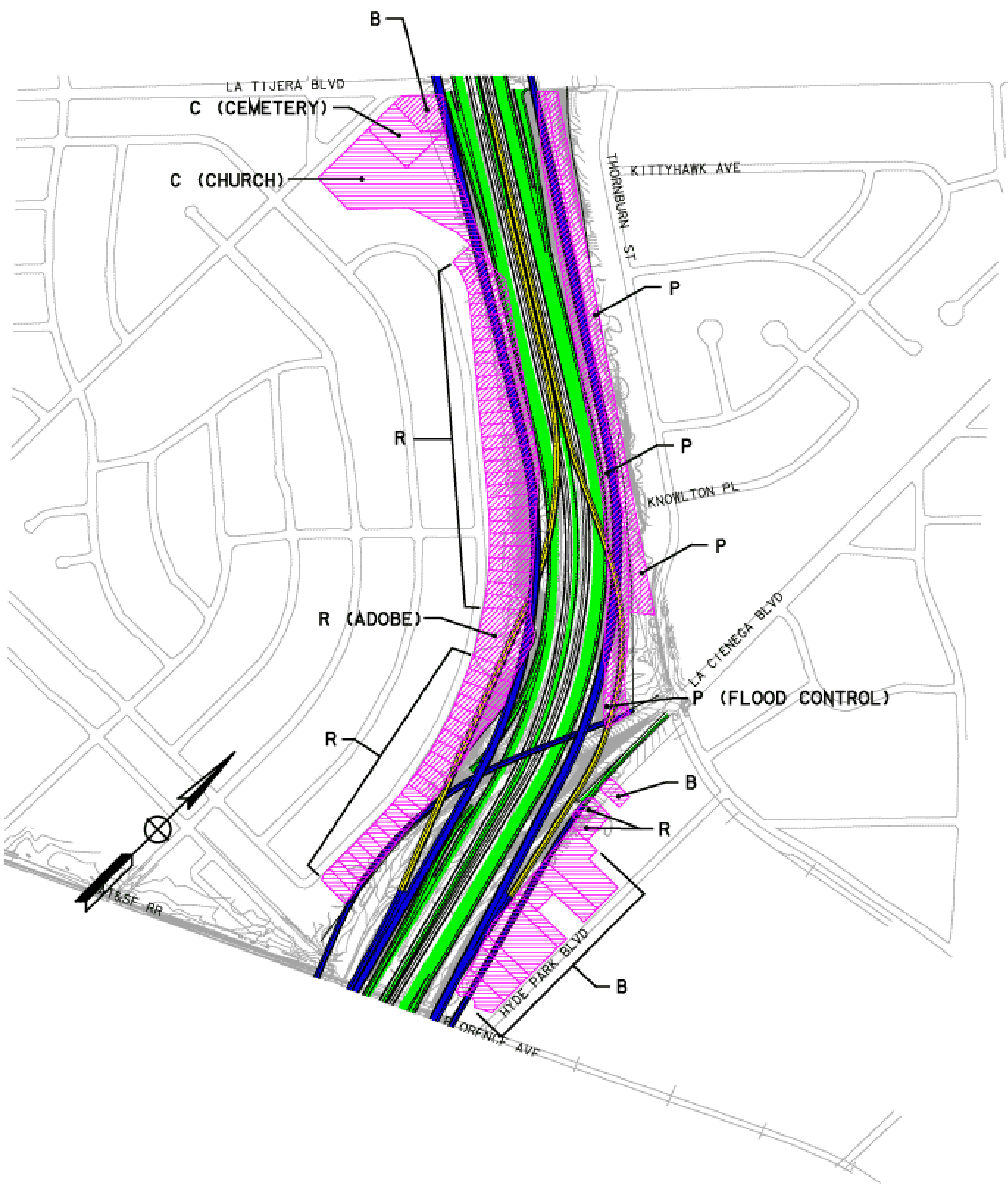
B – BUSINESS PARCELS

P – PUBLIC FACILITY PARCELS

C – COMMUNITY FACILITY PARCELS

LAX EXPRESSWAY ALTERNATIVE 2 SEGMENT A

FIGURE 3.1-2



NOTE:
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IDENTIFICATION, NUMBER AND CONFIGURATION
OF POTENTIALLY AFFECTED PARCELS ARE APPROXIMATE.

BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

POTENTIALLY AFFECTED PARCELS

R - RESIDENTIAL PARCELS

B - BUSINESS PARCELS

P - PUBLIC FACILITY PARCELS

C - COMMUNITY FACILITY PARCELS

LAX EXPRESSWAY
ALTERNATIVE 2
SEGMENT B

FIGURE 3.1-3

NOTE:
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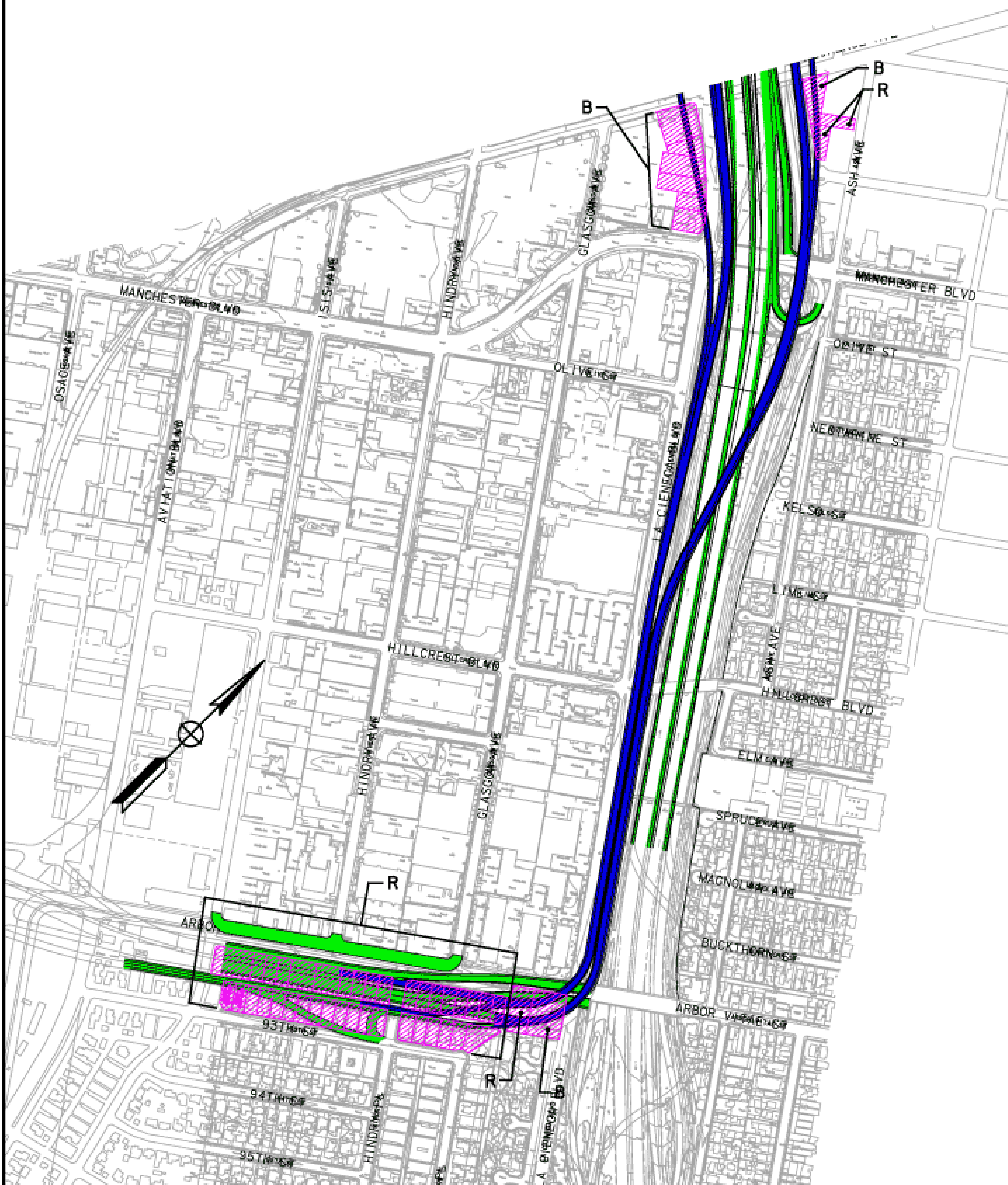


BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

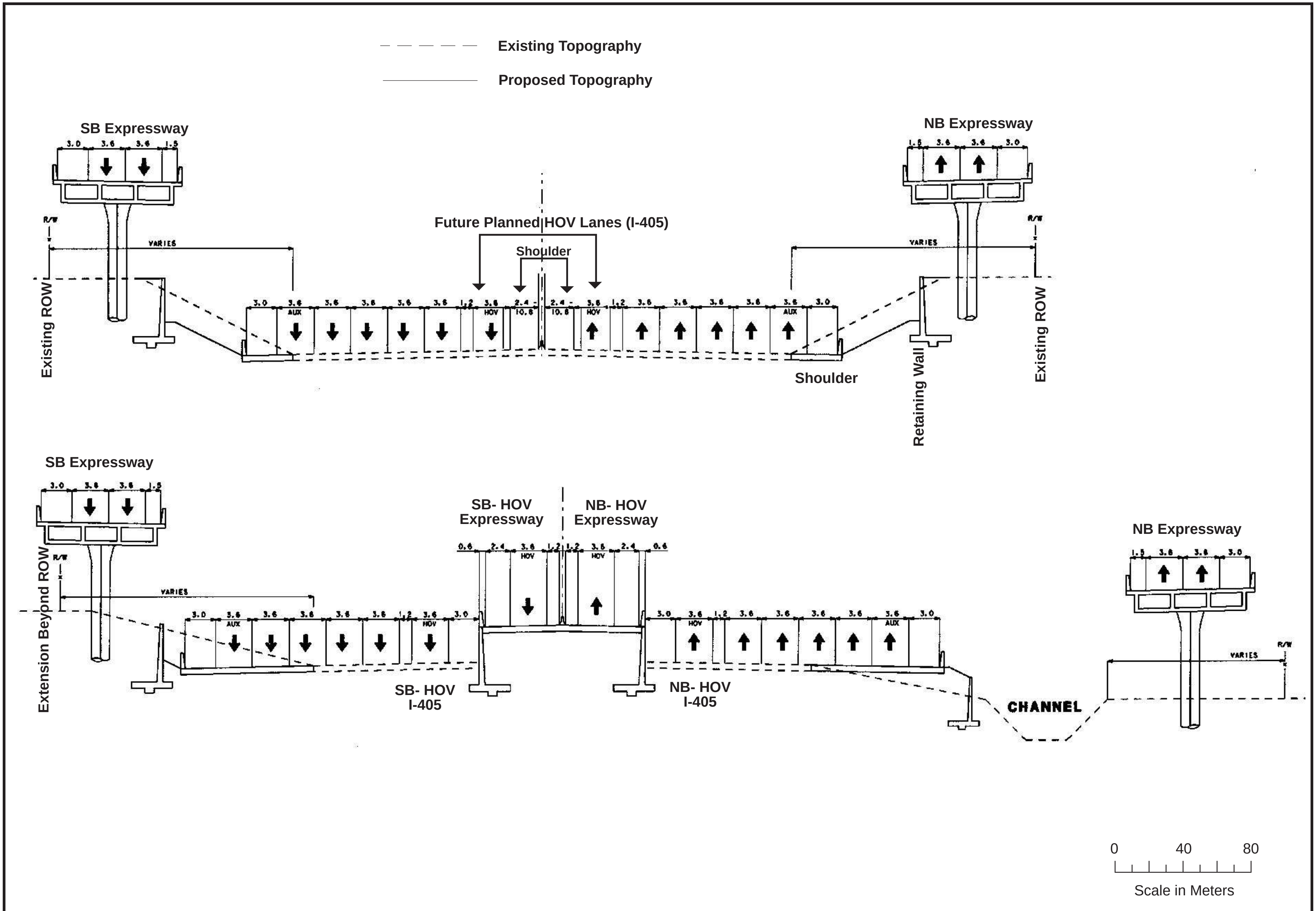
POTENTIALLY AFFECTED PARCELS

R - RESIDENTIAL PARCELS

B - BUSINESS PARCELS

LAX EXPRESSWAY
ALTERNATIVE 2
SEGMENT C

FIGURE 3.1-4



LAX Master Plan EIS/EIR	LAX Expressway Alternative 2 Typical Sections	Figure 3-5

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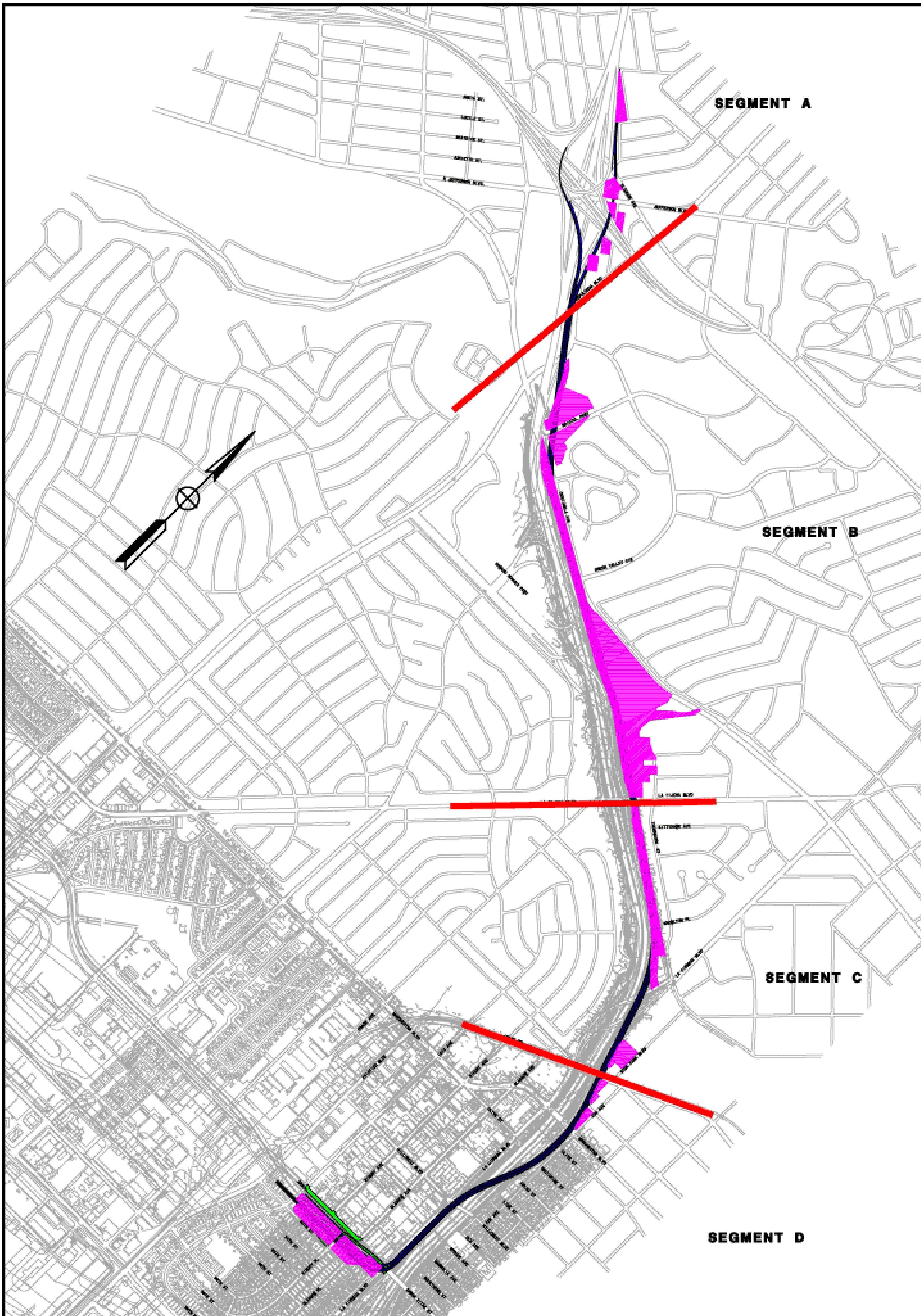


BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

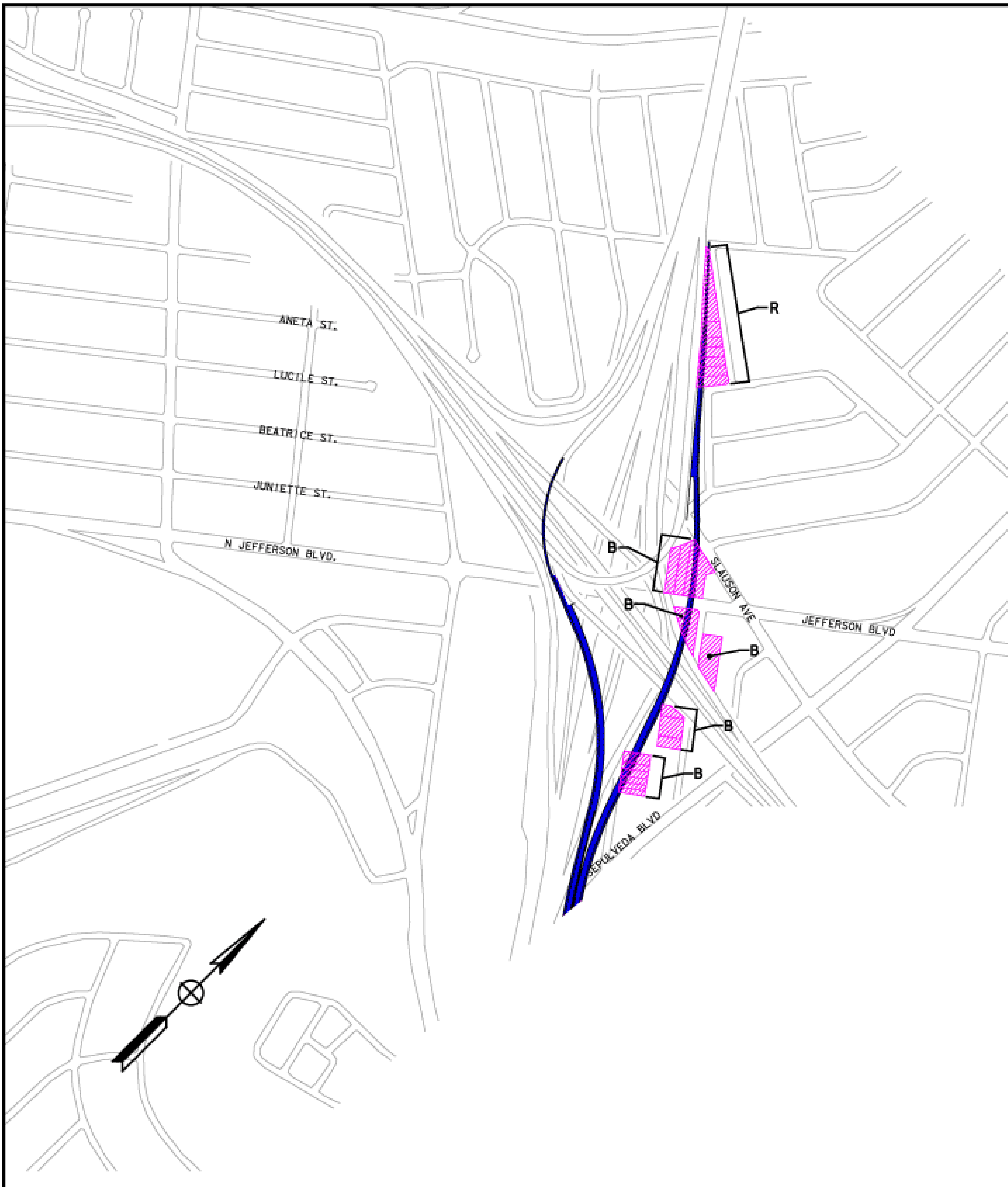
HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

POTENTIALLY AFFECTED PARCELS

LAX EXPRESSWAY ALTERNATIVE 3

FIGURE 3.1-6



NOTE:
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IDENTIFICATION, NUMBER AND CONFIGURATION
OF POTENTIALLY AFFECTED PARCELS ARE APPROXIMATE.

BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

POTENTIALLY AFFECTED PARCELS

R - RESIDENTIAL PARCELS

B - BUSINESS PARCELS

LAX EXPRESSWAY
ALTERNATIVE 3
SEGMENT A
FIGURE S.1-7

BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

POTENTIALLY AFFECTED PARCELS

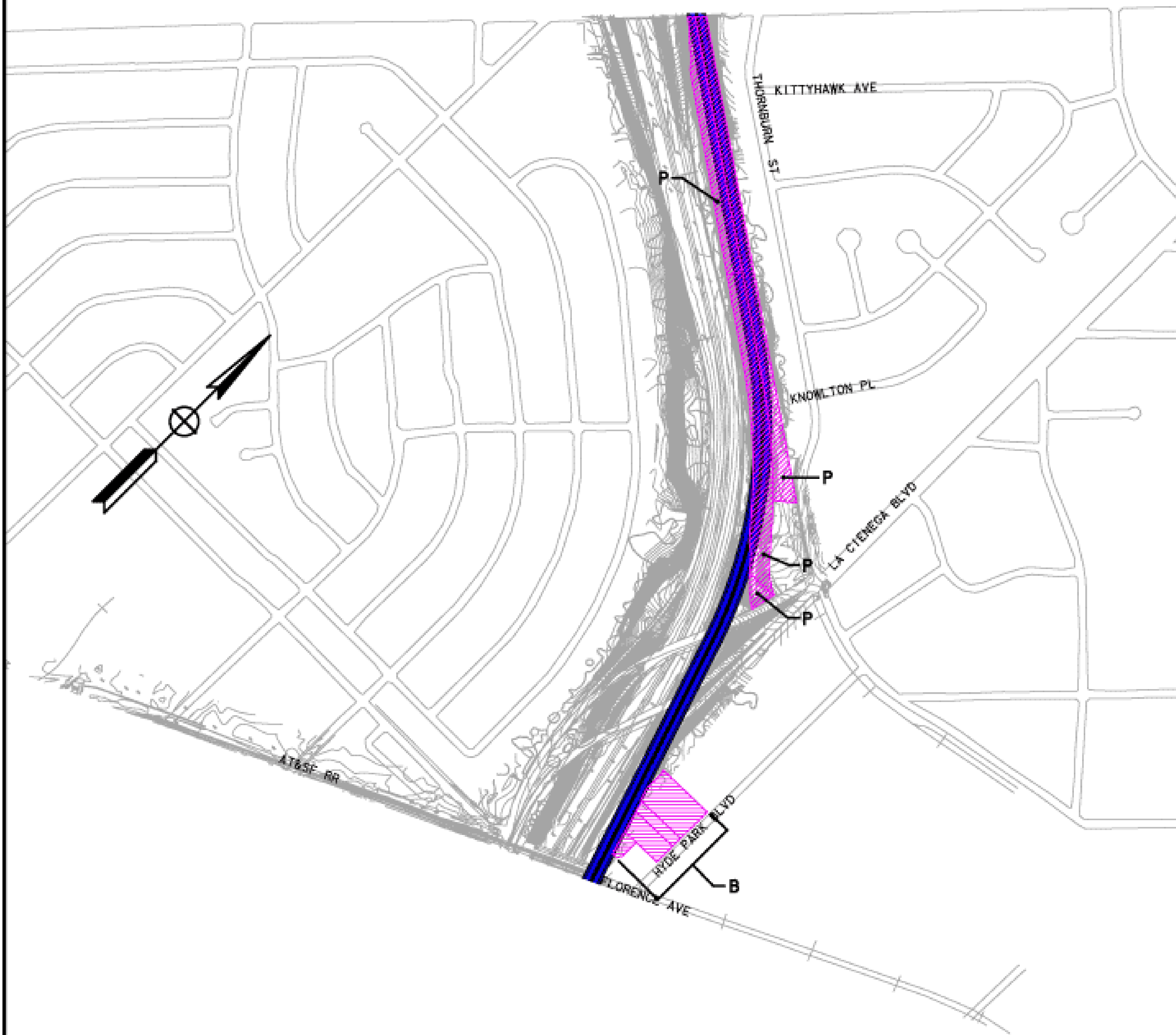
R - RESIDENTIAL PARCELS

B - BUSINESS PARCELS

P - PUBLIC FACILITY PARCELS

C - COMMUNITY FACILITY PARCELS

LAX EXPRESSWAY
ALTERNATIVE 3
SEGMENT B
FIGURE 3.1-8



NOTE:
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OF POTENTIALLY AFFECTED PARCELS ARE APPROXIMATE.

BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

HOV LANES

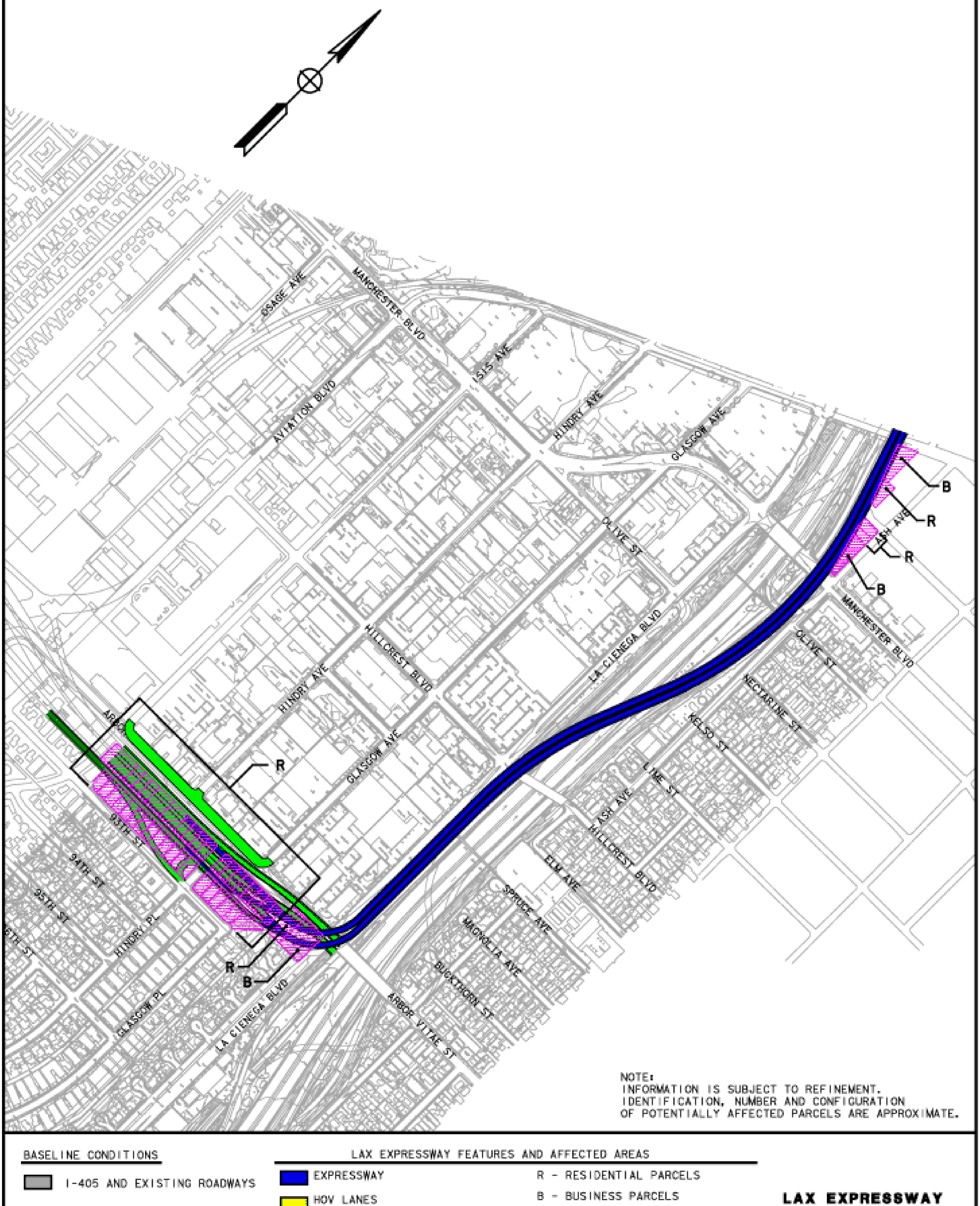
FREEWAY WIDENING / ROADWAY IMPROVEMENTS

POTENTIALLY AFFECTED PARCELS

B - BUSINESS PARCELS

P - PUBLIC FACILITY PARCELS

LAX EXPRESSWAY
ALTERNATIVE 3
SEGMENT C
FIGURE 3.1-9



BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES AND AFFECTED AREAS

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

POTENTIALLY AFFECTED PARCELS

R - RESIDENTIAL PARCELS

B - BUSINESS PARCELS

LAX EXPRESSWAY
ALTERNATIVE 3
SEGMENT D
FIGURE 3.1-10

subsection 3.1.2 would be constructed with implementation of this alternative. Figure 3.1-11 depicts the typical cross section for this alternative.

3.2 STATE ROUTE 1 IMPROVEMENTS AND ALTERNATIVES

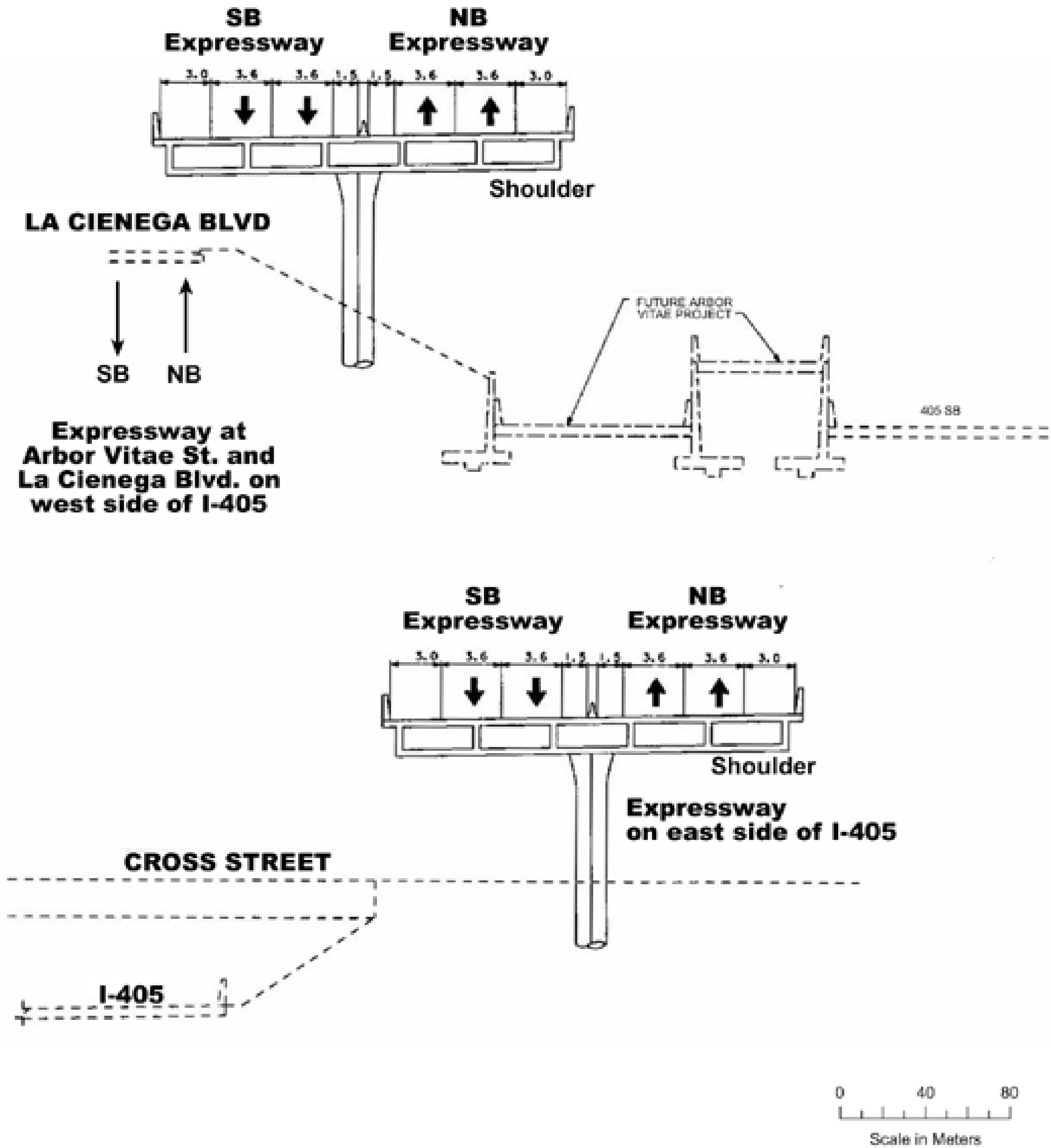
State Route 1 is known as Sepulveda Boulevard through the airport. At the existing intersection of Sepulveda and Lincoln boulevards, the State Route 1 designation shifts from Sepulveda Boulevard to Lincoln Boulevard. The State Route 1 project involves both of these segments of the state route (Figure 1-1).

Under Master Plan alternatives A, B, and C, Runway 24R would be shifted north and extended to the east to improve runway utility under Alternatives B and C. The shifting of Runway 24R would require closure of Lincoln Boulevard south of Westchester Parkway and west of Sepulveda Boulevard. Runway 24L would be reconstructed and extended eastward. The eastward extension would cross over Sepulveda Boulevard requiring the roadway profile to be lowered below the existing grade and designed as a tunnel beneath the runway. A portion of Sepulveda Boulevard is currently tunneled under the south airfield complex. The proposed tunnel on Sepulveda under the North Runway Complex is proposed for four lanes in each direction in order to accommodate the future use of State Route 1.

Forecasted traffic volumes for 2015 support the need to improve Sepulveda and Lincoln boulevards in the vicinity of LAX north runways. Therefore, in addition to the profile and alignment modifications to Sepulveda and Lincoln, respectively, improvements to the intersections of these roadways with Westchester Parkway are necessary. To accommodate projected average daily trips through this area, the intersections of these reconfigured roadways must be designed as interchanges with grade-separated ramps and through lanes. The interchanges would allow traffic to flow through the area with fewer conflicting movements, greater efficiency, fewer delays, and overall improved level of service.

State Route 1 alternatives focus on the conceptual design for new interchanges at Westchester Parkway/Lincoln Boulevard and Westchester Parkway/Sepulveda Boulevard. Two concepts for the Westchester Parkway/Lincoln Boulevard interchange were rejected from further consideration. One concept proposed a 270-degree loop in the northeast quadrant to provide access onto westbound lanes. Although this concept would have avoided impacts to the apartment building located within the northwest quadrant, the ramp configuration is a non-typical design for California Department of Transportation (Caltrans) interchanges and may confuse motorists. A second concept involved use of existing Northside Parkway to accommodate east-to-north and south-to-west movements. This concept would have encroached onto the airport expansion area and required a traffic signal. Both concepts for the Westchester Parkway/Lincoln Boulevard interchange were rejected from further consideration for the reasons stated.

Two concepts for the Westchester Parkway/Sepulveda Boulevard interchange were evaluated and rejected. One concept involved use of a single point interchange, generally consisting of a simple bridge span over Sepulveda Boulevard. In order to maintain a constant movement from the LAX Central Terminal Area to the planned airport “ring road”(a north-to-west movement), a traffic signal would have been necessary, introducing time delays. A second concept proposed a modified diamond interchange with a loop ramp for the north-to-west movement. This concept would impact the residential area located within the northeast quadrant and require a traffic signal at a location that would impede north-to-west movement. Both concepts for the Lincoln Boulevard/Sepulveda Boulevard interchange were rejected from further consideration for the reasons stated.



LAX Master Plan
EIS/EIR

LAX Expressway Alternative 3
Typical Sections

Figure
3.1-11

Three alternatives for the State Route 1 Improvements project have been identified for evaluation in this report. Descriptions of the no action alternative and two build alternatives follow.

3.2.1 Alternative 1 – No Action

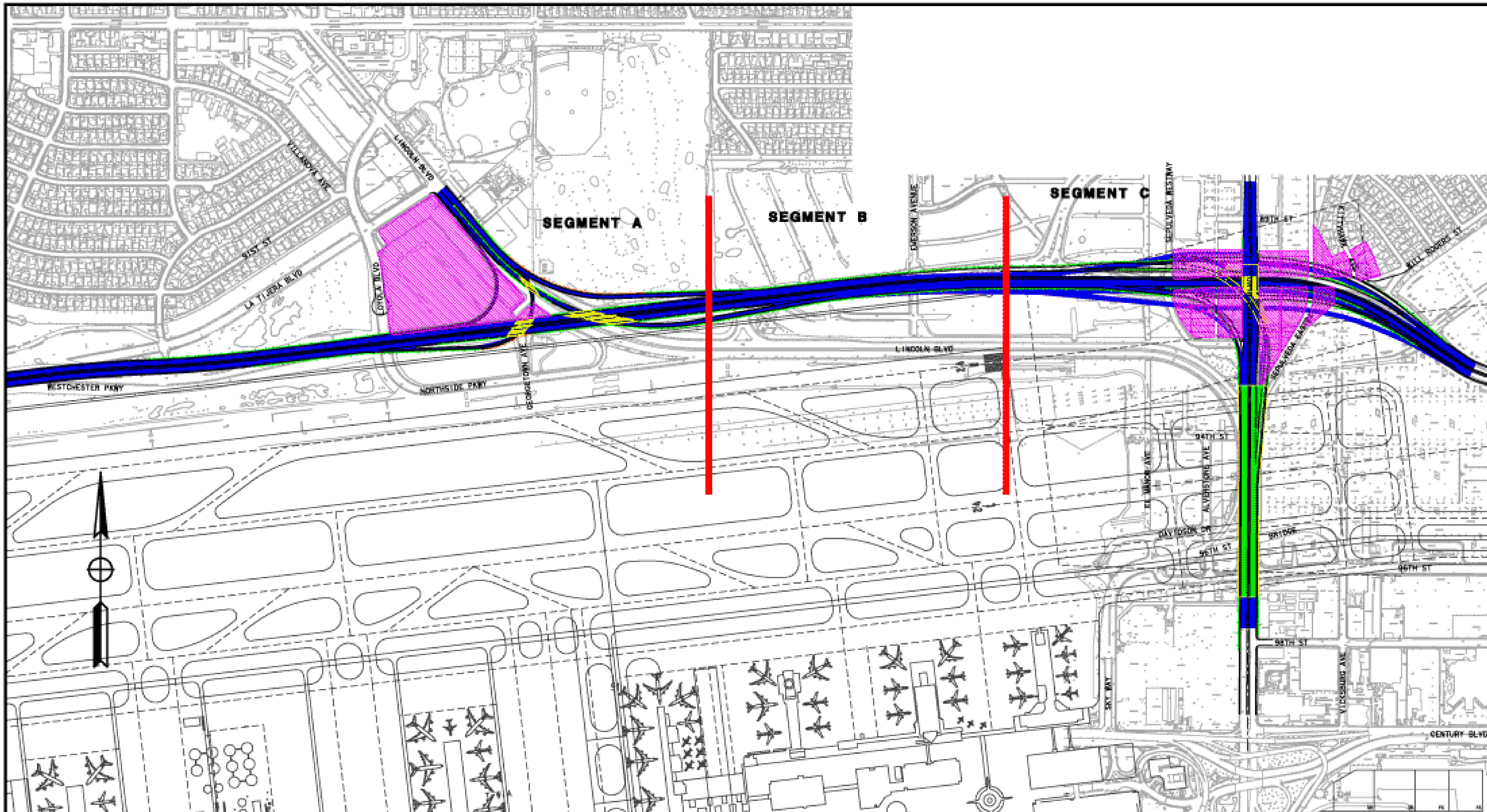
Alternative 1-No Action proposes no improvements to State Route 1 in the vicinity of LAX north runways. A level of service “F” would be expected in 2015 at the Lincoln Boulevard/Sepulveda Boulevard intersection under Alternative 1-No Action. This alternative is compatible with the LAX Master Plan No Action/No Project alternative and incompatible with build alternatives A, B, and C.

3.2.2 Alternative 2 – Diamond Interchange

Alternative 2 involves the realignment of the east-west portion of Lincoln Boulevard (State Route 1) north onto Westchester Parkway. Currently, both Westchester Parkway and Lincoln Boulevard are six-lane roadways (three lanes in each direction). Westchester Parkway would be widened to include six through lanes (three in each direction) and several additional auxiliary lanes for directional changes from north/south to east/west. The lane widths are proposed at 3.6 meters (11.8 feet). Figure 3.2-1 depicts the proposed project as three distinct segments, Segments A, B and C. Segment A (Figure 3.2-2) involves a system of ramps and overpasses at the west end of the project area to allow for uninterrupted southbound to east and westbound travel along Westchester Parkway. An overpass would also be constructed at this interchange to accommodate east to northbound travel along the new roadway. Segment A also includes three auxiliary lanes – two lanes merge into east and westbound flows along Westchester Parkway and the third merges with northbound flows along Lincoln Boulevard. Segment B (Figure 3.2-3) depicts that portion of Lincoln Boulevard that will be shifted north onto Westchester Parkway. This segment would be designated as State Route 1. The roadway extending westward from the west-end interchange depicted in Segment A would be designated Westchester Parkway. Segment C (Figure 3.2-4) depicts the east-end interchange with a Diamond Interchange configuration and its connection to the tunneled portion of Sepulveda Boulevard that is proposed under the LAX Master Plan Alternatives. Traffic flows heading northbound on Sepulveda Boulevard would be directed onto an overpass at Sepulveda Eastway to allow for north to east transition onto the newly aligned State Route 1. Sepulveda Boulevard would also continue north under the new overpass. State Route 1 would also continue eastward past this interchange to connect to an improved Arbor Vitae Street and I-405 interchange proposed under the LAX Master Plan Alternatives. The system of ramps would include at-grade (ground level) roads and elevated roadway structures similar to the other interchanges in the airport vicinity. In addition, an auxiliary lane would be provided to allow for east to southbound flows onto Sepulveda Boulevard.

3.2.3 Alternative 3 – Urban Interchange

Alternative 3-Urban Interchange would encompass the same footprint as Alternative 2 and similar features ultimately resulting in similar environmental impacts relating to noise, air, traffic, and cultural and historical resources.. Figures 3.2-5, 3.2-6, 3.2-7 and 3.2-8 depict this alternative as three distinct segments, Segment A, B, and C. The unique element of this alternative is the ramp system that would connect north and southbound lanes to east and west bound travel lanes on the roadways. The urban interchange is depicted on Figure 3.2-8. Figure 3.2-9 depicts the typical cross section for these alternatives.



STATE ROUTE 1 FEATURES AND AFFECTED AREAS

EXISTING ROADWAYS
PROPOSED ALIGNMENT
TUNNEL
PROPOSED AIRPORT EXPANSION
STRUCTURES
POTENTIALLY AFFECTED PARCELS

STATE ROUTE 1
ALTERNATIVE 2 - DIAMOND INTERCHANGE

FIGURE 3.2-1

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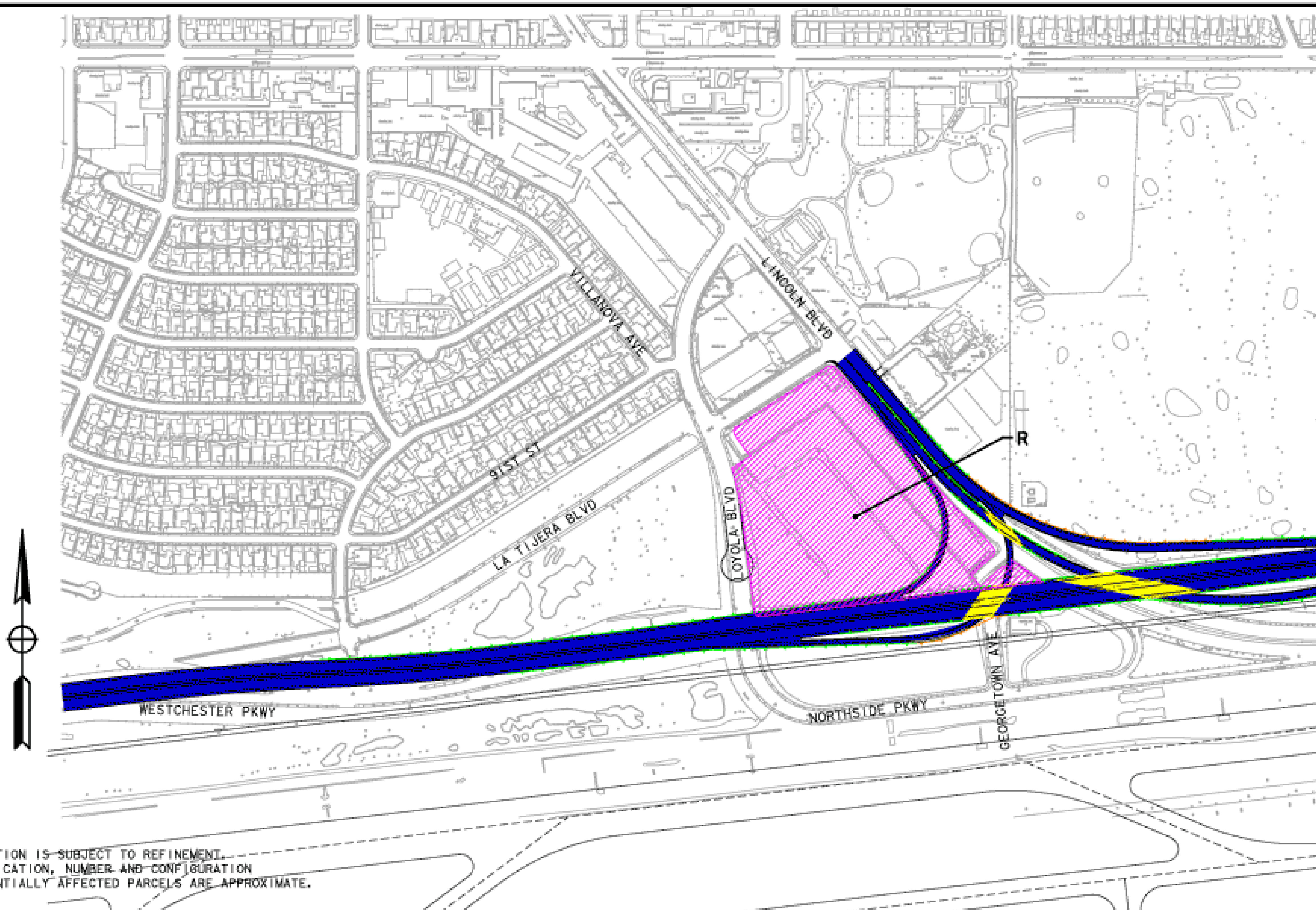

NOTE:
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OF POTENTIALLY AFFECTED PARCELS ARE APPROXIMATE.

STATE ROUTE 1 FEATURES AND AFFECTED AREAS

EXISTING ROADWAYS
PROPOSED ALIGNMENT
TUNNEL
PROPOSED AIRPORT EXPANSION
STRUCTURES
POTENTIALLY AFFECTED PARCELS
R - RESIDENTIAL PARCELS

STATE ROUTE 1
ALTERNATIVE 2 - DIAMOND INTERCHANGE
SEGMENT A
FIGURE 3.2-2

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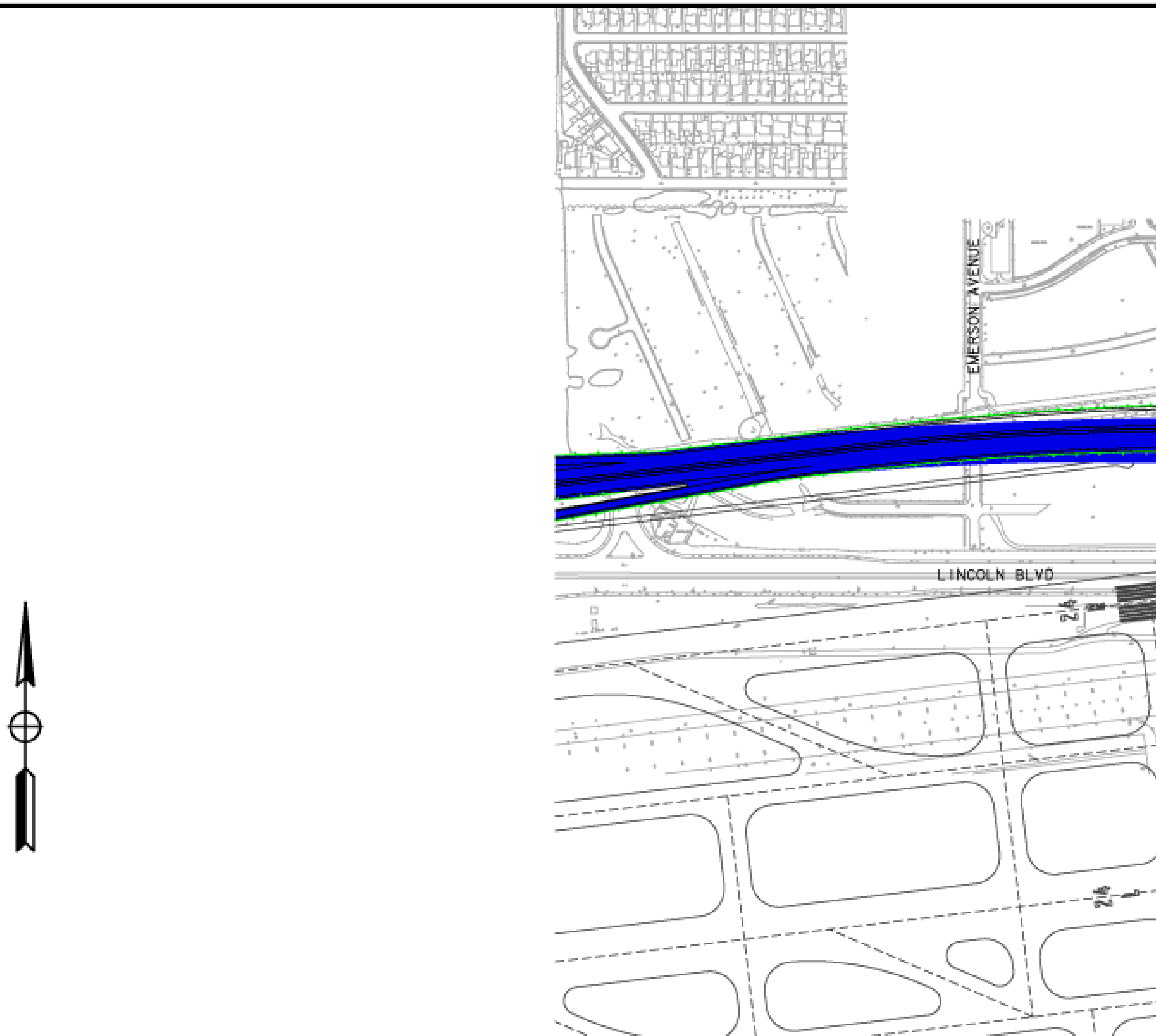

STATE ROUTE 1 FEATURES AND AFFECTED AREAS

EXISTING ROADWAYS

PROPOSED ALIGNMENT

TUNNEL

PROPOSED AIRPORT EXPANSION

STRUCTURES

POTENTIALLY AFFECTED PARCELS

STATE ROUTE 1
ALTERNATIVE 2 - DIAMOND INTERCHANGE
SEGMENT B
FIGURE 3.2-3

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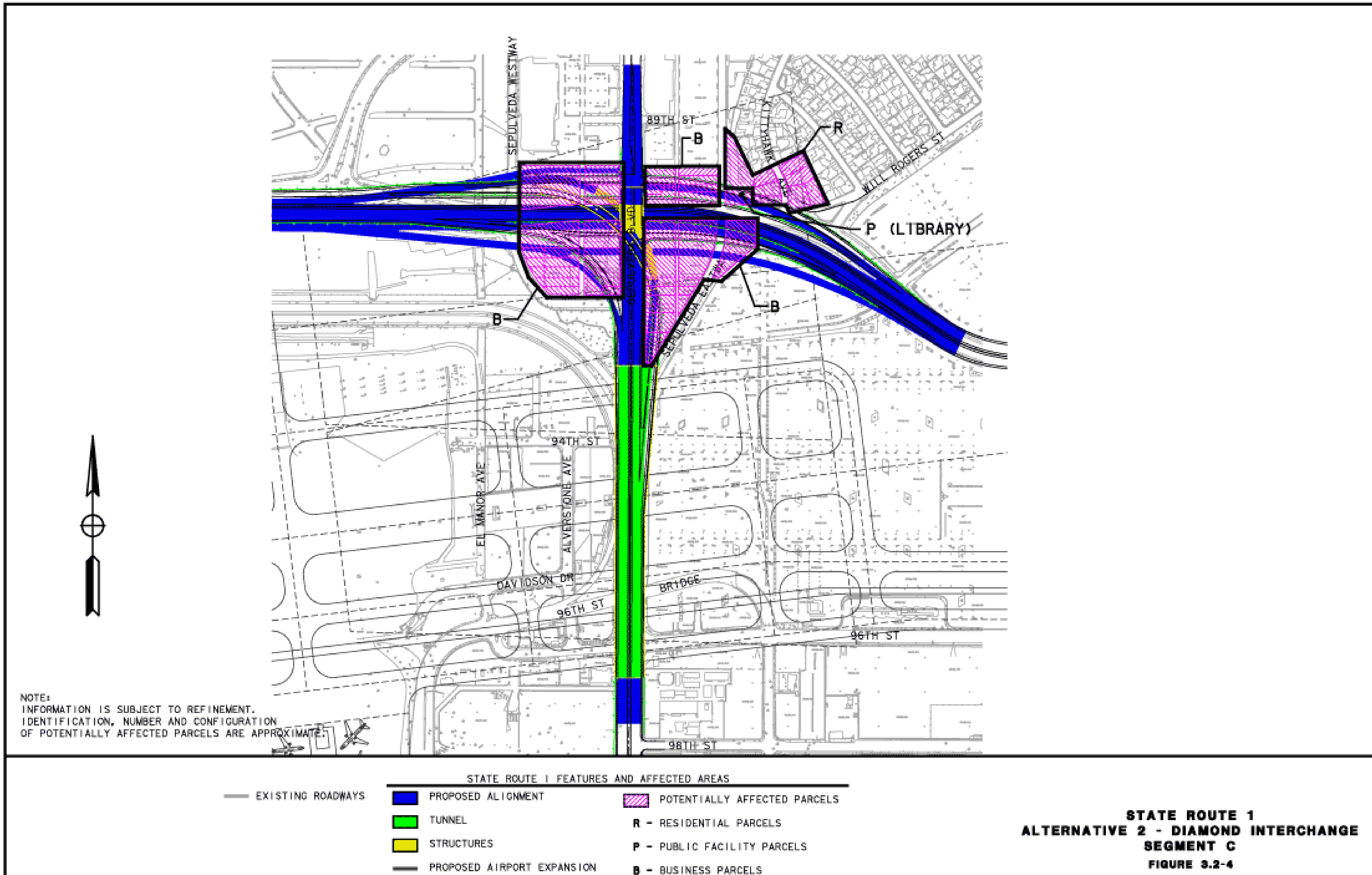

STATE ROUTE 1
ALTERNATIVE 2 - DIAMOND INTERCHANGE
SEGMENT C
FIGURE 3.2-4

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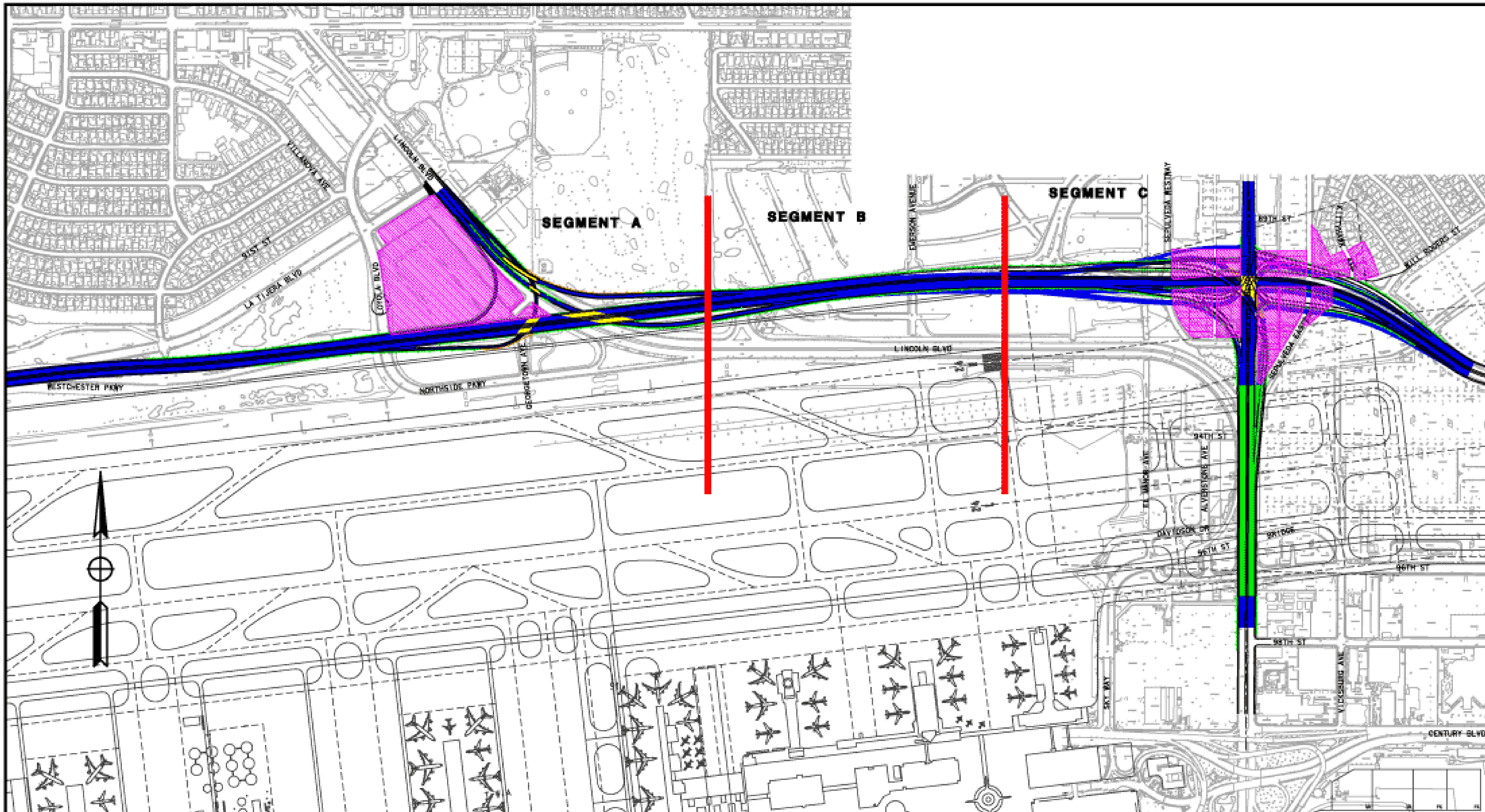

STATE ROUTE 1 FEATURES AND AFFECTED AREAS

EXISTING ROADWAYS

PROPOSED ALIGNMENT

TUNNEL

PROPOSED AIRPORT EXPANSION

STRUCTURES

POTENTIALLY AFFECTED PARCELS

STATE ROUTE 1
ALTERNATIVE 3 - URBAN INTERCHANGE

FIGURE 3.2-5

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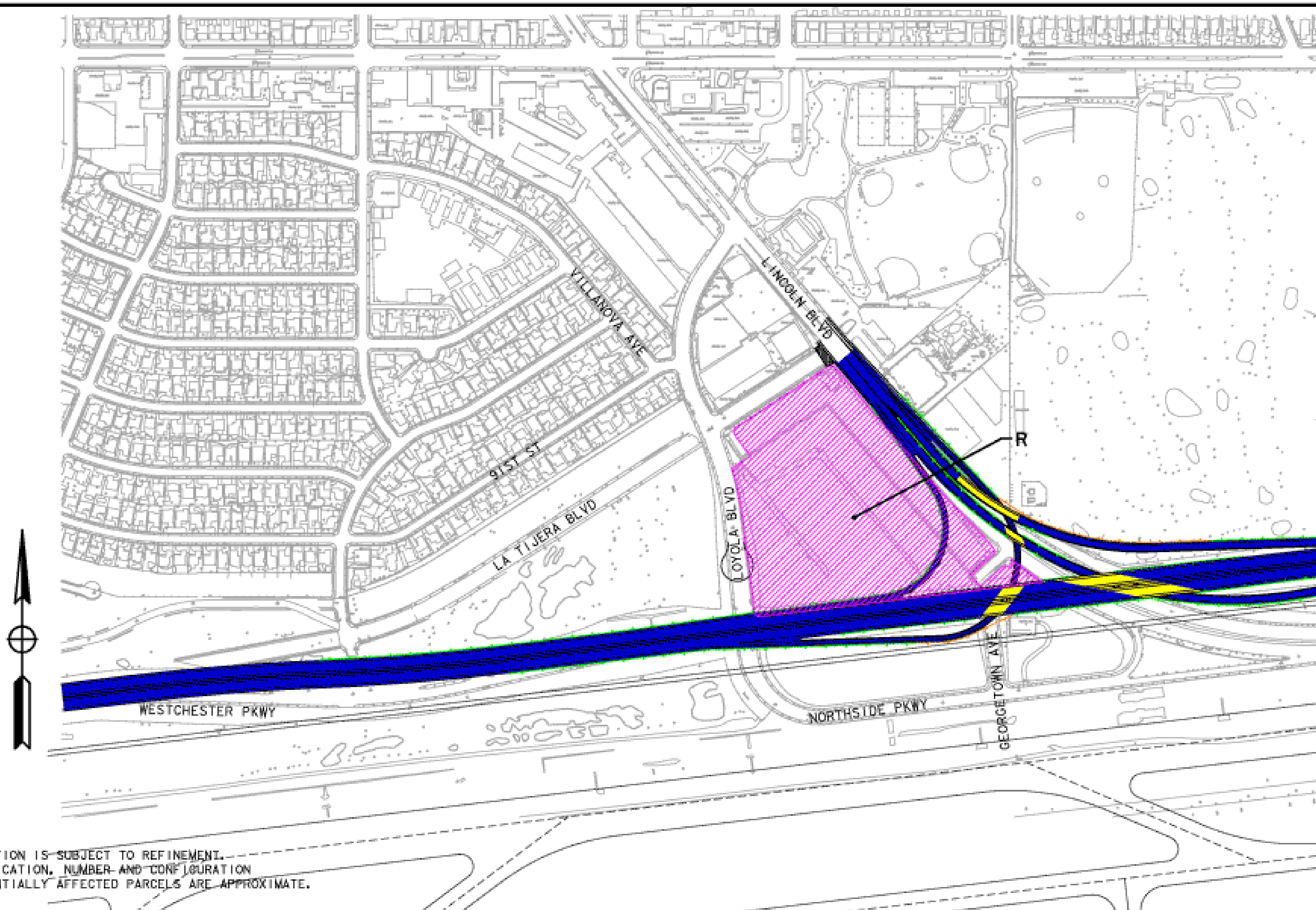

NOTE:
INFORMATION IS SUBJECT TO REFINEMENT.
IDENTIFICATION, NUMBER AND CONFIGURATION
OF POTENTIALLY AFFECTED PARCELS ARE APPROXIMATE.

STATE ROUTE 1 FEATURES AND AFFECTED AREAS

EXISTING ROADWAYS
PROPOSED ALIGNMENT
TUNNEL
PROPOSED AIRPORT EXPANSION
STRUCTURES
POTENTIALLY AFFECTED PARCELS
R - RESIDENTIAL PARCELS

STATE ROUTE 1
ALTERNATIVE 3 - URBAN INTERCHANGE
SEGMENT A
FIGURE 3.2-6

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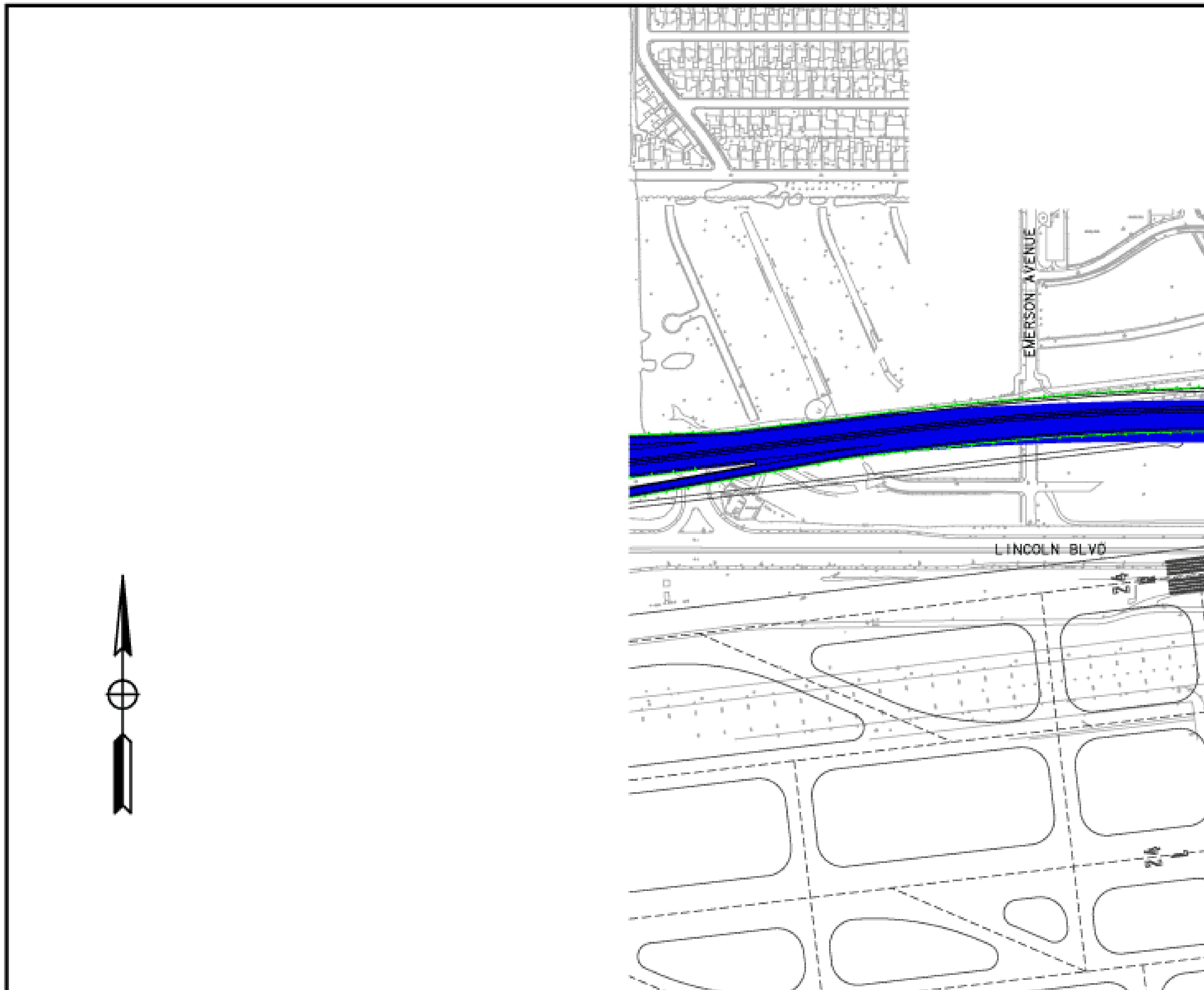

STATE ROUTE 1 FEATURES AND AFFECTED AREAS

EXISTING ROADWAYS
PROPOSED ALIGNMENT
TUNNEL
PROPOSED AIRPORT EXPANSION
STRUCTURES
POTENTIALLY AFFECTED PARCELS

STATE ROUTE 1
ALTERNATIVE 3 - URBAN INTERCHANGE
SEGMENT B
FIGURE 3.2-7

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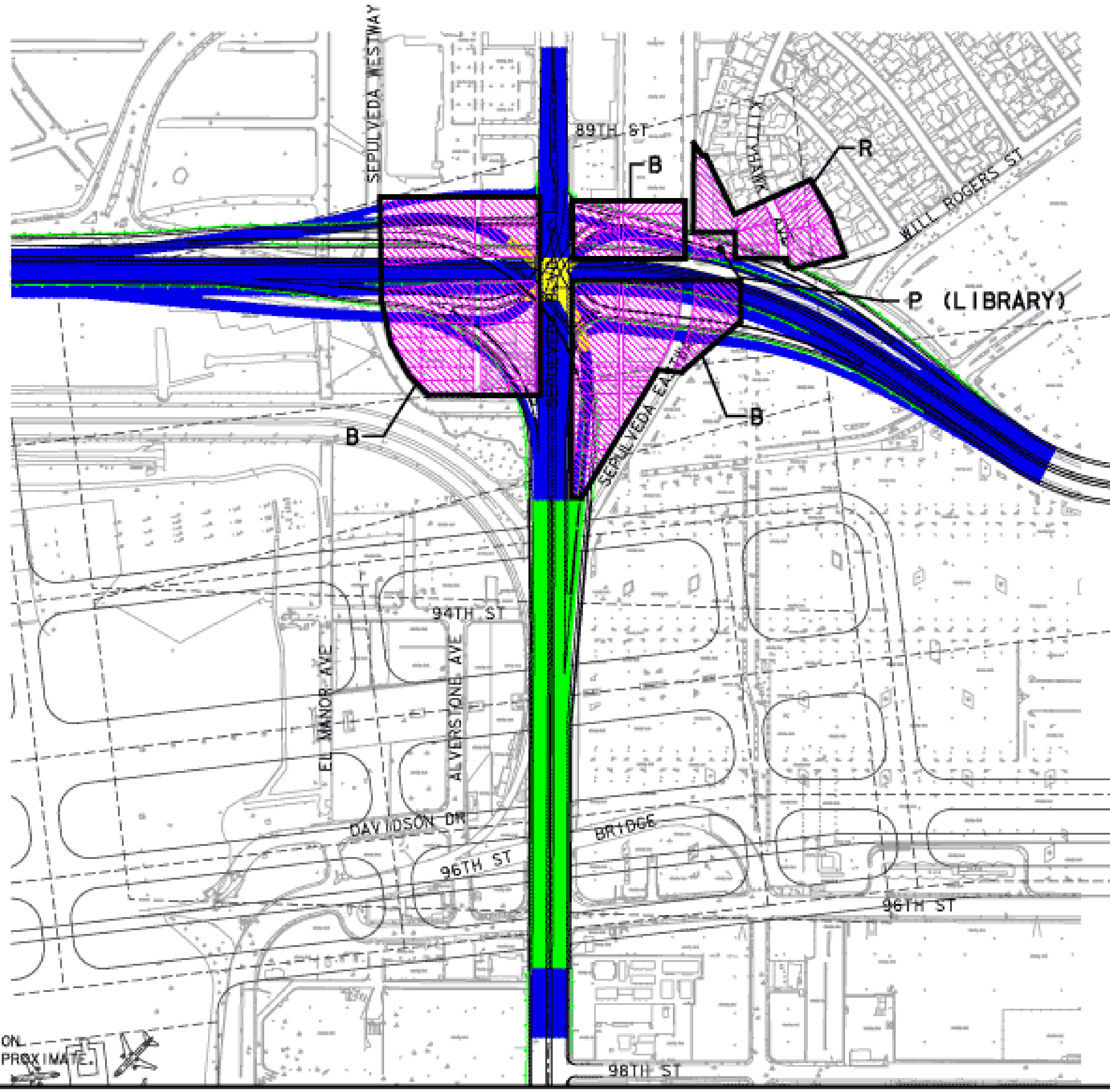

NOTE:
INFORMATION IS SUBJECT TO REFINEMENT.
IDENTIFICATION, NUMBER AND CONFIGURATION OF POTENTIALLY AFFECTED PARCELS ARE APPROXIMATE.

EXISTING ROADWAYS

STATE ROUTE 1 FEATURES AND AFFECTED AREAS

PROPOSED ALIGNMENT
TUNNEL
STRUCTURES
PROPOSED AIRPORT EXPANSION

POTENTIALLY AFFECTED PARCELS
R - RESIDENTIAL PARCELS
P - PUBLIC FACILITY PARCELS
B - BUSINESS PARCELS

STATE ROUTE 1
ALTERNATIVE 3 - URBAN INTERCHANGE
SEGMENT C
FIGURE 3.2-8

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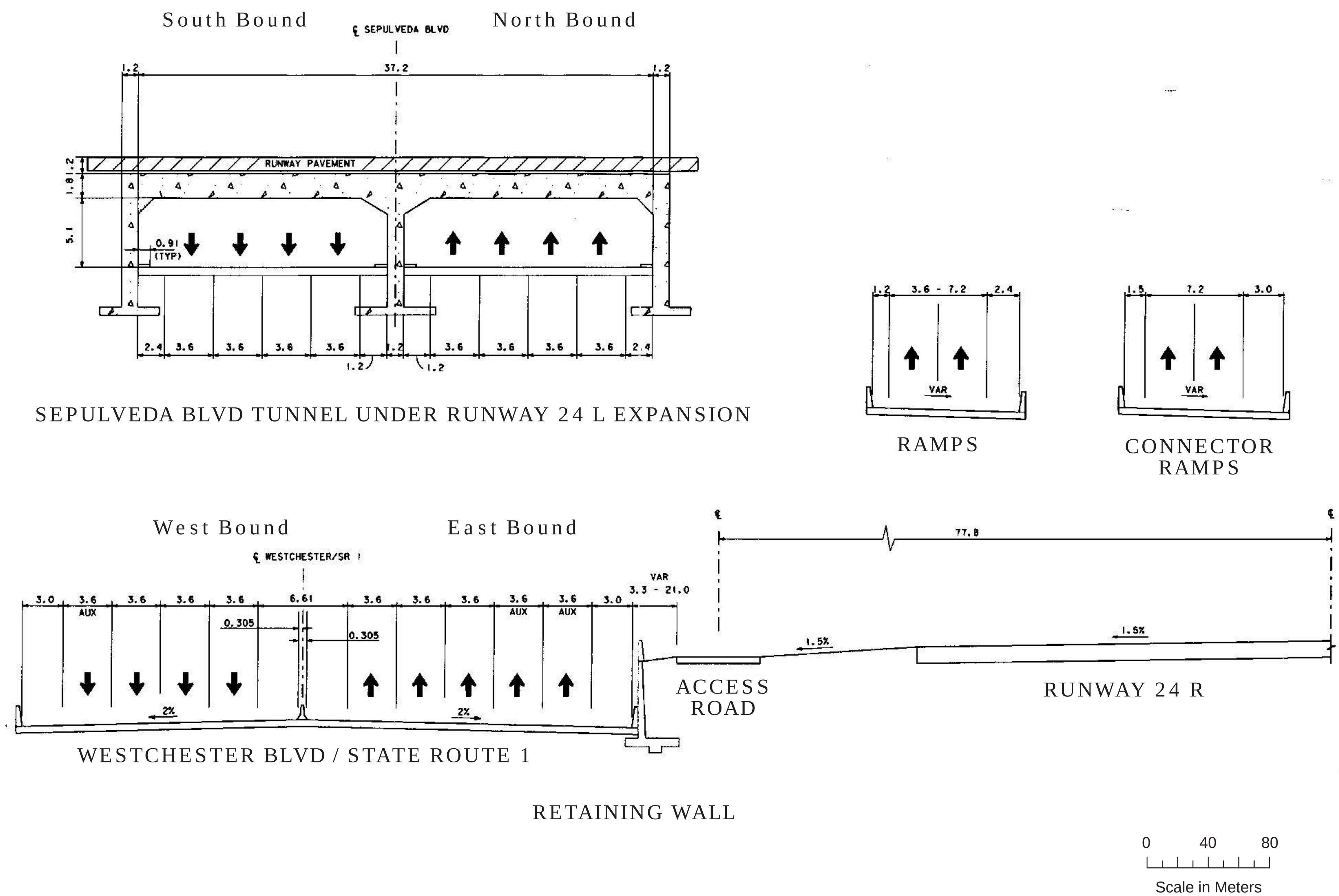

LAX Master Plan
EIS/EIR

State Route 1 Alternatives 2 and 3
Typical Sections

Figure
3.2-9

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4.0 AFFECTED ENVIRONMENT

Section 4.0 contains a description of the environmental resources and features, issues, and values that have a bearing on possible impacts, mitigations, and selection of an alternative for the LAX Expressway and State Route 1 Improvements project. Subsections 4.1 through 4.17 address each of the environmental topics on the FHWA California Division Environmental Checklist. In general, each subsection contains a description of the study area specific to the environmental topic, assumptions, issues, and data sources used in the analysis. When appropriate, a set of baseline conditions for the environmental discipline including regulatory framework and relevant activities and facilities is provided.

4.1 LAND USE

The purpose of the land use analysis is to identify how the proposed LAX Expressway and State Route 1 improvements could result in land use incompatibilities or inconsistencies with local area jurisdictional plans and policies. Various airport related development projects have already been initiated independent of the proposed LAX Master Plan including acquisition of the Manchester Square and Belford Avenue residential properties in accordance with the Airport Noise Mitigation Program and Manchester Square and Airport Belford Area Voluntary Acquisition Project already in effect. Other collateral development to the proposed LAX Master Plan include the LAX Northside – an office park approximately 137.6 hectares (340 acres) in size along the northern boundary of LAX – and the Continental City – a commercial site approximately 11.5 hectares (28.5 acres) located along Aviation Boulevard between 111th Street and Imperial Highway.

The LAX Master Plan estimates an increase in region-wide demand for commercial air transportation services by approximately 54 percent for the year 2015. The roadway improvement projects are essential to improving the efficiency of moving passengers and cargo to and from the airport via surface transportation routes. By providing direct freeway access to the airport, vehicles would be directed off of local community streets thereby relieving local area congestion. The proposed transportation projects are intended to meet the existing and/or projected traffic demand based upon airport use projections as defined in the Draft LAX EIS/EIR Section 4.3 Off-Airport Surface Transportation. An analysis of potential land use impacts of the proposed alternatives is conducted with respect to future land uses planned under the LAX Master Plan to clearly identify any incompatibilities and/or inconsistencies with already established land use policies and designations both on- and off-airport.

4.1.1 General Approach

The study area includes all potentially affected parcels and other areas immediately adjacent to the proposed roadway projects. Parcel-level data gathering for the expressway and State Route 1 projects is in progress. A description of local planning efforts including adopted land use, transportation and noise policies is provided as a basis for determining the extent to which the proposed roadway improvement projects conform to applicable federal, state and local plans, policies and regulations. The analysis includes a discussion of future development trends, land use planning efforts, and indirect effects on population density and growth rate. A statement summarizing the effects of not implementing the proposed projects is also provided under the No Action alternative.

The following identifies those plans and specific policies that exert influence on the study area.

Southern California Association of Governments (SCAG) Regional Comprehensive Plan and Guide (RCPG). The RCPG was adopted in 1996 and serves as a framework to guide growth and change to the year 2015 and beyond, and specifically recognizes that the authority and responsibility for land use and other critical planning, decisions rest with the City and County governments. The following highlights those policies contained in the Growth Management Chapter related to growth forecasts and are specific to transportation and roadway development within the region.

- Encourage patterns of urban development and land uses which reduce costs on infrastructure construction and make better use of existing facilities.
- Encourage local jurisdictions' plans that maximize the use of existing urbanized areas accessible to transit through in-fill and redevelopment.
- Encourage planned development in locations least likely to cause environmental impact.

SCAG 1998 Regional Transportation Plan (RTP). The RTP is a performance-based plan aimed at providing a long-range, coordinated approach to transportation improvements in the SCAG region. The RTP promotes the construction of improvements on roadways, highways, and rail lines to accommodate added freight and passenger movements to and from airports.

Los Angeles County Airport Land Use Plan (ALUP). An Airport Land Use Commission (ALUC) has been established to protect the public health, safety, and welfare by ensuring the orderly expansion of airports. This is achieved by the ALUC through policy and other guidance provided in the ALUP, and, through the review of proposed development projects that surround the airport. State law requires that general plans and specific plans be consistent with the ALUC land use policy. Under the ALUP, before the adoption or modification of an airport master plan, the airport operator must submit the appropriate documents to the ALUC for a determination of consistency.

Los Angeles International Interim Plan (LAIIP). The LAIIP is one of 35 community plans comprising the Land Use Element of the Citywide General Plan Framework for the City of Los Angeles. The interim plan includes the following policies related to the proposed transportation projects.

- Encourage areas adjacent to LAX to develop land uses compatible with the airport.
- Improve ground access to and vehicular and pedestrian circulation within LAX to meet anticipated air passenger and cargo increases.

Los Angeles International Airport Master Plan. The adoption of the LAX Master Plan is contingent upon environmental review and certification of the Draft LAX EIS/EIR which is the subject of this report. The following policies related to transportation are proposed within the LAX Master Plan.

- Implement a Neighborhood Compatibility Program to ensure that airport uses and activities with the potential to adversely affect near-by land uses through noise, light spill-over, vibration and other consequences of airport operations and development are as far from adjacent residential neighborhoods as feasible.
- Establish a Ground Transportation/Construction Coordination Office.
- Provide and maintain an airport buffer area.

Street Frontage and Landscape Plan. This plan establishes policies and standards for the development of airport property adjacent to streets and highways. Objectives include the use of fencing, landscaping, setbacks, greenbelts, and uniform improvements to promote land use compatibility with surrounding uses. The plan includes standards and criteria for walls and fences, landscaping, parking lot areas, irrigation systems, and maintenance. The plan recommends the development of several bikeways along Westchester Parkway, Imperial Highway, Pershing Drive, Vista del Mar, and other local and interior streets. The plan includes the following objectives to promote land use compatibility:

- To improve circulation in the airport by the establishment of setbacks and landscaping.
- To screen unsightly uses and reduce noise impact by the construction of walls, landscaping, berms, and other buffers.

Los Angeles Citywide General Plan Framework (LA Framework). The Citywide General Plan Framework, an element of the City of Los Angeles General Plan, was approved in December 1996. The plan provides a comprehensive strategy for long-term growth and citywide guidance in updating community plans and citywide elements. The plan includes policies citywide for Land Use, Housing, Urban Form and Neighborhood Design, Open Space and Conservation, Economic Development, Transportation and Infrastructure and Public Services. Under the New General Plan System which supercedes the existing General Plan Structure, the Transportation Element of the new system supercedes the Circulation Element of the existing structure.

LA Framework Land Use Element. The Land Use Element of the Citywide General Plan Framework supports the viability of the City's residential neighborhoods and commercial districts.

- Allow for the provision of sufficient public infrastructure and services to support the projected needs of the City's population and businesses within the patterns of use established in the community plan as guided by the Framework Citywide Long-Range Land Use Diagram.
- Allow for the adjustment of General Plan Framework Element land use boundaries to account for changes in the location or introduction of new transit routes and stations (or for withdrawal of funds) and, in such cases, consider the appropriate type and density of use generally within one quarter mile of the corridor and station to reflect the principles of the General Plan Framework Element and the Land Use/Transportation Policy.
- Assure that fair treatment of people of all races, cultures, incomes and education levels with respect to the development, implementation and enforcement of environmental laws, regulations, and policies, including affirmative efforts to inform and involve environmental groups, especially environmental justice groups, in early planning stages through notification and two-way communication (City of Los Angeles 1996).

LA Framework Noise Element. The Noise Element is intended to improve land use compatibility related to aircraft and non-airport related noise. Objective 2 is to reduce or eliminate non-airport related intrusive noise, especially relative to noise-sensitive uses. Objective 3 is to reduce or eliminate noise impacts associated with proposed development of land and changes in land through the following policies and programs.

- Develop land use policies and programs that will reduce or eliminate potential and existing noise impacts.
- For a proposed development project that is deemed to have a potentially substantial noise impact on noise-sensitive uses, as defined by this chapter, require mitigation measures, in accordance with CEQA and City procedures.

- Continue to plan, design, and construct and oversee construction of public projects and projects on City owned properties, so as to minimize potential noise impacts on noise-sensitive uses and to maintain or reduce existing ambient noise levels.
- Continue to encourage the California Department of Transportation, the Los Angeles County Metropolitan Transportation Authority, or their successors, and other responsible agencies, to plan and construct transportation systems so as to reduce potential noise impacts on adjacent land uses, consistent with the standards and guidelines contained in the noise element (City of Los Angeles 1996).

City of Inglewood General Plan Land Use Element. Goals identified in the Land Use Element of the City of Inglewood General Plan directly associated with the proposed roadway improvement projects are:

- Provide for a diversified industrial base for the City.
- Continue to improve the existing industrial districts by upgrading the necessary infrastructure and by eliminating incompatible and/or blighted uses through the redevelopment process (City of Inglewood 1980).

City of Inglewood General Plan Noise Element. Goals identified in the Noise Element of the City of Inglewood General Plan directly associated with the proposed roadway improvement projects are:

- Reduce noise impacts in degraded areas.
- Protect and maintain those areas having acceptable noise environments.
- Establish standards that specify acceptable limits of noise for various land uses throughout the City, with criteria designed to fully integrate noise considerations into land use planning and to prevent new noise/land use conflicts.
- Incorporate noise reduction features during site planning to mitigate anticipated noise impacts on affected noise-sensitive land uses, where noise referral zones (CNEL contours showing areas exposed to noise levels greater than 60 dBA CNEL) can be used to identify locations of potential conflicts (City of Inglewood 1980).

City of Culver City General Plan Land Use Element. The Land Use Element of the General Plan for the City of Culver City identifies policies to provide for the physical, social and economic needs of the City and its people. Those policies that are specific to the proposed roadway projects are listed as follows:

- Require that any non-residential reuse project that removes existing dwelling units provide for the replacement of those units with similar housing opportunities within the City.
- Improve the Fox Hills Sub-Area's identity as part of Culver City by assigning high priority to signage and gateway improvements for this Sub-Area.
- Protect the safety and property values of Culver Crest by assigning high priority to the development and enforcement of slope stabilization and hillside development standards.

City of Culver City General Plan Noise Element. The Noise Element of the General Plan for the City of Culver City identifies policies to protect the community from excessive noise intrusion given that the largest single contributing noise source in the community is the San Diego Freeway (I-405).

- Investigate the opportunity to construct barriers to mitigate sound emissions where necessary and where feasible.
- Participate with regional transportation agencies in the planning and development of future transportation corridors, including mass transportation, to include noise abatement measures that comply with Culver City standards.
- Coordinate with regional transportation agencies to incorporate sound attenuation measures, including sound walls, in any improvements to existing freeway and roadway facilities.
- Reduce transportation noise by including noise mitigation measures in the design of new roadway projects and through the coordination of routing (City of Culver City 1994).

City of Culver City General Plan Circulation Element. The Circulation Element of the General Plan for the City of Culver City identifies policies to improve traffic flow by reducing traffic congestion throughout the City.

- Assign high priority to roadway improvements which facilitate traffic flow without adding right-of-way or widening roadways.
- Relieve artery congestion due to freeway ramp metering through methods such as signage and diverters, which direct traffic to alternative routes (City of Culver City 1994).
- As stated in the Circulation Element, the City of Culver City is supportive of High-Occupancy Vehicle (HOV) lanes on the San Diego Freeway (I-405), provided that there is a positive impact on the Culver City street system (City of Culver City 1994). The City of Culver City also supports coordination efforts with Caltrans to improve traffic flow to, from and on state regulated facilities including the San Diego Freeway (I-405). Such coordination would help to improve metered freeway on-ramps.

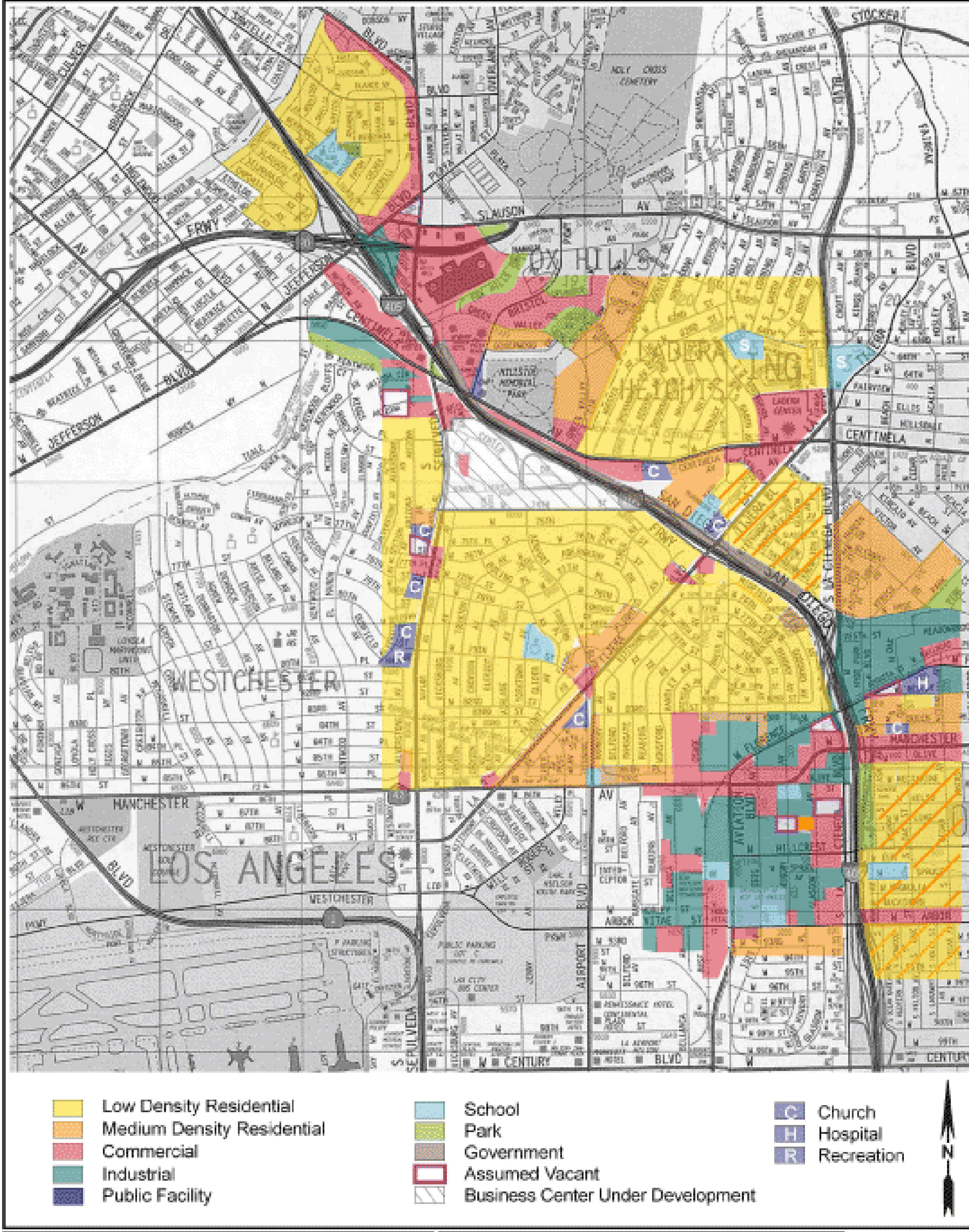
Westchester-Playa Del Rey Community Plan. The Westchester-Playa Del Rey Community Plan is part of the General Plan of the City of Los Angeles which focuses primarily on the Westchester-Playa Del Rey District. Objectives specific to roadway improvement projects are listed below.

- To provide for adequate access to Los Angeles International Airport while diverting to the extent possible such airport originating and destined traffic from that portion of the District north of the Westchester Parkway.
- To coordinate airport and airport-related land uses with that of adjoining residential uses and to provide adequate buffers and transitional uses between the airport and the rest of the community (City of Los Angeles 1996).
- To continue development of the freeway, highway and street systems in conformance with the Plan.

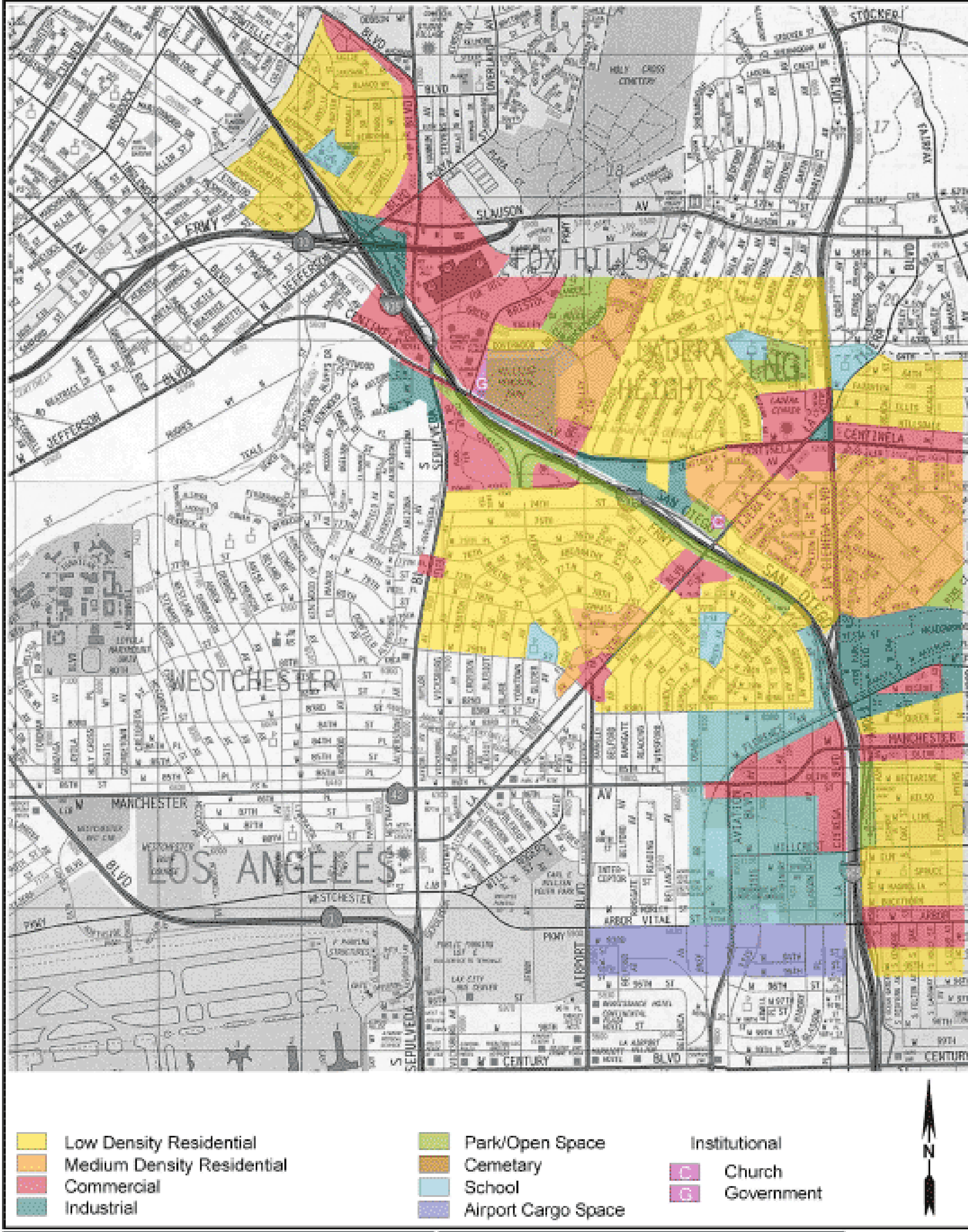
4.1.2 Affected Environment

4.1.2.1 LAX Expressway

The LAX Expressway project is bounded on the northeast by the community of Fox Hills and on the east, south and west by the City of Inglewood and Westchester. The predominant mix of land uses to the north at the I-405 and SR-90 interchange are commercial and residential. Land uses to the east include single-family and multiple-family housing, commercial and industrial operations, and community facilities such as churches. Single and multi family housing sites are located just north of Centinela



LAX Master Plan EIS/EIR	**LAX Expressway Project Area Existing Land Uses**	**Figure 4.1-1**



LAX Master Plan EIS/EIR	LAX Expressway Project Area General Plan Land Uses (2015)	Figure 4.1-2

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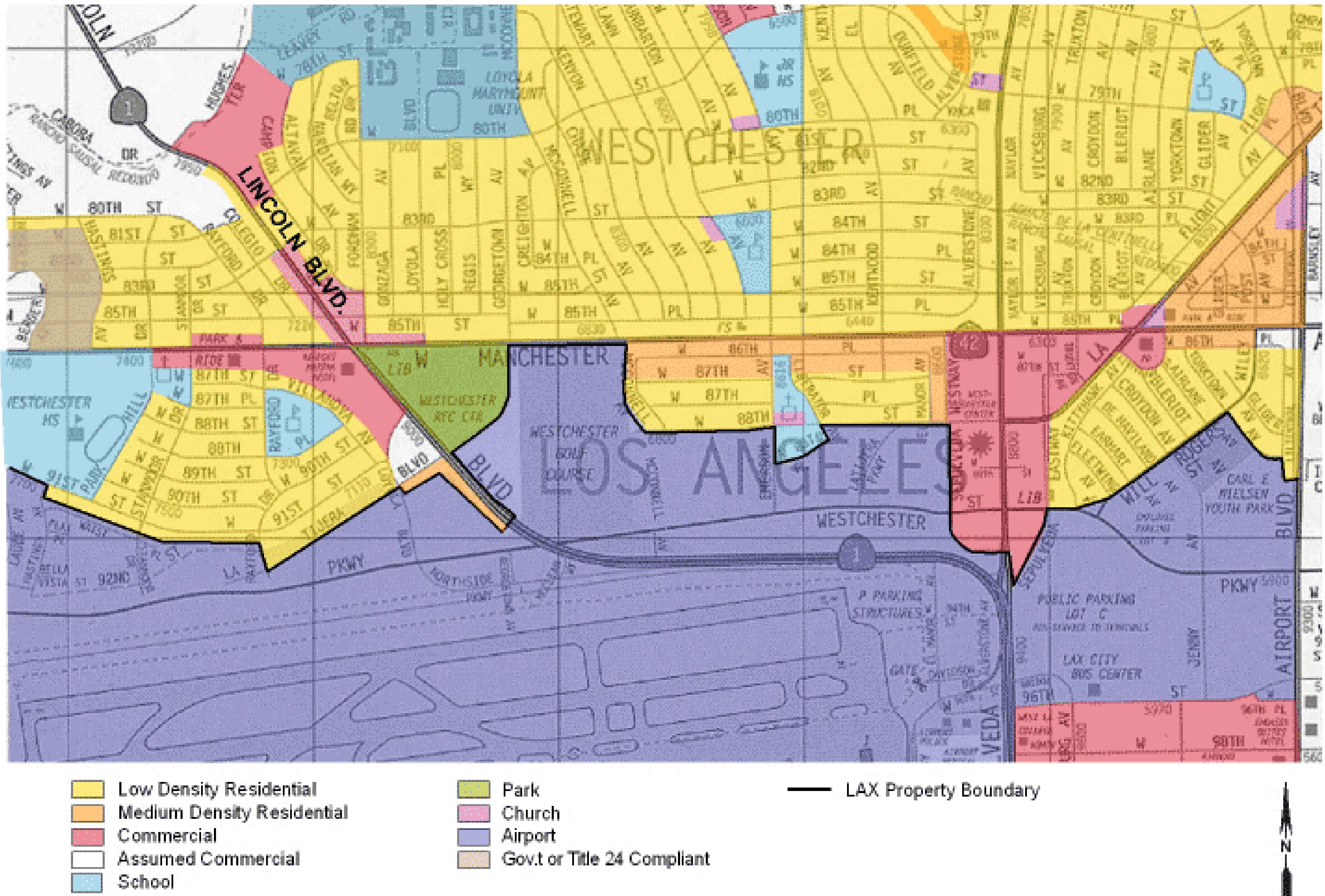
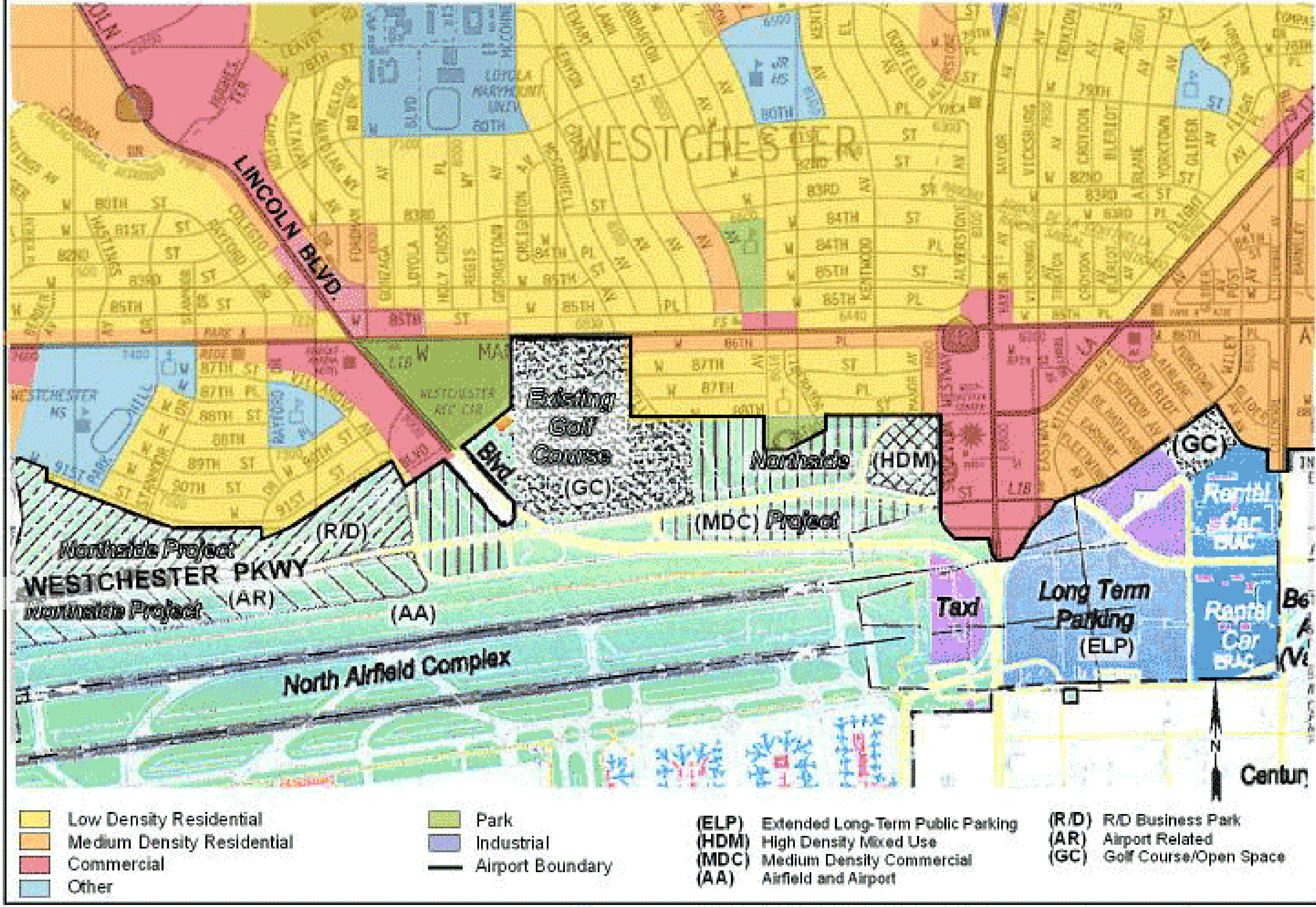


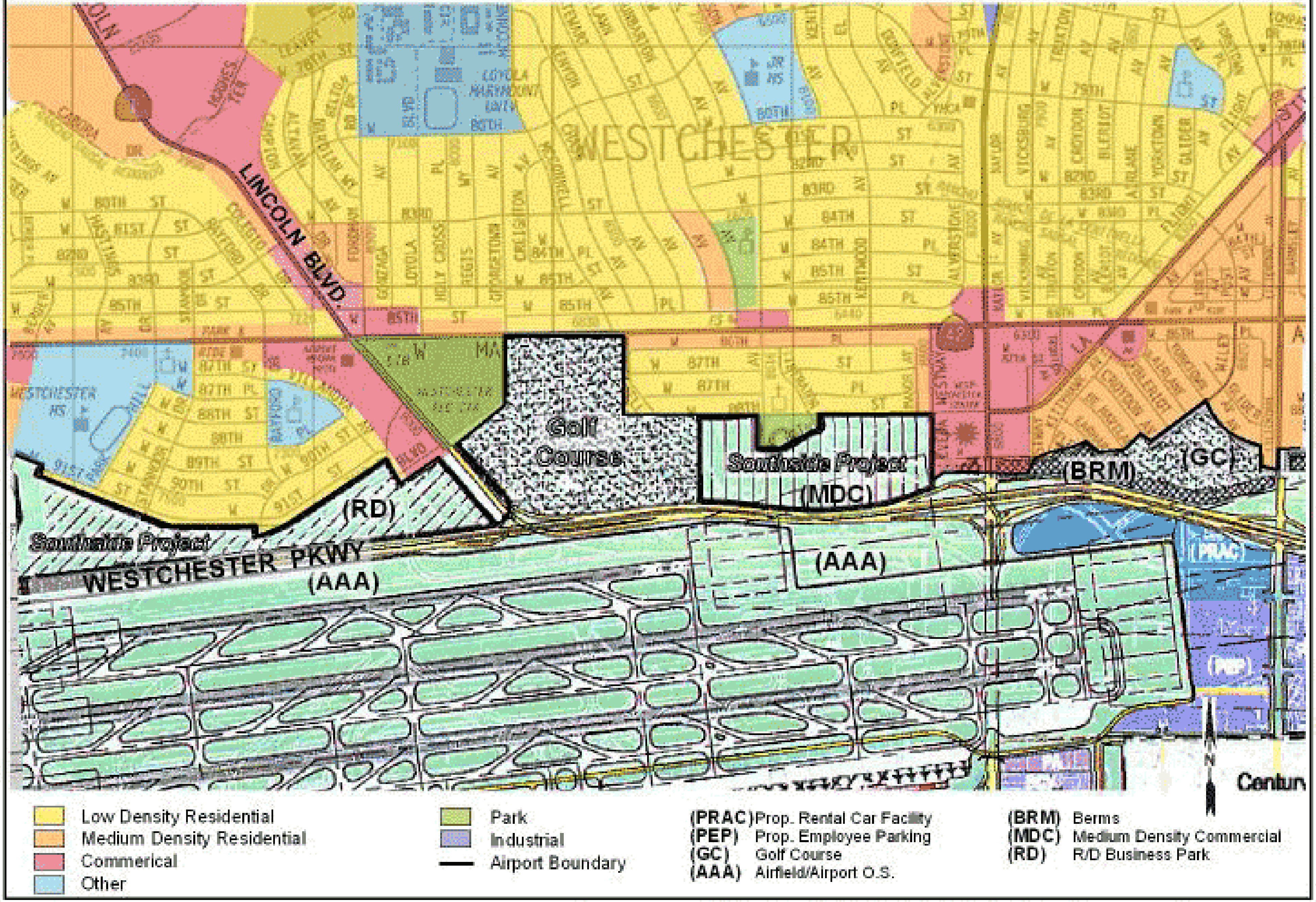
LAX Master Plan EIS/EIR	State Route 1 Improvement Project Area Existing Land Uses	Figure 4.1-3



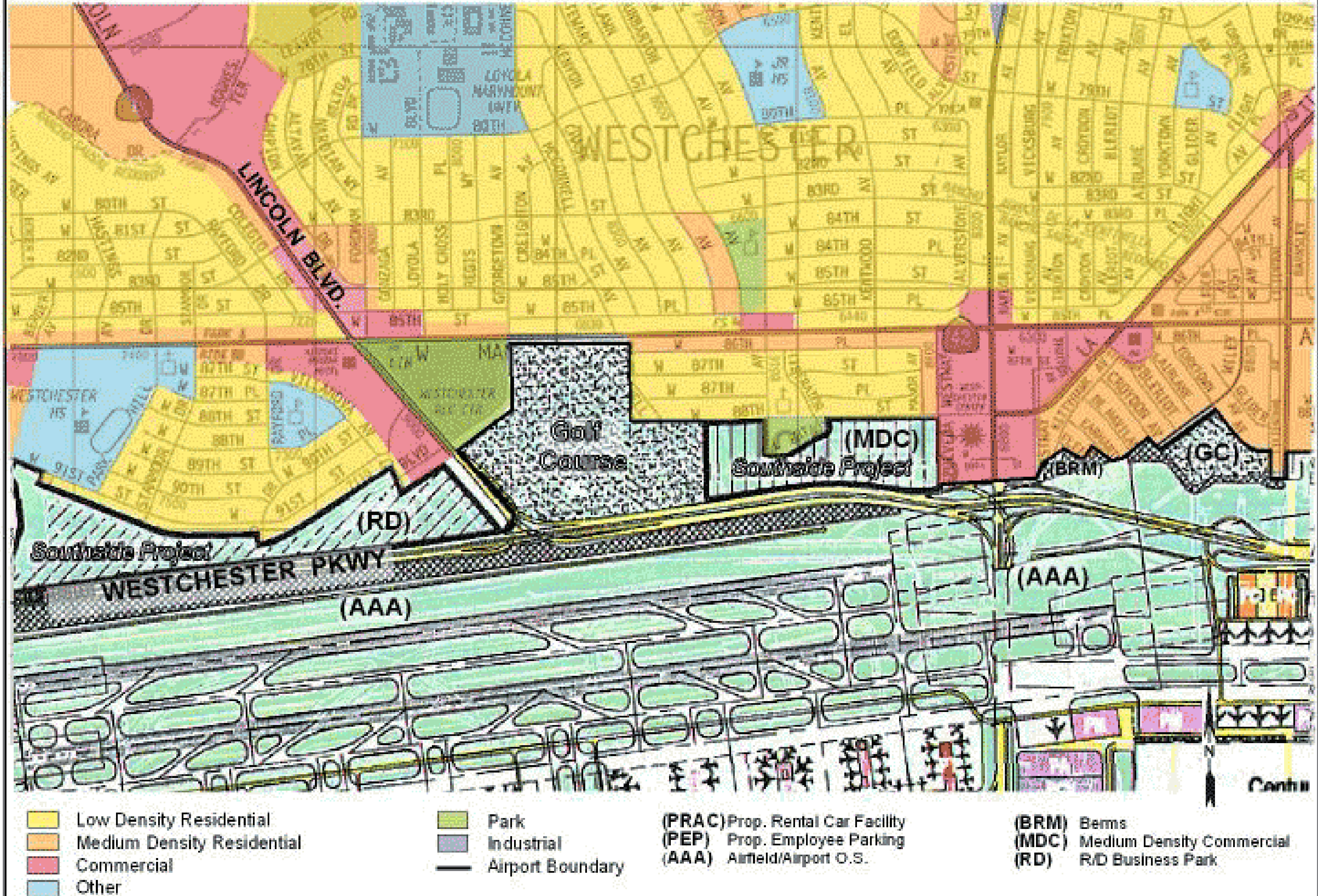
LAX Master Plan
EIS/EIR

State Route 1 Improvement General Plan
Land Uses Under No Action Alternative
of LAX Master Plan (2015)

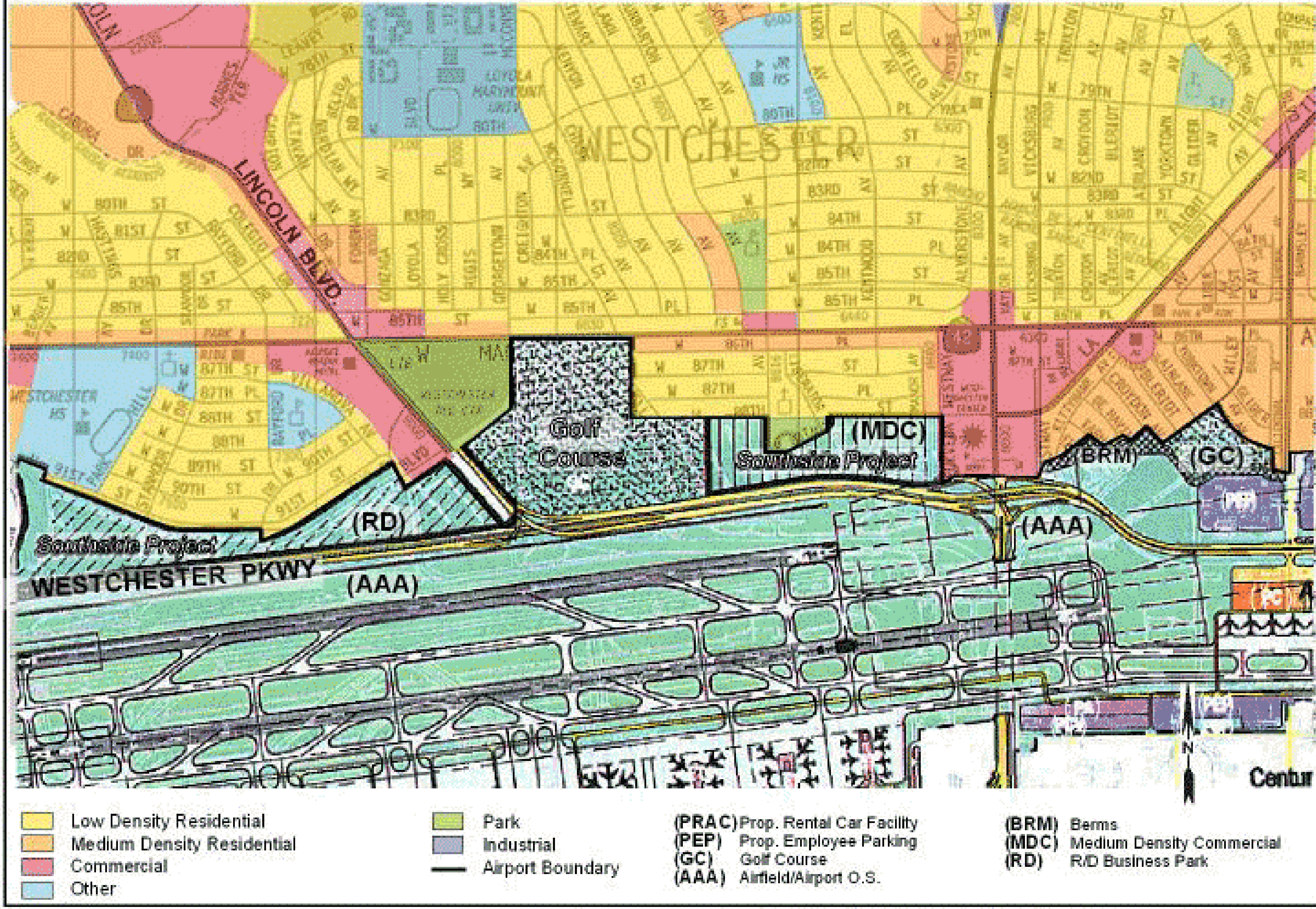
Figure 4.1-4



LAX Master Plan EIS/EIR	State Route 1 Improvement Project Area General Plan Land and LAX Master Plan Alternative A Land Uses (2015)	Figure 4.1-5



LAX Master Plan EIS/EIR	State Route 1 Improvement Project Area General Plan and LAX Master Plan Alternative B Land Uses (2015)	Figure 4.1-6



LAX Master Plan EIS/EIR	State Route 1 Improvement t Project Area General Plan and LAX Master Plan Alternative C Land Uses (2015)	Figure 4.1-7

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Avenue between the interchange and La Cienega Boulevard. A greater concentration of single family housing is located southwest of the I-405 between Sepulveda Boulevard and Manchester Boulevard. Industrial and commercial uses are concentrated at the southeast portion of the project area between Airport Boulevard and La Cienega Boulevard up to 83rd Street. Figure 4.1-1 depicts the existing land uses surrounding the project area.

Land uses designated by the various cities with jurisdictional influence along the I-405 and within the project area include a mix of industrial and commercial uses to the north of the study area from the SR-90 to Green Valley Circle. South of Green Valley Circle on both the north and south side of the I-405 is designated primarily residential from 74th Street to 83rd Street and from Green Valley Circle to La Cienega Boulevard with pockets of commercial space along La Tijera Boulevard. A mix of uses including industrial, commercial, and residential is designated for the southern part of the study area from the junction La Cienega Boulevard to Arbor Vitae Street. One area is designated open space/park just east of the I-405 and north of West Hillcrest Boulevard. Figure 4.1-2 depicts a compilation of land use designations as identified in the various plans such as the Culver City, City of Inglewood, Westchester Playa del Rey, and the LAX Master Plan.

The Land Use Element of the City of Inglewood General Plan 1980 approximates its population at 102,926 for the year 1990. Some existing land uses within the proposed study area were identified in the plan for conversion. The area adjacent to Ashwood Park at West Kelso Street was proposed for conversion from medium residential to low-medium residential. The area along Arbor Vitae Street from La Cienega Boulevard to La Brea Avenue was proposed for conversion from residential to commercial use. Such conversions were proposed in response to establishing more appropriate compatible uses such as the nearby airport.

4.1.2.2 State Route 1

Lincoln Boulevard is a major roadway north of LAX, providing access to communities north of LAX and is designated State Route 1 from Sepulveda Boulevard on the south to the I-10 (Santa Monica Freeway) on the north. The State Route 1 project area is bounded to the north by the community of Westchester, on the east by the City of Los Angeles, on the south by LAX property and on the west by LAX property and the communities of Westchester and Playa del Rey. The predominant land use to the north is residential, commercial and recreational; to the east of the site is commercial, industrial, and airport-related facilities (i.e., parking); to the south is LAX property (i.e., runways and airport-related facilities); and to the west is residential and LAX property (i.e., runways). On-airport related land uses include open space and buffer area to the north of the property. Figure 4.1-3 depicts the existing land uses surrounding the project area.

Planned land uses designated by the various cities with jurisdictional influence surrounding the project area include mixed use ranging from open space and residential on the north and west side of the study area to commercial community to industrial on the east side. Planned land use designations within projected airport boundaries adjacent to the communities of Westchester and Playa del Rey include open space/landscape buffers, a research and development park, recreational space, medium density commercial including hotel, office and retail space, and berms under Alternative A of the LAX Master Plan. Similar land uses are planned under Alternative B and C. Figures 4.1-4, 4.1-5, 4.1-6, and 4.1-7 depict a compilation of land use designations as identified in the various plans such as Westchester/Playa del Rey Plan and the three build alternatives (A, B, and C) of the LAX Master Plan.

The Westchester Playa del Rey Plan approximates its residential capacity at 113,340 persons for the year 2000. This plan provides for some residential re-designations to High-Medium density residential uses.

This is to accommodate projected growth and to allow for compatibility with surrounding properties, particularly in view of the planned expansion of the Los Angeles International Airport.

4.2 FARMLAND

According to the California Department of Conservation, Resources Agency, there are no prime or unique farmland, or farmland of statewide or local importance located within the proposed right-of-way (ROW) for the proposed LAX Expressway and State Route 1 Improvements project alternatives or adjacent properties. The airport and proposed LAX Expressway and State Route 1 improvements are located in an intensely developed urban area. No active farmland exists in the vicinity of Los Angeles International Airport or the two roadway projects.

4.3 SOCIAL AND ECONOMIC

The purpose of the social and economic analysis is to evaluate the potential impacts from the proposed projects on minority and low-income populations residing within census tract areas immediately adjacent and/or within the alignment configurations of both the LAX Expressway and State Route 1 Improvements project.

4.3.1 General Approach

Federal legislation, regulations, and administrative policies and procedures guide social and economic analyses for transportation projects. Title VI of the Civil Rights Act (1964) states:

> *"No person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits or, or be subjected to discrimination under any program or activity receiving Federal financial assistance."*

Further, Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (1994), requires each federal agency to take appropriate steps to identify and address any disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority and low-income populations. Provisions of the National Environmental Policy Act, Title 23, Section 109(h), and the Uniform Relocation Assistance and Real Property Act provide further policy guidance concerning the evaluation of proposed federal programs, policies, and activities in light of environmental justice requirements.

The Department of Transportation issued its Order to Address Environmental Justice in Minority Populations (1997), which summarizes and expands on the environmental justice requirements embodied in Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations. These guidance documents describe minority and low-income populations as persons belonging to any of the following groups:

- Black – a person having origins in any of the black racial groups of Africa.
- Hispanic – a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- Asian American – a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

- American Indian and Alaskan Native – a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.

For purposes of this environmental analysis, minority populations include Black, Indian Asian, undefined Non-White[3], and all those individuals recorded as persons of Hispanic origin. If a census tract's majority population recorded in the 1990 Census of Population and Housing included persons belonging to minority groups, the census tract is identified as a minority tract.

Low-income is defined as a person whose household income (or in the case of a community group, whose median household income) is at or below the U.S. Department of Health and Human Services poverty guidelines. The poverty guidelines updated annually in the Federal Register by the U.S. Department of Health and Human Services (HHS) under authority of 42 U.S.C. 9902(2) are presented in Table 4.3-1 below.

Table 4.3-1
Poverty Guidelines

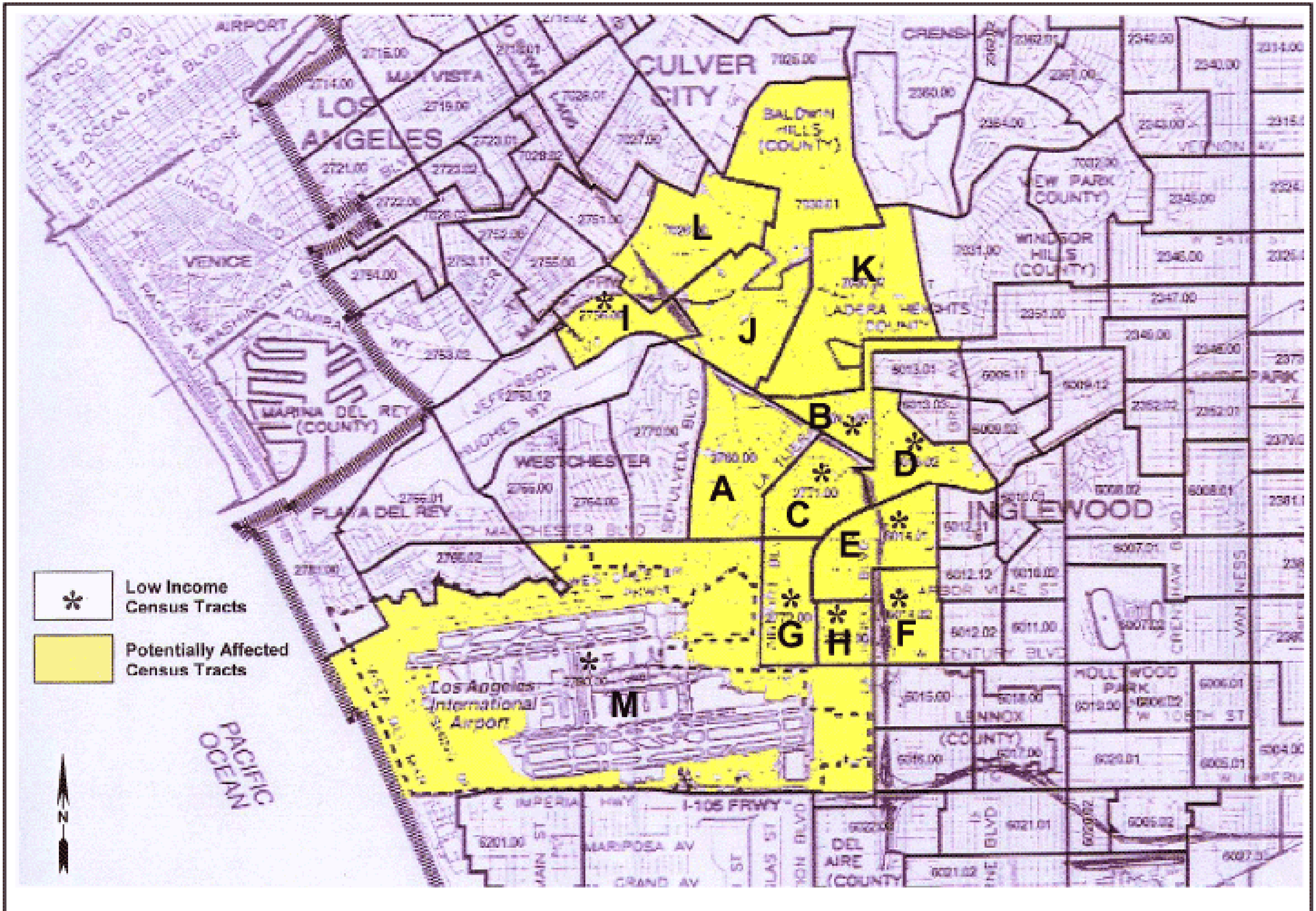
Size of Family Unit	Poverty Guideline
1	$ 8,350
2	$11,250
3	$14,150
4	$17,050
5	$19,950
6	$22,850
7	$25,750
8	$28,650
Source: U.S. Department of Health and Human Services, "Annual Update of the HHS Poverty Guidelines," Federal Register, Vol.. 65, Number 31 (February 15, 2000)	

The DOT Order 5610.2 defines low-income populations as those individuals whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines, which is $17,050 for a family of four in the year 2000. The 1990 Census data used in this analysis reported families below the poverty level based on $12,674 for a family of four in 1989. The 1990 Census data was used in this analysis because it was deemed the most reliable information currently available. Since application of the current poverty level to 1990 income levels would not produce an accurate estimate of the number of families currently below the poverty level, this analysis identified low-income populations based on the 1989 poverty level. Refer to Draft LAX EIS/EIR, Section 4.4.3.2 for further information and explanation.

4.3.2 Affected Environment

The study area for this analysis consists of the census tracts abutting or including the roadway alignment for the LAX Expressway and State Route 1 improvements (Figure 4.3-1). Twelve tracts have been identified and form the affected area for the LAX Expressway project and one tract fully contains the proposed improvements associated with the State Route 1 project. Table 4.3-2 identifies the estimated total population by census tract, the percentage of the population identified as minority, the total number of households, and the number of households below the poverty level currently defined by the U.S. Department of HHS.

[3] Identified as "Other Race" within the Census statistical data.



LAX Master Plan EIS/EIR	Roadway Improvement Environmental Justice Area	Figure 4.3-1

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Table 4.3-3 lists the number of potentially affected parcels by land use type for LAX Expressway build alternatives. Table 4.3-4 lists the number of potentially affected parcels for the State Route 1 improvements. This information is used in the analysis of potential relocation of residents and businesses. The “no action” alternative for each roadway project would not involve land acquisition and relocation of residents and businesses.

Parcel-level data gathering for the LAX Expressway and State Route 1 Improvements project is in progress. Precise roadway alignments for each alternative and associated right-of-way requirements are not available at this time. The phrase “potentially affected parcels” used in Tables 4.3-3 and 4.3-4 means partial or full acquisition of the property for roadway right-of-way purposes.

Table 4.3-2
Minority and Low- Income Census Tracts[1]

Fig. 4.2-1 ID	Tract Number	Total Population	Non-Minority Population	Minority Population	Percent Minority	Number of Households	Households Above Poverty	Households Below Poverty	Percent Below Poverty
LAX Expressway Alternative 2-Spilt Viaduct									
A	2760	5266	4160	1106	21.0	2187	2032	155	7.1
B	2761	3440	1697	1743	50.6	1838	1508	330	17.
C	2771	2947	2153	794	26.9	1169	1027	142	12.1
D	6013.02	6838	944	5894	86.2	2805	2349	456	16.2
E	6014.01	5850	1854	3996	68.3	1795	1431	364	20.3
F	6014.02	5121	751	4370	85.3	1361	1094	267	19.6
G	2772	3400	641	2759	81.1	1459	1207	252	17.3
H	2774	3591	690	2901	80.8	1583	1360	223	14.1
--	Total	36453	12890	23563	64.6	14197	12008	2189	18.2
LAX Expressway Alternative 3-Single Viaduct									
I	2756	3440	581	2859	79.7	1306	1084	222	17.0
A	2760	5266	4160	1106	21.0	2187	2032	155	7.1
J	7030.01	5127	2483	2644	51.6	2809	2609	200	7.1
K	7030.02	6673	2108	4565	68.4	2724	2536	188	6.9
B	2761	3440	1697	1743	50.6	1838	1508	330	17.9
D	6013.02	6838	944	5894	86.2	2805	2349	456	16.2
E	6014.01	5850	1854	3996	68.3	1795	1431	364	20.3
G	2772	3400	641	2759	81.1	1459	1207	252	17.3
H	2774	3591	690	2901	80.8	1583	1360	223	14.1
L	7026	6280	4733	1547	24.6	6280	6057	223	3.5
--	Total	49905	19891	30014	60.1	24786	22173	2613	10.5
State Route 1 Alternatives 2 and 3									
M	2780	2460	1750	857	28.9	1037	891	146	16.4
--	Total	2460	1750	857	28.9	1037	891	146	16.4

[1]Low-Income estimates are based on 1990 U.S. Census and 1989 poverty level.

Table 4.3-3
Number of Potentially Affected Parcels by Land Use Type
LAX Expressway

Land Use	Alternative 2	Alternative 3
Residential	115	47
Businesses	23	34
Public Facilities	7	14
Community Facilities	3[a]	2[b]
Other	0	2
Total Number of Parcels	148	99

Source: URS Corporation
[a] Church, 1 cemetery, Centinela Adobe
[b] 1 school, 1 cemetery

Table 4.3-4
Number of Potentially Affected Parcels by Land Use Type
State Route 1 Improvements

Land Use	Alternatives 2 and 3
Residential	8
Businesses	37
Public Facilities	1
Community Facilities	0
Other	0
Total Number of Parcels	46

Source: URS Corporation

4.3.2.1 LAX Expressway

Figure 4.3-1 depicts the general location of the census tracts affected by the LAX Expressway build alternatives. Eight census tracts abut and/or include the LAX Expressway alignment under build Alternative 2-Split Viaduct. Table 4.3-2 indicates that the combined estimated population of these tracts is 36,453, of which an estimated 64.6 percent is comprised of minority populations. All eight tracts are identified as minority census tracts. In the aggregate, there are 14,197 households within the eight tracts, of which 2,189 households or 18.2 percent are below the poverty level.

Ten census tracts abut and/or include the LAX Expressway alignment for build Alternative 3-Single Viaduct. All are identified as minority census tracts. The combined population of these tracts is estimated at 49,905. In the aggregate, approximately 60.1 percent or 30,014 persons are of minority populations. Combined, there are 24,786 households within these census tracts. An estimated 15.5 percent of the households were reported below poverty level.

4.3.2.2 State Route 1

The State Route 1 improvements are proposed within a largely non-residential census tract, which includes the airport property, commercial, and light industrial development. The estimated total population for census tract 2780 is 2,460 persons. Approximately 28.9 percent of the residents are of minority populations. There are approximately 1,037 households, of which 11.2 percent are poverty level households.

4.4 PEDESTRIAN AND BICYCLE FACILITIES

No known pedestrian facilities exist alongside the I-405, the site of the proposed LAX Expressway project. However, both Lincoln Boulevard (SR-1) and Westchester Parkway provide for sidewalks on either side of the roadways linking the residential community on the west side to the commercial area to the east. That portion of Sepulveda Boulevard proposed for tunneling also provides a pedestrian sidewalk on both sides of the roadway.

Chapter IX of the Transportation Element of the Citywide General Plan Framework for the City of Los Angeles which includes the Bicycle Plan defines and identifies various pathway facilities located within the project study area. According to the Revised Bicycle Plan Citywide Bikeway System Westside Area, two Class II bikeways are located within the roadway project study area, one along Westchester Parkway between Pershing Drive and Sepulveda Boulevard and portions of another along Sepulveda Boulevard between Centinela Avenue and Lincoln Boulevard. It is unclear whether this facility is a recreational resource given that it is not contained in the Recreation Element of the Citywide General Plan Framework for the City of Los Angeles. Another Class II bikeway is located along Manchester Boulevard between Lincoln Avenue and Aviation Boulevard to the north of the State Route 1 improvements study area. Since it would be outside the study area, no further analysis of this future bikeway was conducted. Class II (bike lane) is a lane on the paved area of a road for preferential bicycle use. It is identified by “Bike Lane” or “Bike Route” guide signage, special lane lines, and other pavement markings.

The Bicycle Plan Citywide Bikeways facilitates the development of bicycle circulation at the periphery of LAX. One policy in particular, Policy 1.1.4, requires a public hearing to be held for the removal of existing bike lanes on Class II City wide Bikeway designated in the Plan. However, it further clarifies that if bike lanes or a bike path is proposed under an alternative that parallels the alignment serving the same employment/transit center’s and/or open space area(s) already being serviced, then a public hearing is not required (City of Los Angeles 1996).

4.5 AIR QUALITY

The air quality impact analysis addresses air quality-related issues associated with the project alternatives. This section presents: the technical approach and methodology used to estimate air quality impacts; the applicable air quality standards and plans; the existing air quality and meteorological conditions; the applicable thresholds used to evaluate significance of air quality impact levels; and the Master Plan air quality policies.

4.5.1 General Approach

4.5.1.1 Construction Impacts

Roadway construction would cause temporary increase of air pollutant emissions in the vicinity of the project site. Air pollutants, including nitrogen oxides (NO_x), carbon monoxide (CO), reactive organic compounds (ROCs), particulate matter less than or equal to 10 microns in diameter (PM_{10}), and sulfur oxides (SO_x), would be generated from exhaust emissions of construction equipment/vehicles. Fugitive dust emissions (PM_{10}) would be generated during site excavation and grading.

The URBMIS7G model recommended by the California Air Resources Board (CARB) and the SO_x emission factor developed by the South Coast Air Quality Management District (SCAQMD 1993) were used to estimate the air pollutant emissions associated with roadway construction activities for the project alternatives. Construction equipment and activity data were derived from the Draft LAX EIS/EIR (FAA, 2000). Areas of the project site to be constructed for the alternatives were estimated based on engineering drawings. The URBMIS7G default data, including emission factors, were used in the emission calculations. The URBEMIS7G model output data and the SO_x emission calculations are provided in Attachment 1.

4.5.1.2 Operational Impacts

Regional Air Quality Impacts. Emissions of NO_x, CO, ROC, SO_x, and PM_{10} would be generated during project operation. As recommended in the guidance developed by the Federal Highway Administration (FHWA 1987), the analysis summarizes the results from the regional air pollutant emission inventories developed in the SCAQMD "1997 Air Quality Management Plan," a part of the California State Implementation Plan (SIP).

Project-Level CO Impacts. CO impact analyses were performed through air dispersion modeling to estimate ambient CO concentrations in the vicinity of the project site. The CAL3QHCR model, developed by the U. S. Environmental Protection Agency (EPA), was used to predict project-level CO impacts resulting from vehicular emissions associated with the proposed project. The modeling approach and input parameters used for this project follow the requirements of the "Guidance for Preparing and Processing Environmental and Section 4(f) Documents" developed by the Federal Highway Administration (FHWA 1987), and "Transportation Project-Level Carbon Monoxide Protocol" (CO-Protocol) developed by the California Department of Transportation (Caltrans 1997). Inputs to the CAL3QHCR model include roadway geometry, meteorology, CO background concentrations, vehicle emission factors, and traffic volumes.

Ambient CO concentration levels are most affected near congested intersections. In the Draft LAX EIS/EIR, CO impact analyses have previously been conducted for 17 intersections. Selection of these 17 intersections was based on traffic congestion levels and the locations of human receptors relative to the intersections that would be potentially affected by the LAX Master Plan. The CO impact analysis for the major intersections located at the LAX Expressway project site was previously conducted in the Draft LAX EIS/EIR; therefore, no further CO modeling was conducted for this site. For the State Route 1 Improvements project, two intersections were selected for CO modeling in the present analysis: Lincoln Boulevard/Sepulveda Boulevard and Westchester Parkway/Sepulveda Boulevard. In 2015, the intersection of Lincoln Boulevard/Sepulveda Boulevard will no longer exist under the proposed Alternatives 2 and 3. The subject location will be replaced with the intersections of the north portion and south portion of Sepulveda Boulevard/Westchester Parkway after the project is built under Alternatives 2 and 3 (see Figure 4.5-1). Therefore, the CO modeling analysis for Alternative 1 was conducted for the intersections of Lincoln Boulevard/Sepulveda Boulevard and Westchester Parkway/Sepulveda Boulevard; and the CO modeling analyses for Alternatives 2 and 3 were conducted for the intersections of the north portion and south portion of Sepulveda Boulevard/Westchester Parkway.

Traffic data generated for the LAX Master Plan were used in the CO modeling analyses. According to the traffic study conducted by Parsons (2000), Alternative C of the LAX Master Plan would have slightly higher impacts than the Master Plan Alternatives A and B on the congestion levels of the subject intersections after the project is built, based on the estimated level of service (LOS) data. Traffic in the afternoon peak hours would be the worst-case CO impact scenario. Therefore, traffic volumes of the afternoon peak hours under Alternative C, estimated by Parsons, were used to predict the worst-case 1-hour and 8-hour CO concentrations. The LOS data and traffic volumes used in the modeling analysis are included in Attachment 1.

Twenty-eight artificial receptors were deployed in the vicinity of the subject intersections to account for the fact that people may occasionally walk along or near the road, although no residential areas are planned to be located adjacent to the subject intersections after the project is built (see Figure 4.5-1). The mobile sources are modeled as line sources in the CAL3QHCR model and are expressed as links. A link is defined as a straight segment of a roadway having a constant traffic volume and vehicle emission factor. Fifty-eight links were deployed on the subject intersections. The locations of the links and receptors for in the model simulations are presented in Figure 4.5-1.

Modeling was performed using the meteorological data collected at the Lennox monitoring station. These meteorological data are preprocessed and recommended by the SCAQMD for air dispersion modeling purposes (SCAQMD 2000).

Total CO concentrations in the project area for the 1-hour and 8-hour averaging periods were estimated by adding the model-predicted concentrations due to the traffic at the subject intersections to the corresponding background CO values. Background concentrations of CO near LAX in 2015 were derived from the results calculated in the Draft LAX EIS/EIR. The Draft LAX EIS/EIR used the linear rollback approach, identified in the "1997 Air Quality Management Plan", to calculate future background CO concentrations (FAA 2000). The future background concentrations for CO in 2015 were calculated to be 4.2 parts per million (ppm) for a 1-hour period and 3.4 ppm for an 8-hour period (FAA 2000).

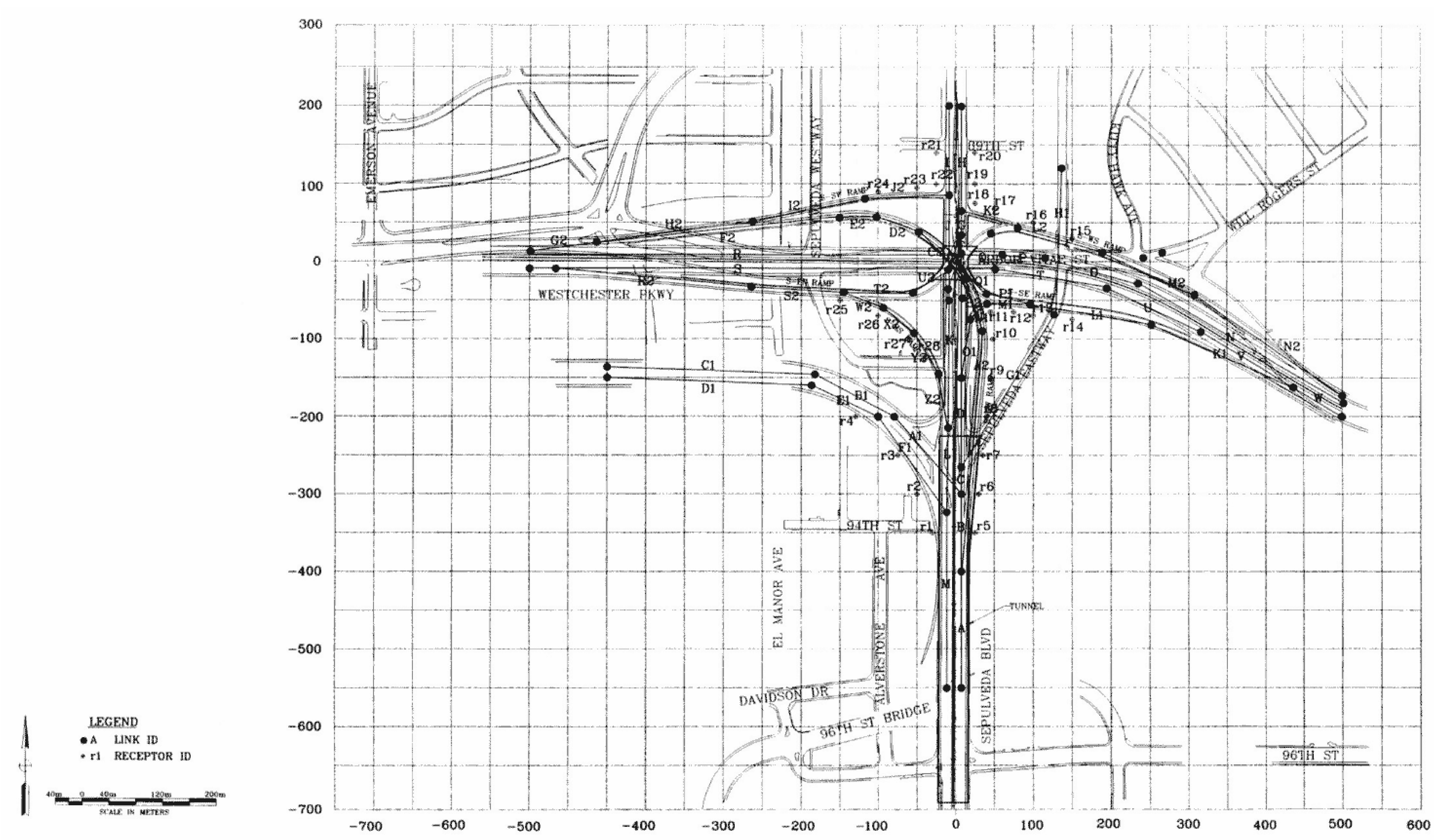
Vehicle emission factors were derived using the CT-EMFAC model developed by Caltrans. The CT-EMFAC model provides composite emission factors based on the results predicted by the EMFAC7F model. Input data to this emission factor model include analysis year, vehicle operating mode, ambient temperature range, vehicle speed range, and vehicle mix. The input data of vehicle mix and vehicle operating mode were selected based on the recommendations provided in the Caltrans' CO-Protocol. The CT-EMFAC modeling results, showing the estimated emission factors at different vehicle speeds and ambient temperatures, are included in Attachment 1. According to the CO modeling protocol, projects located within the SCAQMD, which become operational in or after the year 2000, should apply an additional factor of 0.86 to the emission factors output by CT-EMFAC (Caltrans 1997), to account for increasing emission reduction measures incorporated by future vehicles.

4.5.2 Affected Environment

4.5.2.1 Applicable Air Quality Standards and Plans

National Ambient Air Quality Standards (NAAQS) were established by the federal Clean Air Act (CAA) of 1970, as amended in 1977 and 1990. The NAAQS represent the maximum levels of pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The six primary air pollutants of concern for which the NAAQS have been established are ozone (O_3), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), lead (Pb), and particulate matter equal to or smaller than 10 microns in diameter (PM_{10}).

On July 18, 1997, the U.S. Environmental Protection Agency (EPA) issued new NAAQS for O_3 and PM. The new NAAQS for O_3 is 0.08 ppm averaged over 8 hours. EPA established new $PM_{2.5}$ (particulate matter with a diameter smaller than 2.5 micrometers) standards: annual average of 15 μg/m3 and 24-hour



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LAX Master Plan EIS/EIR	Link and Receptor Arrangement CO Modeling Analysis	Figure 4.5-1

average of 65 μg/m3, and essentially retained the PM_{10} standards. On May 14, 1999, the U.S. Court of Appeals (USCA) for the District of Columbia Circuit found that the construction of the CAA on which EPA relied in promulgating the new NAAQS "effects an unconstitutional delegation of legislative power" (USCA 1999). EPA is preparing an appeal of this ruling. The U.S. Supreme Count heard arguments on appeal of this case on November 7, 2000 and is expected to issue an opinion by the end of the term.

Table 4.5-1, National and California Ambient Air Quality Standards, presents the current NAAQS for each of the six pollutants at different averaging periods. The NAAQS, other than the O_3 standard and those based on annual averages or annual arithmetic means, are not to be exceeded more than once per year. The current 1-hour O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than 1, averaged over 3 years. The annual standards for all pollutants should never be exceeded.

The California Air Resources Board (CARB) has developed the California Ambient Air Quality Standards (CAAQS) (See Table 4.5-1). In the past, the CAAQS were set at levels not to be “equaled or exceeded.” During a review of the state regulations in 1982 pursuant to AB 1111, the CARB changed the basis for determining a violation of a state standard to an “exceed only” policy. This change has been implemented for the CAAQS for O_3, CO (except for the 8-hour standard for the Lake Tahoe Air Basin), NO_2, SO_2, and PM_{10}. The remaining state standards are never to be equaled or exceeded.

The EPA has designated all areas of the United States as either “attainment,” “nonattainment,” or “unclassified” with respect to the NAAQS. An attainment designation means that the air quality of the area is better than the NAAQS. A nonattainment designation means that a primary NAAQS has been exceeded more than three separate times in three years in a given area. Under the CAA, a nonattainment area can be redesignated as attainment if, among other requirements, EPA determines that the NAAQS have been attained. After redesignation, this area is considered as an attainment and maintenance area. An area is designated as unclassified when sufficient data are not available to classify the area as either attainment or nonattainment. With regard to the CAAQS, the ARB considers an area to be nonattainment if the CAAQS have been exceeded more than once in three years.

The project area is designated as federal non-attainment for O_3, CO, and PM_{10}; and attainment or unclassified for NO_2, Pb, and SO_2 by EPA. The project area is also designated by the CARB as state non-attainment for O_3, CO, and PM_{10}; and attainment or unclassified for NO_2, SO_2, Pb, sulfates, hydrogen sulfide, and visibility reducing particles.

The proposed project is located in the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The federal Clean Air Act Amendments (CAAA) of 1990 set planning requirements to ensure the attainment of the federal standards by specific deadlines. Foremost among these requirements is adoption and implementation of attainment plans. , i.e., state implementation plans (SIPs). In California, the CARB is responsible for compiling the SIP based on the air quality implementation plans prepared by the local air districts within California. In order to achieve the State air quality standards, the California Clean Air Act requires each air district to prepare an air quality attainment plans.

The SCAQMD develops Air Quality Management Plans (AQMP), the first of which was completed in 1979. The most recent version, the 1997 AQMP, demonstrates attainment of the federal and state air quality standards through the implementation of new emission control measures and by demonstrating the associated decrease in future SCAB emission inventories. In particular, the 1997 AQMP: 1) updates demonstration of the federal and state carbon monoxide (CO) standards and the federal ozone (O_3) standard by the years 2000 and 2010, respectively; 2) demonstrates attainment of federal standards for particulate matter less than 10 microns in diameter (PM_{10}) by the year 2006; and 3) includes a maintenance plan for nitrogen dioxide (NO_2).

Table 4.5–1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS Concentration	NAAQS Concentration	
			Primary	Secondary
Ozone (O_3)	1 Hour	0.09 ppm (180 $\mu g/m^3$)	0.12 ppm (235 $\mu g/m^3$)	Same as Primary Std.
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)	-
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	-
Nitrogen Dioxide (NO_2)	Annual Average	-	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Std.
	1 Hour	0.25 ppm (470 $\mu g/m^3$)	-	-
Sulfur Dioxide (SO_2)	Annual Average	-	0.03 ppm (80 $\mu g/m^3$)	-
	24 Hour	0.04 ppm (105 $\mu g/m^3$)	0.14 ppm (365 $\mu g/m^3$)	-
	3 Hour	-	-	0.5 ppm (1300 $\mu g/m^3$)
	1 Hour	0.25 ppm (655 $\mu g/m^3$)	-	-
Suspended Particulate Matter (PM_{10})	Annual Geometric Mean	30 $\mu g/m^3$	-	-
	24 Hour	50 $\mu g/m^3$	150 $\mu g/m^3$	Same as Primary Std.
	Annual Arithmetic Mean	-	50 $\mu g/m^3$	Same as Primary Std.
Sulfates	24 Hour	25 $\mu g/m^3$	-	-
Lead (Pb)	30 Day Average	1.5 $\mu g/m^3$	-	-
	Calendar Quarter	-	1.5 $\mu g/m^3$	Same as Primary Std.
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu g/m^3$)	-	-
Vinyl Chloride (chloroethene)	24 Hour	0.010ppm (26 $\mu g/m^3$)	-	-
Visibility Reducing Particles	8 hour (10 am to 6 pm. PST)	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.	-	-

4.5.2.2 Existing Air Quality

The SCAQMD maintains a network of air quality monitoring stations throughout the Basin. The closest air quality monitoring station to the project site is Station No. 094, Southwest Coastal Los Angeles County, located in Hawthorne. This monitoring station is located roughly 3.8 kilometers (2.4 miles) southeast of the LAX Theme Building and 1.0 km (0.6 miles) south of the LAX southeast property line. This monitoring station monitors O_3, PM_{10}, CO, SO_2, and NO_2. Table 4.5-2, Ambient Air Quality Summary, presents a summary of the highest pollutant concentrations monitored at the Southwest Coastal

Los Angeles County air quality monitoring station during the three most recent years (1996-1998) for which the SCAQMD has reported data (SCAQMD, 2000).

As illustrated in Table 4.5-2, no exceedances of the NAAQS and CAAQS for NO_2 and SO_2 were recorded from 1996 through 1998 at the station. The monitoring data show that the federal standard for O_3 was exceeded once in 1996, and the state standard for O_3 was exceeded several times during both 1996 and 1997. The federal and state 8-hour standard for CO was exceeded from 1996 through 1998, and the state 24-hour PM_{10} standard was also exceeded in these three years.

Table 4.5-2
Ambient Air Quality Summary
Southwest Coastal Los Angeles County

Pollutant	Average Time	CAAQS[1]	NAAQS[1]	Maximum Concentrations[1]			Number of Days Exceeding CAAQS[2]			Number of Days Exceeding NAAQS[2]		
				1996	1997	1998	1996	1997	1998	1996	1997	1998
O_3	1 hour	0.09	0.12	0.13	0.11	0.09	8	6	0	1	0	0
CO	1 hour	20	35	13	12	11	0	0	0	0	0	0
	8 hour	9.0	9.0	11.6	10.3	9.4	6	1	1	6	1	1
NO_2	1 hour	0.25	-	0.15	0.17	0.15	0	0	0	-	-	-
	Annual	-	0.0534	0.0285	0.028	0.0295	-	-	-	0	0	0
PM_{10}	24 hour	50	150	107	79	66	5	4	7	0	0	0
	Annual Geometric Mean	30	-	29.2	33.8	30.3	0	1	1	-	-	-
	Annual Arithmetic Mean	-	50	32.6	35.5	32.7	-	-	-	0	0	0
SO_2	1 hour	0.25	-	0.06	0.10	0.03	0	0	0	-	-	-
	24 hour	0.04	0.14	0.014	0.015	0.014	0	0	0	0	0	0
	Annual Average	-	0.03	0.0025	0.0014	0.0039	-	-	-	0	0	0

Source: SCAQMD 2000
Note: 1. Maximum concentration units for O_3, CO, NO_2 and SO_2 are parts per million (ppm). Concentration units for PM_{10} (24-hr or annual) are micrograms per cubic meter ($\mu g/m^3$).
2. For annual standards, a value of 1 indicates that the standard has been exceeded.

4.5.2.3 Meteorology/Climate

The climate of the project area is classified as Mediterranean and characterized by cool, dry summers and mild, wet winters. The major influences on the regional climate are the eastern Pacific High, a strong, persistent high-pressure system, and the moderating effects of the cool Pacific Ocean. Seasonal variations in the position and strength of the Pacific High are a key factor in the weather changes in the area.

In the project area, the average daily maximum temperature is 25° (76.6°F) in August and September and the average daily minimum temperature is 9°C (47.8°F) in January, according to the "Climate Data Summary" provided by Western Regional Climate Center (WRCC 2000). Normal precipitation in the area is 30.5 cm (12.01 inches) annually, occurring primarily from November through March. West southwesterly winds dominate in the project area throughout the year and the annual mean wind speed is 12.0 km (7.5 miles) per hour. The climatological data recorded at the Los Angeles International Airport National Weather Service monitoring station are summarized in Table 4.5-3, Climatological Data Summary.

Water temperatures 320 to 480 km (200 to 300 miles) offshore range from approximately 16° to 20°C (60° to 67°F). However, coastal upwelling of the cooler water from deeper subsurface levels off the coast of the Los Angeles region lowers the coastal water temperature over a range of approximately 13° to 18°C (55° to 65°F). Comparatively warm, moist Pacific air masses drifting over this cool water often form a bank of fog that is generally swept inland by the westerly winds. This "marine layer," generally 457.2 to 609.6 meters (1500 to 2000 feet) deep, extends only a short distance inland, and rises during the morning hours, producing a deck of low clouds. The air above this layer is usually relatively warm, dry, and cloudless.

The Los Angeles region is almost completely enclosed by mountains to the north and east. The prevalent temperature inversion tends to prevent vertical mixing of air through more than a shallow layer, especially during morning hours. Winds at the project location tends to follow a diurnal directional pattern – onshore during the day and offshore at night.

Table 4.5-3
Climatological Data Summary
Los Angeles International Airport

Month	Temperature (°F)				Precipitation		Wind		
	Daily Max (F°)	Daily Max (C°)	Daily Min (F°)	Daily Min (C°)	Normal (inch)	Normal (cm)	Mean Speed (mph)	Mean Speed (kmph)	Prevailing Direction
Jan	65.7	18.7	47.8	8.8	2.4	6.1	6.7	10.7	W
Feb	65.9	18.8	49.3	9.6	2.5	6.3	7.4	11.8	W
Mar	65.5	18.6	50.5	10.3	2.0	5.1	8.1	12.9	W
Apr	67.4	19.6	52.8	11.6	0.7	1.8	8.5	13.6	WSW
May	69.0	20.5	56.3	13.5	0.1	0.3	8.4	13.4	WSW
June	71.9	22.2	59.5	15.3	0.0	0.1	8.0	12.8	WSW
July	75.3	24.0	62.8	17.1	0.0	0.02	7.9	12.6	WSW
Aug	76.6	24.8	64.2	17.9	0.1	0.4	7.7	12.3	WSW
Sept	76.6	24.8	63.2	17.3	0.3	0.1	7.3	11.7	WSW
Oct	74.4	23.6	59.2	15.1	0.3	0.8	6.9	11.0	W
Nov	70.3	21.3	52.8	11.6	1.8	0.9	6.7	10.7	W
Dec	65.9	18.8	47.9	8.8	1.7	4.5	6.6	10.6	W
Annual Mean	70.4	21.3	55.5	13.0	12.0	4.2	7.5	12.0	WSW

Source: Western Regional Climate Center (WRCC 2000)

4.5.2.4 Air Pollutants of Major Concern

Ozone is a highly reactive gas that is a form of oxygen. It is the main component of the air pollution mixture known as "smog." O_3 reacts chemically ("oxidizes") with internal body tissues that it comes into contact with, such as the lungs. It also reacts with other materials such as rubber compounds, breaking them down. O_3 is not produced directly by any pollution source. Instead, it is formed by a reaction between oxides of nitrogen (NO_x) and reactive organic compounds (ROCs) in the presence of sunlight. For this reason, NO_x and ROCs are known as the precursors for ozone.

Carbon monoxide is a colorless and odorless gas. CO more readily combines with hemoglobin in the human body than does oxygen, and thus prevents oxygen from entering the bloodstream. The consequence of breathing prolonged elevated CO concentrations is comparable to suffocation. Unlike ozone, CO is a directly emitted pollutant that concentrates around combustion-related emission sources; consequently elevated CO levels occur along major roadways, particularly at intersections and during peak hour traffic conditions.

Particulate matter consists of small solid particles or liquid droplets from smoke, dust, fly ash, and condensing vapors. PM_{10} refers to particles with a diameter less than or equal to 10 micrometers. The larger particles inhaled by human are mostly deposited in the nasal passages, while the very small particles can penetrate and be deposited in the lung sacs and membranes. Particulate matter comes mostly from unpaved roads, woodsmoke, earth moving, mining, construction and agricultural activities.

4.6 NOISE

Los Angeles World Airports (LAWA) is proposing improvements to I-405 and relocation of State Route 1. The proposed LAX Expressway and State Route 1 Improvements project components were previously described. These two proposed facilities are shown on Figures 3.1-1, 3.1-6, 3.2-1, and 3.2-5.

The Code of Federal Regulations Part 772 (23 CFR 772) defines different categories of highway projects for use in determining the requirement for traffic noise evaluation. A Type I project is "a proposed Federal or Federal-aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway which substantially changes either the horizontal or vertical alignment or increases the number of through traffic lanes." A Type II project is a proposed Federal or Federal-aid highway project for noise abatement on an existing highway. The proposed roadway improvements are Type I projects. The FHWA noise regulations require noise analyses for all Type I projects. Thus, a noise analysis was conducted to determine potential noise effects from construction and operation of these off-airport roadway facilities, and to identify and evaluate preliminary noise abatement measures, where necessary. The primary focus of this noise impact analysis was the existing and planned future noise-sensitive receptors located within the project area. Under the LAX Master Plan project alternatives, roadway modifications would be made within existing and future City of Los Angeles and State of California right-of-way that could result in changes to the surrounding noise environment.

Fundamentals of Traffic Noise

A number of factors affect sound (or "noise", defined as unwanted sound) as it is perceived by the human ear. These include the actual level of sound, the frequencies involved, the period of exposure to the noise, and the changes or fluctuations in the noise levels during exposure. Levels of noise are measured in logarithmic units called decibels (dB). Measured sound levels are adjusted or weighted to correspond to human hearing because the human ear cannot perceive all pitches or frequencies equally well. This adjusted unit is known as the "A-weighted" decibel, abbreviated as dBA. All references to noise in this report refer to A-weighted decibel levels. Decibels are added on a logarithmic basis such that the addition of two equal sound levels results in a total sound level that is three decibels greater than either of the separate sound levels. For example, if an existing highway generated a sound level of 60 dBA at a receptor and a new highway is proposed that would also generate a 60 dBA level at the same receptor location, then the resulting total noise level at the receptor with both highways would be 63 dBA.

The generation of traffic noise is dependent on many factors. These include vehicle type and speed; number of vehicles (volumes); distance from the roadway to the receiver and relative positions of receptors and the noise source (elevated, at-grade, depressed); ground surface characteristics (whether acoustically reflective such as pavement, or absorptive due to vegetation); meteorological factors such as wind and temperature gradients; and shielding due to structures, soundwalls, hills, the edge of a roadway, and earthen berms between a receiver and the traffic. Roadway surface and gradient also affect traffic noise levels. Pavement surfaces vary from rough and potholed to smooth and seal-coated, and this can lead to about 3- to 4-dBA difference in generated noise level among different types of surfaces (Source: *Fundamentals and Abatement of Traffic Noise*, Bolt, Beranek and Newman, 1973).

Generally, traffic noise levels decrease further away from highways. For very busy highways, the traffic noise reduces by approximately 3 to 4.5 dBs every time the distance between the highway and the receptor is doubled. Intervening barriers between the traffic and the receivers may substantially reduce traffic noise. Usually, traffic noise increases if vehicle speeds and/or traffic volumes increase. However, heavy trucks typically operate at a more constant noise output than automobiles regardless of speed, because they maintain a nearly constant engine rotations per minute (rpm) level at varying speeds.

Another difference between automobiles and trucks is the location of their predominant noise sources. The noisiest components on most trucks are the exhaust stack and engine, while tires typically generate the greatest noise levels from cars. This affects the noise reduction provided by noise barriers because both the height and proximity of the source and receiver with respect to the barrier's location and height are important in determining the effectiveness of the barrier. The shape and surface of the barrier will also affect the attenuation provided by the barrier. For example, an absorptive earthen berm or a hill may provide up to 3 dBA greater attenuation compared to a masonry wall barrier of the same height.

Very few noises are constant. Most fluctuate in decibel level over short periods of time. One way of describing time-varying sound is to describe the fluctuating noise heard over a specific time period as if it had been a steady, unchanging sound. For this, a descriptor called the Equivalent Sound Level, L_{eq}, is computed. L_{eq} is the constant sound level (A-weighted) that, for a given situation and period (e.g., 1-hour L_{eq}, or 24-hour L_{eq}), conveys the same sound energy as the actual time-varying sound. The 1-hour L_{eq} during the peak-traffic-noise-hour is often used to determine necessary abatement measures for roadway noise, while 24-hour cumulative L_{eq} averaging methods are used to evaluate typical noise exposure in an area.

Potential responses of persons to changes in the noise environment are usually assessed by evaluating differences between the existing and total predicted future noise environments. The following relationships of perception and response to quantifiable noise increases are used as a basis for assessing potential effects of traffic noise:

- Except in a carefully controlled laboratory condition, a change of 1 dBA is very difficult to perceive by the human ear.
- In the outside environment, a 3 dBA change is considered perceptible.
- A change of 5 dBA is considered readily perceptible and would generally result in a change in community response. For example, a 5 dBA reduction in noise level due to a soundwall is considered a substantial improvement.

- A 10 dBA increase is perceived as a doubling in loudness and would likely result in a widespread community response.

In addition to changes in the noise environment, the absolute level of traffic noise is also important. Noise level criteria are discussed in the next section.

Noise Abatement Criteria and Analysis Guidelines

FHWA and Caltrans noise abatement criteria (NAC) for various land use ratings (called Activity Categories) are given in Table 4.6-1. These criteria define noise level thresholds for various types of land use and typical associated activities that if approached or exceeded require an evaluation of potential noise impacts and feasible and reasonable noise abatement. The NAC are only used to determine if noise impact is likely to occur. These noise criteria are assigned to both exterior and interior activities. Noise attenuation provided by most residential structures leads to compliance with the interior design noise level if the exterior criterion is attained (FHWA 1995). Non-commercial residential and other Category E uses in the project area will typically comply with the NAC when exterior sound levels are 78 dBA L_{eq} or less. No Activity Category A uses were identified in the project area. Identified noise-sensitive use within the project's area of potential noise effect is Category B.

Table 4.6-1
Federal Highway Administration and Caltrans Noise Abatement Criteria
Peak Noise Hour A-weighted Sound Level in Decibels (dBA)[a,b]

Activity Category	Leq(h)	L10(h)	Description of Activity Category
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.

Source: Federal Highway Administration 1995

a Either L10(h) or Leq(h), but not both may be used on a project.

b These sound levels are to be used only to determine impact. These are the absolute levels where abatement must be considered. Noise abatement should be designed to achieve a substantial noise reduction, not just the noise abatement criteria.

4.6.1 General Approach

This section describes the traffic noise evaluation methodology used in preparing this noise analysis. The approach to the evaluation of potential project noise impacts is consistent with Federal Highway Administration (FHWA) "Highway Traffic Noise Policy and Guidance" issued June 12, 1995 and the Caltrans Noise Abatement Protocol with Technical Noise Supplement approved in October, 1998.

4.6.1.1 Noise Measurements

Measurement sites were selected that are representative of existing or future noise-sensitive uses that could be affected by the proposed project. The exact monitoring locations were determined in the field to represent locations of human activity while minimizing the influence of extraneous noise sources.

Long-term (i.e., multi-hour) noise measurements were made using Metrosonics dB-308 Community Noise Analyzers. Short-term measurements (<1 hour) were made using a Brüel and Kjær Type 2231 Sound Level Meter (SLM). The long-term noise analyzers were affixed to existing structures and the SLM was tripod-mounted so that their microphones were approximately 1.5 meters (5 feet) above the surrounding ground. The microphones were equipped with windscreens.

Meteorological conditions (temperature, relative humidity, and wind) were measured in the field while short-term noise measurements were being made. In addition, where conditions provided a clear view of traffic, traffic monitoring was conducted by simultaneously counting vehicles during the measurement period. The traffic speed was estimated visually and with a hand-held radar unit, and verified by driving the route periodically before and after the measurements. Traffic counts were made directionally for three different vehicle classifications: light-duty autos and trucks, medium-duty trucks including buses, and heavy-duty trucks.

4.6.1.2 Noise Prediction

The LEQV2 model was used for predicting existing and future peak-noise-hour levels for the proposed project. LEQV2, which is a personal-computer version of STAMINA 2.0, is based on the Federal Highway Administration Noise Prediction Model (FHWA RD-77-108). Information used in the model included the California Reference Energy Mean Vehicle Noise Emission Levels (Report No. FHWA/CA/TL-87/03), design year traffic conditions, and specific roadway/receptor geometry. Guidance provided by FHWA (1982, 1990, and 1995) and other studies (Bolt, *et al*. 1973) were used in this noise assessment. Noise levels were modeled at receiver locations that are used (or are planned to be used) by the public for periods of one hour or longer. A receiver is modeled to be 1.5 meters (5 feet) above the ground.

The LEQV2 model uses the hourly traffic condition that results in the highest hourly noise level on a regular basis. The loudest traffic condition occurs when traffic is very heavy but remains free flowing. Traffic congestion results in lower speeds that result in lower noise levels. The traffic data used for this analysis was derived from traffic studies prepared by Barton-Aschman Associates (2000) and *Motor Vehicle Traffic on State Highways* prepared by Caltrans. The speeds utilized for the noise model were for unconstrained operation (i.e., vehicles moving at the speed limit) to reflect Level of Service (LOS) “C”.

4.6.2 Affected Environment

4.6.2.1 Description of Affected Land Uses

The proposed roadway projects have the potential to affect land uses adjacent to their alignments. For both projects these land uses include park, school and child care, playground, church, historical, and non-commercial single and multi-family residential. These land uses are discussed in greater detail in subsection 5.1, Land Use, of this document and in the Draft LAX EIS/EIR.

4.6.2.2 Traffic Noise Model Calibration

Short-term noise measurements made along the proposed LAX Expressway and State Route 1 Improvements project were used to calibrate the LEQV2 model at a representative sample of selected noise measurement locations. This was accomplished by comparing the actual measured noise levels with computed noise levels. The computed noise levels are modeled results obtained from traffic counts, speed measurements, and other parameters recorded while noise levels were measured. If differences of two decibels or more were obtained between computed and measured noise levels a correction would normally be applied to the computed future noise levels, assuming that the source/receiver conditions would not change substantially with the project. When source/receiver conditions would change substantially (for example, if roadway geometry is substantially altered, as is the case for most of the LAX Expressway project) calibration adjustments are generally not applicable to future conditions.

4.6.2.3 Calibration Factors

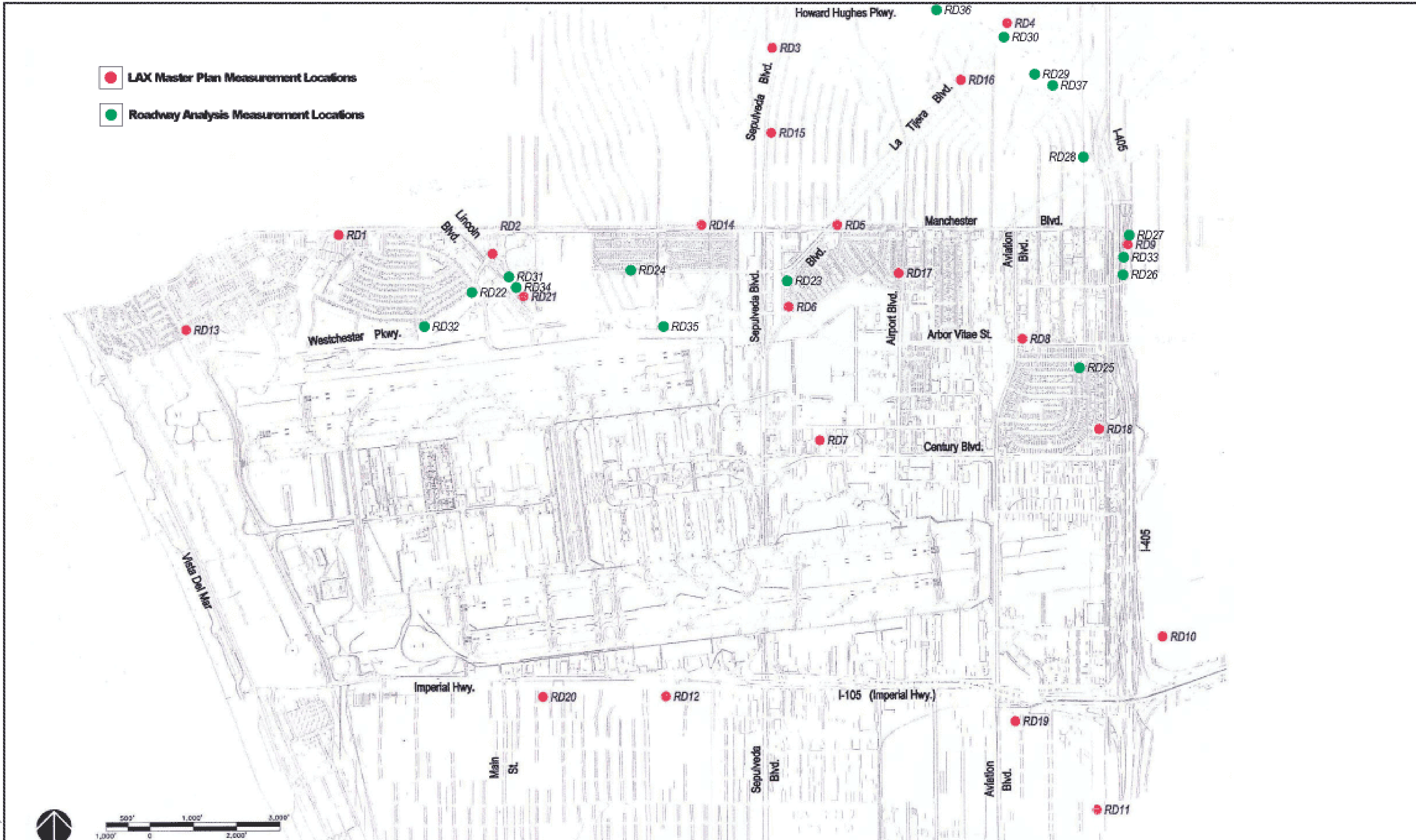
The LEQV2 model that was used in this study to predict future noise levels provides accurate modeled noise data for straightforward highway/path/receptor geometries and relationships. This performance is evidenced by the small differences (generally in the zero to three dB range) between field-measured and computer modeled noise levels representing the same traffic flow conditions at the modeled and measured locations. At these locations the existing roadway/receptor geometry is relatively straightforward. Accordingly, the modeled noise receptors in these areas are in good agreement with the noise measurements, and no calibration adjustments were used for these receptors.

4.6.2.4 Noise Measurements

Short-term noise measurements were made in the LAX Expressway and State Route 1 Improvements project areas, while traffic conditions were simultaneously monitored at locations where traffic was visible. Two long-term and nine short-term noise measurements were conducted for the LAX Expressway and State Route 1 Improvements project. The measurements were made at representative noise-sensitive receptor sites to describe the existing noise environment, adjust for peak-noise-hour, and to provide model calibration information for more accurate modeling of existing and future traffic noise levels. The locations of these measurement sites are shown in Figure 4.6-1.

LAX Expressway Area Noise Levels. Noise levels measured in this project area were also adjusted to reflect baseline peak-noise-hour levels. The adjusted baseline peak-noise-hour sound levels varied from 56 dBA L_{eq} to 76 dBA L_{eq} and are also included in Table 4.6-1.

State Route 1 Area Noise Levels. Measured noise levels were adjusted to reflect the 1996 baseline and peak-noise-hour traffic conditions and are presented in Table 4.6-1. The applied adjustment for year 2000 to 1996 was −0.3 dBA, representing an average traffic volume growth factor of 1.4 percent per year. The adjusted baseline peak-noise-hour sound levels for all project Alternatives varied from 51 dBA L_{eq} to 60 dBA L_{eq}.



LAX Master Plan EIS/EIR	Roadway Noise Sensitive Receptor Sites	Figure 4.6-1

Table 4.6-2
Summary of Measured L_{eq} Noise Levels, October 5-6, 2000

Site ID	Location	NAC Activity Category	Date	Time	Measured Leq (dBA)	Measured Leq Adjusted for Peak-Noise-Hour (dBA)
I-405 Expressway						
RD30	St. Jerome School	B	10/5/00	14:30-14:35	60	61
RD33	Ashwood Park	B	10/5/00	14:55-15:05	74	75
RD36	7320 Piper	B	10/5/00	15:42-15:52	59	61
RD37	Centinela Adobe	B	10/6/00	14:55-15:05	76	78
State Route 1						
RD23	Kittyhawk/Fleetwing	B	10/5/00	12:50-13:00	65.1	65
RD24	6645 88th St.	B	10/6/10	15:40-15:50	61.1	61
RD32	9110 Rayford Dr.	B	10/5/00	11:45-11:55	66.1	66
RD34	Lincoln/La Tijera	B	10/5/00	11:15-11:25	66.1	66
RD35	Emerson Adult Center	B	10/5/00	12:15-12:25	64.1	64

[1] – Ambient acoustic environment dominated by aircraft noise.

4.6.2.5 Existing Modeled Noise Levels

Using the methodology discussed in Section 4.6.4.2, the LEQV2 model was used to predict existing peak-noise-hour levels at selected measurement locations. This was done primarily to validate the noise model, as discussed in Section 4.2.2.3 and 4.2.2.4. As discussed above and shown in Table 4.6-2, peak-noise-hour levels associated with the baseline condition do not approach or exceed the respective FHWA Noise Abatement Criteria (NAC), for areas adjacent to the State Route 1 Improvements project. Noise levels do approach or exceed the respective FHWA Noise Abatement Criteria (NAC) for some areas adjacent to the proposed LAX Expressway.

4.6.3 Identification of Noise Impacts

The Federal Highway Administration stipulates procedures and criteria for noise assessment studies that comply with 23 CFR 772. The regulations define noise impact and require that noise abatement measures be considered on all major transportation projects if existing or projected noise levels approach or exceed the NAC level for activities occurring on adjacent lands, or if the project will cause a substantial increase in noise levels. Thus, noise impact results if:

1. Predicted highest peak-noise-hour level is expected to approach or exceed FHWA NAC. For example, Caltrans policy in effect during development of this project defines a noise level of 66 dBA as approaching the NAC of 67 dBA L_{eq} for residences and other Category B land uses., or
2. The transportation improvements would increase ambient noise levels substantially. Caltrans considers a 12 dBA increase in ambient noise level to be a substantial increase.

4.7 WATERWAYS AND HYDROLOGIC SYSTEMS

The waterways and hydrology analysis addresses the potential for the proposed road improvement projects to adversely affect the:

- potential for localized flooding; and
- amount of surface recharge to groundwater.

4.7.1 General Approach

The analysis of hydrology considered potential changes in storm water runoff (i.e., drainage) resulting from the alternatives for the two roadway improvement projects (LAX Expressway and State Route 1 Improvements project), as well as potential changes to groundwater recharge resulting from the modification of the amount pervious surface within the study areas. The analysis assumes that all necessary right-of-way and property acquisitions have been completed. Land not acquired is assumed to remain in its existing use. The amount of storm water runoff generated within the study areas was then estimated for baseline conditions and for the two roadway improvement projects. Average annual storm water runoff volumes were estimated from average annual precipitation, land use areas, percent imperviousness by land use, and runoff coefficients.

4.7.1.1 Drainage

The objective of the drainage analysis is to assess the potential that the two roadway projects will cause localized flooding to occur when compared to baseline conditions. This comparison is made indirectly, using changes in impervious surface. This method is appropriate since storm water runoff flow rates in urban regions are a function of impervious area.

Impervious areas within the study areas for the two roadway projects were estimated using impervious percentages based upon land use classifications. For this analysis, impervious area was quantified in total and no distinction was made for the areas draining to the Santa Monica Bay, the Centinela Creek Channel, or the Dominguez Channel. The LAX Expressway alternatives lie partially in the Santa Monica Bay drainage area and partially in the Dominguez Channel drainage area. The State Route 1 Improvements project alternatives lie entirely within the Santa Monica Bay drainage area. Using these drainage areas and holding constant all parameters other than land use, a change in land use that would produce a change in the amount of impervious area would result in a corresponding change in storm water peak flow rates.

4.7.1.2 Recharge

Surface recharge occurs when precipitation or surface water runoff contacts pervious surfaces and infiltrates through the subsurface to replenish groundwater in the underlying aquifers. Potential impacts to recharge are described qualitatively.

4.7.2 Affected Environment

The hydrology issues considered for this analysis include drainage and recharge. Drainage is discussed as it relates specifically to the management of the systems designed to convey storm water runoff to prevent flooding. The environmental setting with respect to drainage and the potential for flooding focus on the characteristics of the storm water drainage system within the study areas and the potential impact of each of the proposed roadway projects. Recharge is discussed as it relates specifically to surface water that infiltrates pervious surfaces and has the potential to recharge groundwater.

4.7.2.1 Drainage

Drainage and flood control structures and improvements in the County of Los Angeles are subject to review and approval by the Los Angeles County Department of Public Works (LACDPW). Storm drain facilities and improvements in the City of Los Angeles are subject to review and approval by the City of

Los Angeles Department of Public Works (LADPW), Bureau of Engineering. Both agencies utilize design standards to provide a specified level of protection against flooding for different types of land use.

Storm water discharges are regulated by both agencies through plan approvals and permits. The LACDPW and the LADPW both require project proponents to design storm water collection systems using specifications and procedures set forth in their respective storm drain design manuals. The project plans and specifications are submitted to the appropriate jurisdictional agency for review and approval. The agency review includes an evaluation of the effects of the project's discharge volume on the agency's jurisdictional drainage system. In cases where a proposed project would exceed the drainage system's capacity, methods for reducing impacts to the storm drain system are required, and can include controlling peak and total discharge through storm water detention or increasing site perviousness.

Los Angeles County facilities include the Centinela Creek Channel, which discharges to Ballona Creek and ultimately Santa Monica Bay, and the Dominguez Channel, which discharges to San Pedro Bay. The Argo Outfall, which discharges urban runoff offshore along the Dockweiler Beach segment of Santa Monica Bay, is a City of Los Angeles (LAX) facility.

The amount of impervious area under baseline conditions was calculated as described in Section 4.7.1, *General Approach*. Using this methodology, for LAX Expressway alternatives approximately 388,590 square meters (4,182,500 square feet) of 469,820 square meters (5,056,800 square feet) within the study area are impervious under baseline conditions, which is about 83 percent. For the State Route 1 improvements alternatives, approximately 401,270 square meters (4,319,400 square feet) of 403,880 square meters (4,347,500 square feet) within the study area are impervious under baseline conditions, which is about 99 percent.

Average annual precipitation is about 12.20 inches based upon data from the Western Regional Climate Center for station number 045114 (Los Angeles WSO Airport) for the period August 1944 through July 2000. Tables 4.7-1 and 4.7-2 show the land use categories and associated areas, the imperviousness percentage for land use categories, impervious area by land use category, and the runoff coefficient[4] for the baseline conditions for the two roadway projects.

[4] An estimate of the runoff coefficients were computed using a Federal Highway Administration method, where the runoff coefficient = (0.007 $\times$ percent impervious surface) + 0.1. This method was used in Methodology for Analysis of Pollutant Loadings from Highway Storm Water Runoff prepared for the U.S. Department of Transportation, Federal Highway Administration by Woodward Clyde Consultants, June 1987. Publication No. FHWA/RD-87/086.

Table 4.7-1
Land Use Categories and Areas, Percent Impervious, and Runoff Coefficients
LAX Expressway Baseline Conditions

Land Use Category	Total Area (m^2)	Percent Impervious[2]	Impervious Area (m^2)	Runoff Coefficient
Open Space	0	35	0	0.35
Residential				
Single Family	64,573	40	25,829	0.38
Multi-family	74,065	70	51,845	0.59
Community Facilities				
Schools, Libraries, etc.	23,736	100	23,736	0.80
Cemeteries(a)	8,619	70	6,034	0.59
Churches	14,690	100	14,690	0.80
Business				
Commercial	69,864	100	69,864	0.80
Industrial	62,315	100	62,315	0.80
Public Facilities				
Centinela Channel, ROWs(a)	88,384	80	70,707	0.66
Streets/Roadway(b)	63,572	100	63,572	0.80
Total	**469,818**		**388,592**	

(a) The percent impervious for this land use category is not included in the City of Los Angeles, Department of Engineering Manual, Part G – Storm Drain Design Manual (1973). ROWs = Rights of Way

(b) The Streets/Roadway surface area was estimated as 20 percent of other land used excluding public facilities.

Table 4.7-2
Land Use Categories and Areas, Percent Impervious, and Runoff Coefficients
State Route 1 Realignment Baseline Conditions

Land Use Category	Total Area (m^2)	Percent Impervious[25]	Impervious Area (m^2)	Runoff Coefficient
Open Space	0	35	0	0.35
Residential				
Single Family	3,568	40	1,427	0.38
Multi-family	1,570	70	1,099	0.59
Community Facilities				
Schools, Libraries, etc.	1,200	100	1,200	0.80
Cemeteries(a)	0	70	0	0.59
Churches	0	100	0	0.80
Business				
Commercial	63,848	100	63,848	0.80
Industrial	0	100	0	0.80
Public Facilities				
Centinela Channel, ROWs(a)	0	80	0	0.66
Streets/Roadway(b)	333,697	100	333,697	0.80
Total	**403,883**		**401,271**	

(a) The percent impervious for this land use category is not included in the City of Los Angeles, Department of Engineering Manual, Part G – Storm Drain Design Manual (1973). ROWs = Rights of Way.

(b) The Streets/Roadway surface area was estimated based upon streets considered within the project boundary for the State Route 1 project.

4.7.2.2 Recharge

Whether or not surface water infiltrates the pervious surface to recharge or continues to runoff depends on a number of conditions, including soil type, antecedent soil moisture conditions, and the amount of vegetative cover. Once in the soil, the infiltrating water is either taken up by evapotranspiration[6] or it continues to percolate through the soil and to recharge groundwater. Changes to the amount of pervious surface on a property can affect the quantity of surface recharge. Substantial reductions in the amount of surface recharge could lower the water table, reduce the volume of groundwater in storage, and potentially expose aquifers to seawater intrusion.

Groundwater occurs in several aquifers beneath the study areas for the two roadway projects, within what is known as the West Coast Groundwater Basin. The West Coast Groundwater Basin extends south from the Ballona escarpment and Baldwin Hills to the boundary between Los Angeles and Orange Counties, and extends west from the Newport Inglewood Uplift/Fault to Santa Monica Bay. Designated beneficial uses for the West Coast Groundwater Basin include agricultural supply, municipal and domestic supply, industrial process supply, and industrial service supply.[7] A small portion of the study area for

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5 City of Los Angeles Department of Public Works, Bureau of Engineering Manual, Part G – Storm Drain Design Manual, Figure G 241.3 revised 1973.

6 Evapotranspiration is defined as the combination of evaporation and transpiration processes. Transpiration is the process by which water in the soil is taken by the roots of plants and evaporated through the leaves the plants.

7 California Regional Water Quality Control Board, Los Angeles Region 4, Water Quality Control Plan, Los Angeles Region - Basin Plan for the Coastal Water sheds of Los Angeles and Ventura Counties, June 13, 1994.

Alternative 3 for the LAX Expressway lies over the Santa Monica Groundwater Basin, which has the same beneficial uses as the West Coast Groundwater Basin.

4.8 WATER QUALITY

The water quality analysis addresses the potential for the proposed roadway improvement projects to adversely affect the beneficial uses of surface waters due to the quality of storm water and urban runoff.

4.8.1 General Approach

The water quality analysis compares the estimated storm water runoff pollutant loads under the alternatives for the two roadway improvement projects to storm water runoff pollutant loads under baseline conditions. The baseline analysis estimates the existing pollutant load for the existing land uses. The average annual storm water runoff generated and the associated pollutant loads within the study areas were then estimated for the two roadway improvement projects. The analysis assumes that all necessary right-of-way and property acquisitions have been completed, and that land not acquired remains in its existing use.

Estimating the mass of pollutant load discharged to a receiving water requires knowledge of storm water runoff volume, discharge location, and pollutant load sources for a given area (i.e., land use). Pollutant loads are commonly estimated on an average annual basis using pollutant concentration data from other published storm water investigations. The United States Environmental Protection Agency's (USEPA) National Urban Runoff Program's (NURP) Final Report presents the results of an extensive storm water runoff sampling and analysis program that consisted of collecting samples from more than 2,300 separate storm events.[8] In part, the NURP report concluded that pollutant concentrations in urban runoff could be characterized as a function of land use using Event Mean Concentrations (EMCs).[9] Several municipalities that have participated in an extensive storm water monitoring program to support their respective storm water quality management programs have collected local data. EMCs based upon local cumulative data from the storm seasons for the years 1994 through 2000 are presented in Table 4.8-1.

The pollutants assessed in this analysis are those pollutants typically associated with storm water runoff from highways, and which are also identified as pollutants causing impairment of the designated beneficial uses of Santa Monica Bay, Ballona Creek, and the Dominguez Channel. Some of the pollutants causing impairments in these receiving waters, which are also pollutants typically found in highway storm water runoff, are total suspended solids (sediment), phosphorus, nitrogen, copper, lead, zinc, oil and grease, pathogens (coliform), and trash. Estimated pollutant loads discharged to receiving water bodies are calculated by multiplying the EMC for a pollutant and average annual runoff. Average annual runoff volumes are estimated from average annual precipitation, area by land use category, percent imperviousness by land use, and runoff coefficients.

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8 United States Environmental Protection Agency, Water Planning Division, Final Report on the National Urban Runoff Program, December 1983.

9 An EMC represents the average load of a particular pollutant for a storm event. It does not consider fluctuations of loads within a storm event.

Table 4.8-1
Cumulative Event Mean Concentrations (EMCs), 1994 – 2000 Storm Seasons[10]

Pollutant	Unit	Open Space (Vacant)	Single Family Residential	Multi-Family Residential	Playgrounds, Schools	Commercial	Light Industrial	Roadways (Transportation)
Total Suspended Solids (TSS)	mg/l	164.68	104.65	46.35	103.02	67.4	229.37	75.35
Oil and Grease	mg/l	--	1.36	--	--	3.65	1.87	3.19
Total Phosphorus	mg/l	0.11	0.39	0.19	0.31	0.41	0.44	0.44
Total Kjeldahl Nitrogen	mg/l	0.81	2.80	1.86	1.62	3.37	3.07	1.81
Total Copper	µg/l	9.12	15.3	12.23	21.49	34.77	31.04	51.86
Total Zinc	µg/l	38.81	80.35	134.88	123.69	238.53	565.6	279.45
Total Lead	µg/l	--	9.59	5.13	4.53	11.53	14.87	9.08
Total Cadmium	µg/l	--	--	--	--	0.71	--	1.05
Total Nickel	µg/l	--	--	--	4.65	6.71	8.92	5.76
Total Coliform	MPN/100ml	21,288	1,395,391	--	--	1,733,009	508,710	806,940
Trash and Debris	Land-use specific monitoring beginning during the 2000-2001 storm season.							

Note: An EMC may not be provided because (1) there is not enough data above the detection limit for a pollutant to be able to calculate a statistically meaningful EMC, or (2) there is no data available.

[10] Environmental Programs Division, Los Angeles County Department of Public Works, 900 S. Fremont Avenue, Alhambra, CA 91803-1331. Data obtained October 2000 from http://dpw.co.la.ca.us/epd/wq/9400_wq_tbl/Table_4-9.pdf.

4.8.2 Affected Environment

Water quality is discussed as it relates to the contribution of pollutants to surface waters via storm water and urban runoff and the effect of those pollutants on the beneficial uses of receiving waters.

4.8.2.1 Receiving Waters

Santa Monica Bay. Santa Monica Bay is an open embayment with a designated surface area of approximately 689 square kilometers (266 square miles) and is the receiving water body for surface water drainage from approximately 1,072 square kilometers (414 square miles) of land. The existing beneficial uses of Santa Monica Bay (Nearshore and Offshore Zones) are: industrial service supply; navigation; water contact recreation; non-contact water recreation; commercial and sport fishing; marine habitat; wildlife habitat; preservation of biological habitats; rare, threatened, or endangered species; migration of aquatic organisms; spawning, reproduction, and/or early development of fish; and shellfish harvesting.

The Santa Monica Bay Nearshore and Offshore Zones have been designated as impaired by mercury, cadmium, copper, lead, nickel, silver, zinc, chlordane, DDT, PCBs. Dockweiler Beach (the segment of beach along Santa Monica Bay that is in the vicinity of the Argo Drain, which receives storm water runoff from State Route 1) has been designated as impaired by coliform. The Santa Monica Bay's biological community has been identified as being imbalanced, severely stressed, or known to contain toxic substances in concentrations that are hazardous to human health.[11]

Ballona Creek and Centinela Creek Channel. Ballona Creek is a concrete channel extending to the Ballona Creek Estuary. Ballona Creek receives storm water and urban runoff from a complex network of underground storm drains and channels that extend east as far as Beverly Hills and West Hollywood and ultimately draining an area of 337 square kilometers (130 square miles).[12] Existing beneficial uses of Ballona Creek are non-contact recreation and wildlife habitat. Potential beneficial uses of Ballona Creek are contact recreation (access currently prohibited by LACDPW) and warm freshwater habitat. Ballona Creek Estuary has been designated as impaired by coliform, lead, zinc, PCBs, DDT, chlordane, and sediment toxicity. Ballona Creek has been designated as impaired by trash, arsenic, cadmium, copper, lead, silver, TBT, PCBs, DDT, ChemA, chlordane, dieldrin, and sediment toxicity. Centinela Creek Channel is a concrete-lined channel that is a tributary to Ballona Creek. It originates east of the I-405 Freeway near the intersection of La Cienga Boulevard and Thornburn Street and flows northwest and then southwest discharging into Ballona Creek.

Dominguez Channel. The Dominguez Channel delivers surface water from approximately 187 square kilometers (72 square miles) of urban area within Los Angeles. The channel extends from central Los Angeles, approximately two miles east of LAX, to Los Angeles Harbor, an embayment of San Pedro Bay. The Dominguez Channel Watershed is located entirely within Los Angeles County and is bordered to the north and west by the Santa Monica Bay Watershed, to the east by the Los Angeles River Watershed, and to the south by the Los Angeles/Long Beach Harbor. The Dominguez Channel is a concrete-lined channel that drains surface waters from the watershed into the Los Angeles Harbor and is the only major surface water feature within the watershed. The Dominguez Channel is considered an Inland Surface Water Body. Its existing beneficial uses are non-contact recreation and rare, threatened, or endangered species. Potential beneficial uses of the Dominguez Channel are contact recreation (access currently prohibited by LACDPW), warm freshwater habitat, and wildlife habitat. The Dominguez Channel has

[11] Santa Monica Bay Restoration Project, Characterization Study of the Santa Monica Bay Restoration Plan – State of the Bay 1993, January 1994.
[12] Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watershed of Los Angeles and Ventura Counties. California Regional Water Quality Control Board, Los Angeles Region. June 1994.

been listed as impaired by ChemA, chlordane, DDT, PCBs, aldrin, dieldrin, PAHs, copper, lead, chromium, zinc, ammonia, and coliform.

4.8.2.2 Regulatory Programs Concerning Water Resources

Water Quality Control Plan. The Los Angeles Regional Water Quality Control Board (RWQCB) has jurisdiction over water quality within the region of the two proposed roadway projects. The RWQCB developed the *Water Quality Control Plan (Basin Plan) for the Los Angeles Region*[13], which guides conservation and enhancement of water resources and establishes beneficial uses for inland surface waters, tidal prisms, harbors, and groundwater basins within the region. Beneficial uses are designated so that water quality objectives can be established and programs that enhance or maintain water quality can be implemented. The Basin Plan also incorporates State Water Resources Control Board (SWRCB) statewide Water Quality Control Plans. There are two applicable statewide plans—the California Ocean Plan and the California Toxics Rule (CTR). Like the Basin Plan, the California Ocean Plan was created to establish beneficial uses and associated water quality objectives for California's ocean waters and to provide a basis for regulation of wastes discharged to coastal waters by point and non-point source discharges. The CTR applies to enclosed bays, estuaries, and inland surface waters (e.g., Dominguez Channel and Ballona Creek). The CTR establishes numeric ambient water quality criteria for priority toxic pollutants. The numeric water quality criteria established by the CTR will be used to derive water quality-based effluent limitations in National Pollutant Discharge Elimination System (NPDES) permits. However, at this time it is unclear how the CTR will be reflected in NPDES permits for municipal separate storm sewer systems (MS4s) or for California's general permits for storm water discharges from industrial and construction activities.

National Pollutant Discharge Elimination System Program. The CWA prohibits the discharge of pollutants to waters of the United States from any point source unless the discharge is in compliance with a NPDES permit. In accordance with the CWA, the USEPA promulgated regulations for permitting storm water discharges by municipal and industrial facilities and construction activities through the NPDES program. The municipal storm water NPDES program generally applies to urban areas with a population greater than 100,000 (after March 2003, urban areas with population greater than 10,000 and a population density of at least 1,000 per 2.6 square kilometers(1 square mile)) while the industrial program applies to specific types of industry [as defined by Standard Industrial Classification (SIC) code], including airports. The NPDES program for construction applies to activities that disturb an area of 2.0 hectares (5.0 acres) or more. In March 2003, the area criteria for construction activity will be reduced from 2.0 hectares (5.0 acres) or more to 0.4 hectares (1.0 acre) or more.

Area-wide Municipal Storm Water NPDES Permit

In accordance with the CWA, an NPDES permit is required for certain municipal separate storm sewer discharges to surface waters. The two proposed roadway projects are within the area covered by NPDES Permit No. CAS614001 issued by the RWQCB on July 15, 1996. The permit is a joint permit, with the County of Los Angeles as the "Principal Permittee" and 85 incorporated cities within the County of Los Angeles, including the City of Los Angeles, as "Permittees." The objective of the permit, and the associated storm water management program, is to effectively prohibit non-storm water discharges and to reduce pollutants in urban storm water discharges to the "maximum extent practicable" in order to attain water quality objectives and to protect the beneficial uses of receiving waters. This area-wide municipal storm water permit expires July 30, 2001 and a renewal process will be initiated in February 2001.

[13] California Regional Water Quality Control Board, Los Angeles Region 4, Water Quality Control Plan, Los Angeles Region - Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, June 13, 1994.

As part of the municipal storm water program, the RWQCB adopted the Standard Urban Storm Water Mitigation Plan (SUSMP) to address storm water pollution from new development and redevelopment projects. The SUSMP is a model guidance document for use by Permittees in the review and approval of project plans to ensure that project proponents have adequately incorporated post-construction Best Management Practices (BMPs) to manage the quality of storm water and urban runoff. Generally, three types of BMPs are described in the SUSMP, including source control, structural, and treatment control.[14] The SUSMP also specifies numeric standards for the design of structural and treatment control BMPs for infiltration and/or treatment of storm water runoff. Currently, the SUSMP applies to roadways to the extent that roadways are part of a discretionary development or redevelopment project. However, the regulatory trend indicates that SUSMP requirements will be expanded to be applicable to roadways and streets irrespective of the connection to development or redevelopment project.[15]

NPDES - Construction Permit

The SWRCB issued a statewide NPDES general permit for storm water discharges associated with construction activities (Construction Storm Water Permit), in accordance with federal storm water regulations. Project proponents planning construction activities that disturb an area greater than 2.0 hectares (5.0 acres) are required to file a Notice of Intent (NOI) to comply with the requirements of the Construction Storm Water Permit. After a NOI has been submitted, the discharger is authorized by the SWRCB to discharge storm water under the terms and conditions of the Construction Storm Water Permit. The major provisions of the Construction Storm Water Permit are the minimization or elimination of non-storm water discharges to the storm drain system, implementation of BMPs to control construction materials and wastes, erosion, and sediment, and monitoring to assure the maintenance and adequacy of the BMPs that are being implemented. As indicated previously, in March 2003, these permit requirements will extend to construction activities that disturb an area equal to or greater than 0.4 hectares (1.0 acre).

NPDES – State of California, Department of Transportation (Caltrans) Statewide Permit

In July 1999, the SWRCB adopted Order No. 99-06-DWQ (NPDES No. CAS000003), which is a statewide NPDES permit for storm water discharges from Caltrans properties, facilities, and activities (Caltrans Statewide Permit). The Caltrans Statewide Permit prohibits the discharge of non-storm water flows to the Caltrans storm drain system, with provision for "exempted discharges" and "conditionally exempted discharges." The Caltrans Statewide Permit requires implementation of a statewide Storm Water Management Plan (SWMP) that addresses Caltrans maintenance activities, project planning and design, and construction activities, along with other topics. Another provision of the Caltrans Statewide Permit requires regional coordination with other MS4 operators.

Total Maximum Daily Load Program. Under Section 303(d) of the CWA, states are required to identify the water bodies that do not meet water quality objectives necessary to support designated beneficial uses. This list of impaired water bodies is often referred to as the "303(d) list." For these impaired water bodies, states are required to develop total maximum daily loads (TMDLs). TMDLs are

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[14] As defined in the SUSMP: "Source control BMP" means any schedules of activities, prohibition of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution. "Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both source control and treatment BMPs. "Treatment control BMP" means any engineered system designed to remove pollutants by simple gravity setting of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

[15] San Diego Regional Water Quality Control Board Tentative Order No. 2001-01 (NPDES No. CA0108758) for the Municipal Separate Storm Sewer Systems Draining the Watersheds of the County of San Diego dated October 11, 2000. This Tentative Order provides that "Streets, roads, highways, and freeways" will be subject to a Standard Urban Storm Water Mitigation Plan requiring structural treatment best management practices.

the sum of the individual pollutant load allocations for point sources, nonpoint sources, and natural background conditions, with an appropriate margin of safety for a designated water body. The TMDLs are established based on a quantitative assessment of water quality problems, the contributing sources, and load reductions or control actions needed to restore and protect an individual water body.[16]

In conformance with a Consent Decree, the Los Angeles RWQCB has a 13-year schedule for development and implementation of TMDLs for the region. The schedule for development of TMDLs for the receiving waters potentially impacted by the two proposed roadway projects is presented in Table 4.8-2.

Table 4.8-2.

Consent Decree Schedule for Development of TMDLs

	Year for TMDL Completion			
Pollutant	**Santa Monica Bay Nearshore and Offshore Zone**	**Ballona Creek and Estuary**	**Dockweiler Beach**	**Dominguez Channel**
Ammonia	--	--	--	2007/08
Coliform	--	2003/04	2001/02	2001/02
Sediment toxicity	2009/10	2003/04	--	--
Trash & debris	2009/10	2000/01	--	--
Metals				
Cadmium	2003/04	2002/03	--	--
Chromium	--	--	--	2006/07
Copper, lead, zinc	2003/04	2002/03	--	2006/07
Mercury	2003/04	--	--	--
Silver, nickel	2003/04	2002/03	--	--
Pesticides				
aldrin	--	--	--	2007/08
chlordane	2005/06	2003/04	--	2007/08
ChemA, dieldrin	--	2003/04	--	2007/08
Other				
DDT, PCBs	2009/10	2003/04	--	2007/08
PAHs	--	--	--	2007/08
TBT	--	2009/10	--	--

4.9 WETLANDS AND WATERS OF THE UNITED STATES

Wetlands and waters of the United States are protected pursuant to Section 404 of the Clean Water Act and Executive Order 11990. The Coastal Zone Management Act and California Coastal Act also include provisions for the protection of wetlands within the coastal zone. The characterization of wetland

[16] United States Environmental Protection Agency, Total Maximum Daily Load Fact Sheet, Available: www.epa.gov/region09/water/tmdl/fact.html [4/24/00]

resources within the study area is based on a review of the historic topographic maps, historic aerial photographs, flood hazard maps, published soil surveys, and the National Wetlands Inventory (NMI).

The nearest potential wetland resource is situated within the LAX airfield operations areas. A total of 0.5 hectare (1.3 acres) were identified that met the United States Army Corps of Engineers (USACOE) criteria for wetland hydrology. Fifty-one (51) sites (ephemerally wetted areas) within the 0.5 hectare (1.3 acres) site were ultimately identified and monitored. Seventeen (17) of these sites satisfied the hydrology criteria for wetlands in that they were ponded for at least seven days. Neither roadway project would affect this 0.5, hectare (1.3 acre) site.

4.10 WILDLIFE, FISHERIES AND VEGETATION

This analysis focuses on biotic communities and addresses the potential for the LAX Expressway and the State Route 1 Improvements project and their respective alternatives to affect existing biotic communities. Biotic communities are regional assemblages of vegetation (flora) characterized by the presence of certain dominant species, which are associated with characteristic wildlife species (fauna).

4.10.1 General Approach

URS conducted a search of existing ecologically sensitive areas within the vicinity of the proposed roadway improvement projects based on the methodology used for the Master Plan. Information was obtained through the United States Fish and Wildlife Service (FWS), Sapphos Environmental, Inc. and URS Corporation biologists. A search of existing Habitat Conservation Plans and National Communities Conservation Plans specific to the project area was performed as well to determine the existence of state-designated sensitive habitats, ESHAs and habitat preservation areas. In preparing the proposed Draft LAX EIS/EIR, a series of surveys were conducted by Sapphos Environmental, Inc. in 1995, 1996, 1997 and 1998 to determine biotic community diversity, the presence and/or absence of over-wintering birds and other biological species within the Master Plan boundaries. This study for the LAX Expressway portion of the project lies within the same geographic region as the Master Plan survey area.

For the roadway improvement analysis, the study area and plan boundaries encompass the land parcels potentially affected by the proposed right-of-way for the LAX Expressway and State Route 1 Improvements project. On October 6, 2000, URS biologist conducted a field visit of the LAX Expressway study area to verify current land use and identify any native vegetation communities that may potentially serve as foraging and nesting habitat for migratory birds or other biological species of concern. The survey was conducted consistent with FHWA survey protocols and guidelines. Upon completing the site visit, a determination was made as to whether to apply the Habitat Evaluation Procedure (HEP) for the newly identified biotic communities. The HEP is a method of quantifying habitats using the product of the suitability of the habitat for species in the area as dependent on the extent of the habitat. The HEP analysis prepared for the Master Plan, used a matrix of Valley Needlegrass Grassland combined with associated vernal pools as the target (highest valued) biotic community. This target biotic community served as a point of comparison for other potentially valuable habitat communities. For purposes of this roadway improvement analysis, it is reasonably assumed that this same target biotic community would apply for both roadway improvement projects. According to the HEP analysis prepared for the airport Master Plan area boundary, landscaped and developed community types equate to a Habitat Value of 0.15 or less. A discussion of noxious weeds is also provided. “Noxious weeds” are considered to be known invasive plants as defined by the State of California and the County of Los Angeles.

4.10.2 Affected Environment

This section describes the presence of biotic communities within the LAX Expressway and State Route 1 Improvements project study areas.

4.10.2.1 LAX Expressway

The LAX Expressway study area consists primarily of horticultural landscape, hardscape and ruderal grassland and weeds including species listed as noxious weeds including Black Mustard, Russian Thistle, Bermuda Grass, and Iceplant.

4.10.2.2 State Route 1

The State Route 1 study area consists of approximately 0.4 hectare (1 acre) of ruderal grasses and weeds near the proposed Westchester Parkway/Lincoln Avenue interchange and along the north side of Westchester Parkway, including species listed as noxious weeds including Black Mustard, Russian Thistle, Bermuda Grass, and Iceplant.

4.11 FLOODPLAINS

Review of the most current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the LAX area (February 4, 1987) indicates that the limits of the LAX Expressway and the State Route 1 Improvements project are located in Zone C, a zone generally considered subject to "minimal flooding." For additional information refer to Draft LAX EIS/EIR Section 4.13 and Supplemental Report No. 5. No additional analysis is necessary.

4.12 WILD AND SCENIC RIVERS

Based on a review of the National Wild and Scenic Rivers Map the nearest designated wild and scenic river is 92.6 kilometers (50 miles) north of the project sites. Accordingly, there are no wild or scenic rivers or natural landmarks within the proposed right-of-way (ROW) for the proposed LAX Expressway and State Route 1 Improvements project alternatives. No additional analysis is necessary.

4.13 COASTAL BARRIERS/COASTAL ZONE

Coastal barriers are delineated by the federal Coastal Barriers Resources Act of 1982 and coastal zones are defined by the federal *Coastal Zone Management Act* (*CZMA) of 1972.* The federal Coastal Barriers Resources Act of 1982 prohibits, with some exceptions, federal financial assistance for development within the Coastal Barrier Resources System, which consists of undeveloped coastal barriers along the Atlantic and Gulf coasts only. As defined by the act, there are no coastal barriers along the Pacific Coast and, therefore, is dismissed in this analysis.

The California Coastal Act of 1976 grants authority to the California Coastal Commission to regulate development and related resource depleting activities in a defined coastal zone boundary. This boundary extends 310.0 meters (1,000.0 feet) from the mean high tide line in developed areas. The coastal zone boundary in the vicinity of Los Angeles International Airport extends inland to the easterly (inland) right-of-way of Pershing Drive. The boundary runs south to the southern edge of the Imperial Highway right-of-way, where it turns west to Vista del Mar. Figure 14.1-1 of the Draft LAX EIS/EIR shows the location of the Coastal Zone in the vicinity of the airport.

4.14 THREATENED AND ENDANGERED SPECIES

The evaluation of endangered and threatened species addresses the potential for the proposed roadway projects LAX Expressway and State Route 1 Improvements project to impact federal and state protected plant and animal species. Sensitive plant and animal species, as defined by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Game (CDFG) are afforded protection under the federal and state Endangered Species Act. Sensitive species are also governed under the Migratory Bird Treaty Act, the Coastal Zone Management Act and local Habitat Conservation Plans or Natural Communities Conservation Plans.

The current land use within the immediate vicinity of the LAX Expressway project area is mixed residential, commercial, multi-lane freeway, horticultural landscape, and disturbed ruderal grasses and weeds. The State Route 1 improvements study area consists of approximately 0.4 hectare (1 acre) of ruderal grasses and weeds near the proposed Westchester Parkway/Lincoln Avenue interchange and along the north side of Westchester Parkway. Given the type of development that exists within and around the study areas, no species focused floral or faunal surveys were conducted for this report. However, on October 6, 2000, URS conducted a field verification of the proposed project areas. The LAX Expressway study area contains minimal biotic resource value. The State Route 1 improvements would require the development of vacant lots that have the potential to be foraging and nesting habitat for burrowing owl and foraging habitat for resident red-tailed hawks and other migratory raptors. However, none of the observed vacant lots by themselves are considered of adequate size to support breeding and foraging habitat.

4.15 CULTURAL RESOURCES

This analysis addresses the potential for the proposed new roadway projects, the LAX Expressway and State Route 1 Improvements project, to result in adverse impacts on known cultural resources, including historic and archaeological resources. This section builds upon previous research undertaken for the Draft LAX EIS/EIR and in preparation of the Supplemental Section 106 evaluation conducted in December 2000. This supplemental evaluation will be available as part of the reference library at Los Angeles World Airport. The LAX Expressway and State Route 1 Improvements project are integral project elements of the LAX Master Plan. In June 2000, a Section 106 Report was prepared by PCR Services Corporation which identified an Area of Potential Effects (APE) for the LAX Master Plan study area that included portions of the LAX Expressway and all of the State Route 1 improvements study area. The report was prepared in accordance with the requirements of Section 106 of the National Historic Preservation Act of 1966 (NHPA) and FAA's Order 5050.4A, Airport Environmental Handbook. It reported the findings of surveys performed to identify historical properties and archaeological sites within the APE. According to more detailed plans of the LAX Expressway developed for a PSR, a modified APE was determined with the assistance of the FHWA and Caltrans District 7 Cultural Studies staff and subsequently evaluated in the Supplemental 106 Report. The Supplemental Section 106 Report identifies those properties within the newly defined APE that are eligible and non-eligible for listing under 36 CFR 800. A summary of the conclusions reached in the Supplemental Section 106 (December 2000) for historic properties and a summary of the conclusions reached in the initial Section 106 Report (June 2000) for archaeological resources are presented in Section 5.15.

4.15.1 General Approach

In determining the potential effects resulting from the proposed new roadway improvement projects-an Area of Potential Effects (APE) - defined as "the geographic area or areas within which an undertaking (project) may directly or indirectly cause change in the character or use of historic properties, if any such properties exist." (Advisory Council Regulations, 36 CFR 800: Protection of Historic Properties) – was identified which included land encompassing the LAX Master Plan alternatives. The APE was originally determined in the *Section 106 Report* prepared by PCR Services Corporation (June 2000) and augmented to include the entire study area for the LAX Expressway alternatives 2 and 3. All areas that involve the disturbance of surface and subsurface soils are considered a part of the APE for both projects. In addition, due to the potential for other cultural resources above ground to be indirectly impacted, the APE in the Draft LAX EIS/EIR has been expanded and modified. Figure 4.15-1 depicts the new historic resources study area.

Project research methods to determine the existence of historic architectural and archaeological resources included archival research, pedestrian field investigations, architectural reconnaissance-level survey, and consultation with the Native American Heritage Commission. A records search was conducted in May 1995 by the South Central Coastal Information Center (SCCIC) to identify previously surveyed areas or recorded historic architectural and archaeological resources within the original APE. Updated searches were conducted in August 1997 and May 2000. These searches included a review of relevant site records, reports, vintage maps, the National Register of Historic Places, the California Historical Resources Inventory database, the City of Los Angeles' Historic-Cultural Monuments listing, completed site records, and survey reports. The complete records of that search are contained in the Appendices of Appendix I of the Draft LAX EIS/EIR.

Additional field survey, research, and evaluations were conducted by PCR Services Corporation (PCR) in October 2000 to account for the entire LAX Expressway project area. Several types and degrees of pre- and post-field research were conducted as part of this study, including a windshield survey, building permit reviews, tax assessor research, interviews, Sanborn map research, and literature search. Windshield surveys and site specific research within the Supplemental APE were conducted through field visits.

4.15.2 Affected Environment

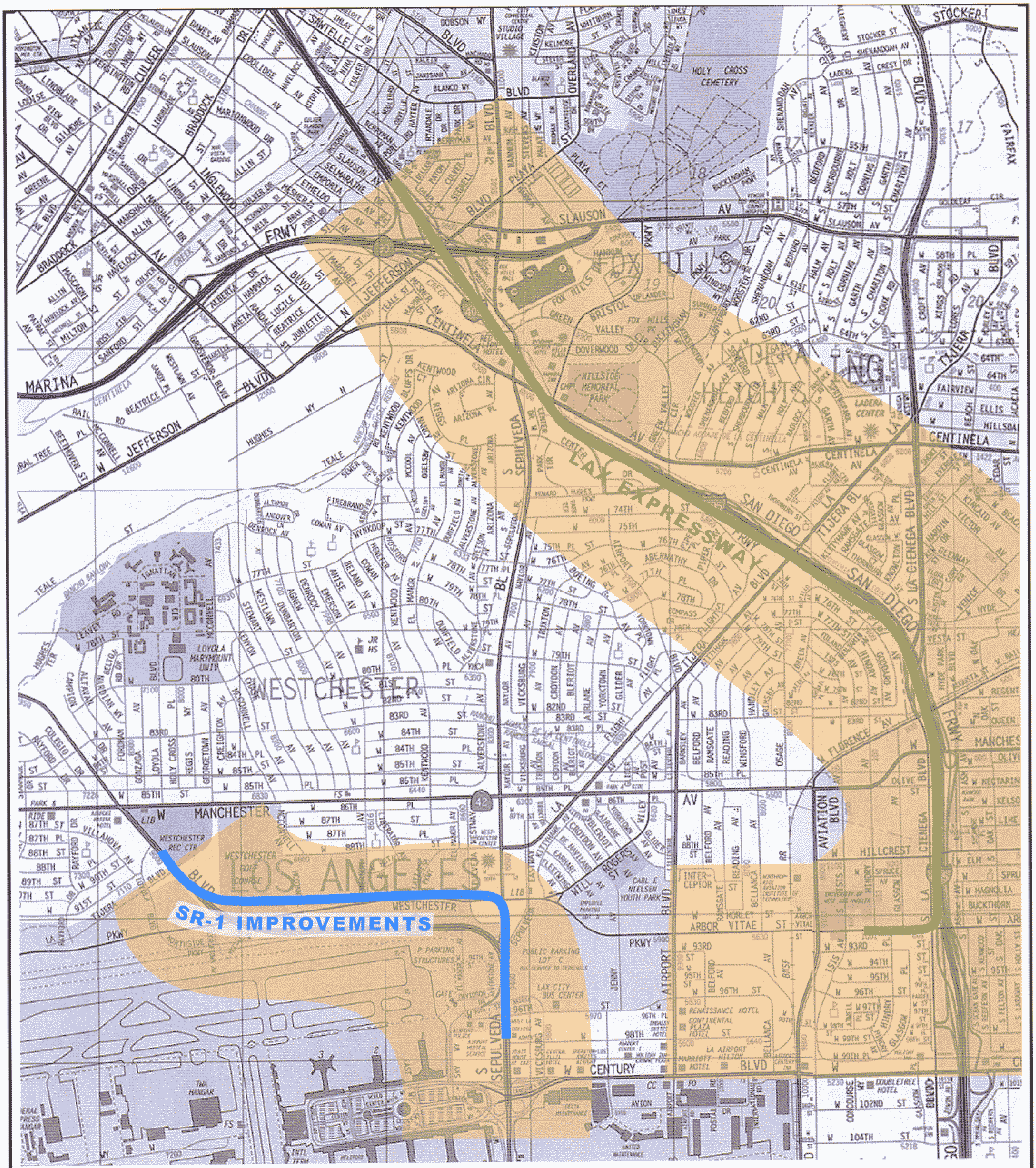
The Supplemental Section 106 Report provides a description of the historic context in which potentially significant historic properties are characterized. The residential areas in the APE are characteristic of large tracts of housing. Both commercial and industrial properties are utilitarian in appearance within the APE.

Historic Resources

Four historic properties were identified within 0.5 miles of the roadway alignment project areas. Figure 4.15-2 depicts the location of these sites. Two of the sites were identified in the December 2000 Supplemental Section 106 Report as the Centinela Adobe and Randy's Donut; and the other two were identified in the June 2000 Section 106 Report for the Draft LAX EIS/EIR as the airport Theme Building and the Merle Norman Headquarters Complex. The latter two resources are located outside the APE determined for the Supplemental Section 106 Report (Figure 4.15-3).

The Centinela Adobe or Centinela Ranch House (Ygnacio Machado Adobe), was once Rancho Aguaje de la Centinela and was granted to Ygnacio Machado by Governor Manuel Micheltorens in 1844. The existing property supports a parking lot and three separate structures. The adobe house itself is single story made of adobe with a wood shingle roof, fireplace, and deep window reveals. It is evident that rooms were added onto the original adobe structure in the early 1860's. The Centinela Adobe was placed on the National Register of Historic Places in 1974 (NR No. 19750402).

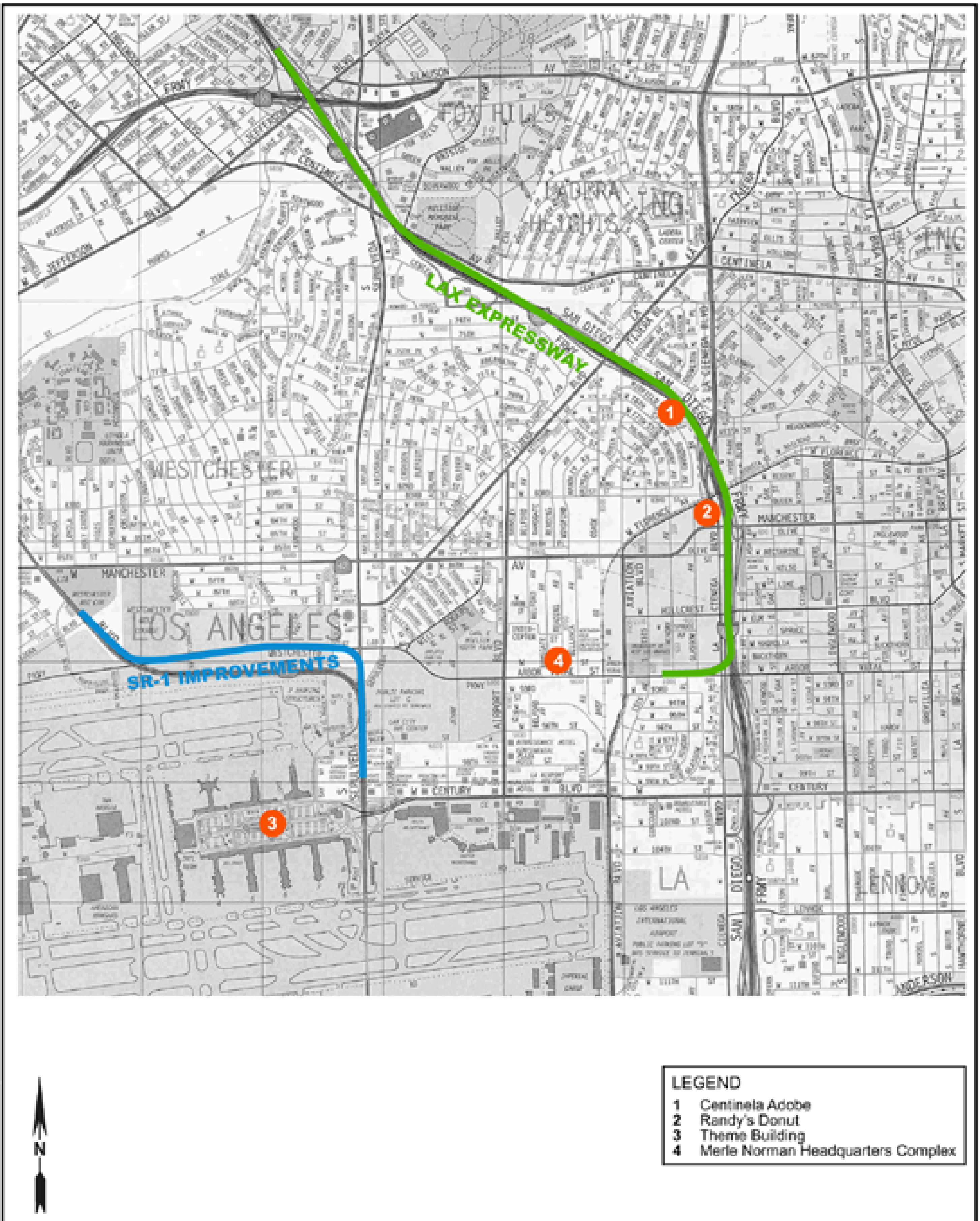
The Donut Shop, Randy's Donut, is located at the northwest corner of Manchester Boulevard and La Cienega Boulevard and was built in 1953 by Robert Graham. It is a small structure with a giant doughnut on top. The structure is characteristic of the early 1950's Modern fast-food era in its representation of



SOURCE: USGS Inglewood, CA and Venice, CA Quad Maps, Photorevised 1981

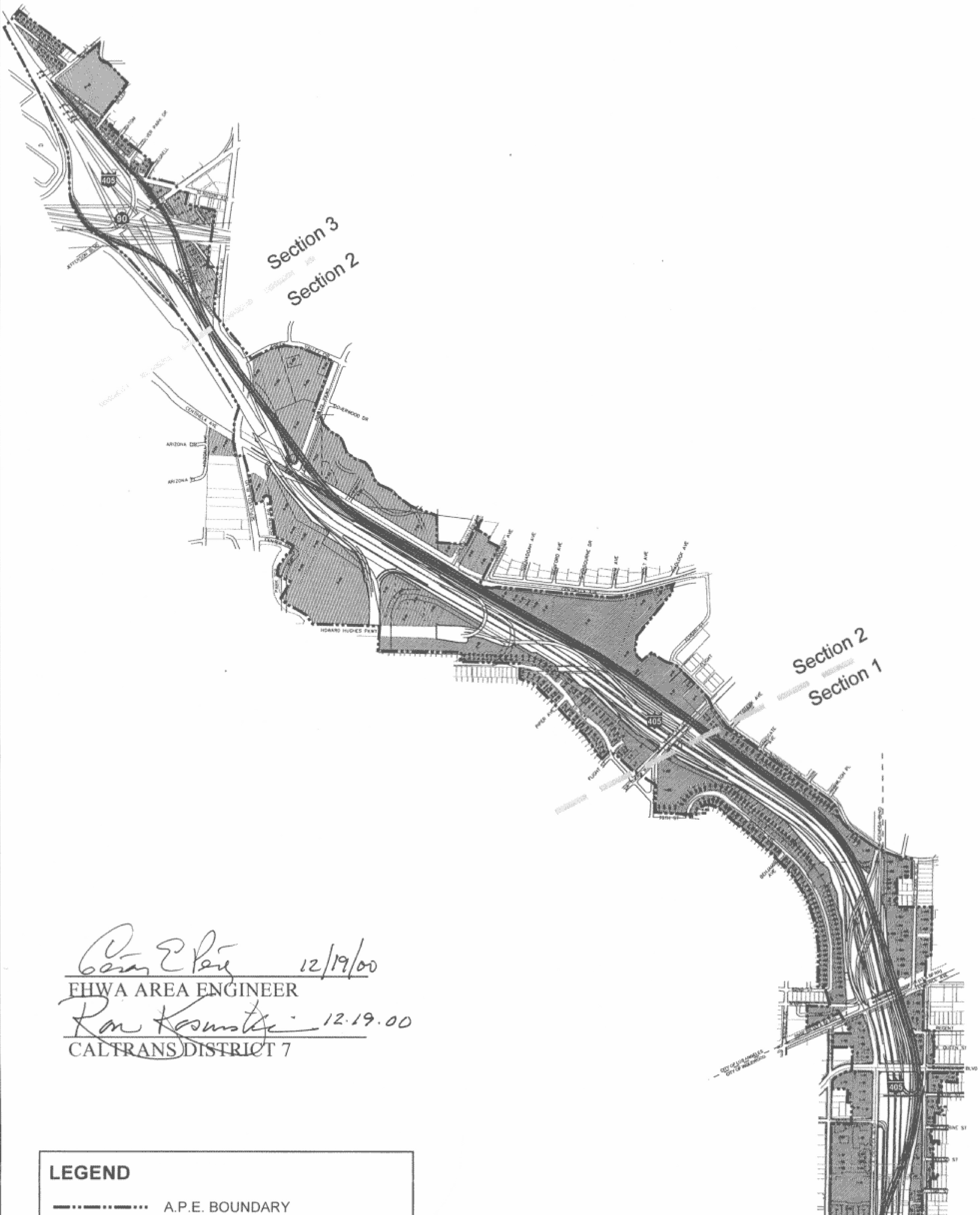
L:/LAX pat/hist resources analysis

LAX Master Plan EIS/EIR	Historic Resources Analysis Study Area	Figure 4.15-1



L:\LAX pat\hist resources near roadway

LAX Master Plan EIS/EIR	Historic Resources Near Roadway Improvement Projects	Figure 4.15-2



12/19/00
FHWA AREA ENGINEER
12.19.00
CALTRANS DISTRICT 7

LEGEND

A.P.E. BOUNDARY

STUDY AREA

PREFERRED ALTERNATIVE EXPRESSWAY ROUTE

Justification of A.P.E.
The A.P.E. was defined with the assistance of CALTRANS District 7 Cultural Studies staff and FHWA area engineer based on anticipated direct and indirect effects of the proposed project on identified historic resources.

LOS ANGELES INTERNATIONAL
LAX EXPRESSWAY IMPROVEMENTS
City of Los Angeles, Los Angeles County, California

Area of Potential Effects (APE) for the LAX Expressway

Figure 4.15-3

mid-20th century Programmatic/Mimetic architecture, where the sign is the design and attraction and the building below serves merely as the base. It can be considered an expression of folk art to depict the lifestyles and architectural freedom typically found in Los Angeles. Because of this structures architectural style, it appears eligible for listing in the National Register of Historic Places at the local level of significance.

The Theme Building was previously determined eligible for listing in the National Register of Historic Places. For its unique architecture, which has become symbolic not only of the airport but of the whole city, the Theme Building satisfies National Register Criteria Consideration G for exceptional significance in a building less than 50 years old. The Theme Building is also eligible for listing in the California Register for architectural merit under Criterion 3. Constructed in 1961-62, the Theme Building was the center piece of the large expansion of LAX which concerted it into a "jet-age airport." The arresting design of parabolic arches with a flying saucer restaurant suspended between them was conceived by joint venture architects William L. Peirera, Charles Luckman, Welton Becket, and Paul R. Williams. The Theme Building was designated by the City of Los Angeles Historic-Cultural Monument #570 in 1992.

The Merle Norman Headquarters Complex is eligible for the National Register under Criterion C for its distinctive architectural style and design utilized in an industrial building. The property also appears eligible for the California Register and for listing as a City of Los Angeles Historic-Cultural Monument. This group of industrial buildings on South Bellanca Avenue near the Los Angeles International Airport includes the main headquarters building and the shipping and receiving facility. The Merle Norman Headquarters Complex, designed by local architects Arthur Freeman and Arthur Froehlich (Froehlich was also the architect of the Paradise Theatre in Westchester) and built in 1950-51, reflects the company's attention to design the economic success of their cosmetic manufacturing company and an awareness of the expectations of their clientele.

Other properties were identified but lacked insufficient integrity to qualify for federal National Register eligibility. Classification of eligible resources is summarized and represented in Table 4.15-1.

Table 4.15-1
Properties Potentially Affected (Directly or Indirectly) by Roadway Improvement Projects

Figure	Potentially Affected Properties	NR	CR/LAHCM/OTHER
1	Centinela Adobe, Los Angeles	Listed	Listed
2	Randy's Donut, Inglewood	Eligible	Eligible
3	Theme Building, Los Angeles	Eligible	Eligible
4	Merle Norman Headquarters Complex, Los Angeles	Eligible	Eligible

NR – National Register of Historic Places
CR – California Register of Historic Places
LAHCB – Los Angeles Historic-Cultural Monument
OTHER – Local Landmark Potential (City of Inglewood)

Archaeological Resources

There have been numerous reconnaissance and excavation project related studies completed in the LAX area; however, none of those listed in the South Central Coastal Information Center records search letter are located within or near the Supplemental APE. In the June 2000 Section 106 Report prepared by PCR Services Corporation, a review of previously recorded archaeological sites was conducted that revealed 32 sites within approximately 3.0 kilometers (1.9 miles) from the center of the airport, four of which are located on airport property. All four sites are prehistoric (Draft LAX EIS/EIR, Section 4.9). The precise location of these sites and the supplemental Site Recording Forms are not subject to public disclosure pursuant to Title III, Section 304 of the NHPA, as amended, to prevent harm and unauthorized disturbance of the sites. A review of the records search data indicates that no known prehistoric or historic archaeological sites, including cultural resources exist within the Supplemental APE. Upon concluding a pedestrian survey of the APE in October 2000, no archaeological resources were identified. The majority of the LAX Expressway alignment has been extensively disturbed due to the construction of the I-405 freeway, adjacent roadways, and properties. However, because there have been no formal surveys conducted of the project area, and with the project's proximity to the Centinela Adobe, the Supplemental APE appears to have a "mid to high" sensitivity for encountering prehistoric and/or historic archaeological resources.

Subsequent archival research, pedestrian field investigations, architectural reconnaissance-level survey, and consultation with the Native American Heritage Commission was not conducted specifically for the LAX Expressway project. Additional discussion is provided in Section 5.15.

4.16 HAZARDOUS WASTE SITES

4.16.1 General Approach

The study area for the hazardous waste sites is the area encompassing the proposed roadway alignments for the LAX Expressway and State Route 1 Improvements project. Data searches by Vista Information Solutions, Inc. were conducted for the LAX Expressway and the LAX Master Plan project, which encompasses the State Route 1 improvements. The results of these data searches are described below. For additional information refer to Draft LAX EIS/EIR Section 2.13 and related Supplement Report 12 entitled Hazardous Materials Supplemental Report (2000).

4.16.2 Affected Environment

4.16.2.1 LAX Expressway

The LAX Expressway alignments are generally located within the existing right-of-way for the I-405 freeway and along adjoining properties, including residential, commercial, and industrial land uses. Construction of the LAX Expressway could result in grading and excavation of soils that have been contaminated by hazardous materials releases from nearby underground storage tanks (UST). Database reviews conducted by Vista Information Solutions, Inc.[17] identified 94 registered USTs adjacent to the alignments for the LAX Expressway build alternatives. The database search also identified a potential CERCLIS site, ten reported leaking USTs, and three Emergency Response Notification System spill list sites. A description of each category is provided below.[18]

- Comprehensive Environmental Response, Comprehensive, and Liability Information System (CERCLIS) – CERCLIS is a comprehensive listing of possible uncontrolled or abandoned hazardous waste sites. Generally, the U.S. Environmental Protection Agency (USEPA) has either conducted or plans to conduct investigations to identify release or threatened release of hazardous substances. A site investigation may result in listing the site on the National Priorities List.
- Leaking Underground Storage List– This list contains information on reported leaking USTs in California.

[17] Supplemental Report 12, Draft LAX EIS/EIR (2000), p. 14; Vista Information Solutions, Inc., LAX Expressway Alignment 3-MPAlternative C (October 17, 2000).
[18] Draft Draft LAX EIS/EIR (2000), Section 4.23.3.

- Emergency Response Notification System (ERNS) – This notification system is a national database with information on reported oil and hazardous substances releases. The database contains spill records maintained by federal agencies including the USEPA, the U.S. Coast Guard, the National Response Center, and the Department of Transportation.

Operators of tanks adjacent to the LAX Expressway alignments include gasoline stations, light industrial uses, car rental facilities, and commercial retail establishments. No aboveground storage tanks within the LAX Expressway alignments were identified in Vista reports.

Two known contamination sites are located adjacent to the alignments for LAX Expressway Alternatives 2 (Split Viaduct) and 3 (Single Viaduct). A site with planned or on-going remediation is located at the northwest corner of Manchester and La Cienega boulevards. A site with soil and/or groundwater contamination is located at the southwest corner of Olive Street and La Cienega Boulevard.

Hazardous materials usage and hazardous waste generation are strictly regulated by federal, state, and local laws and regulations. Implementation of measures included in these laws and regulations would ensure that potential impacts associated with handling, storing, and transporting hazardous materials and wastes would substantially reduce or eliminate potential impacts. The due diligence procedures associated with right-of-way acquisition by a public agency for roadway improvements involve identification of contaminated soil and groundwater associated with specific parcels proposed for right-of-way acquisition.[19] If soil and groundwater contamination is present, and if warranted by the nature and extent of the contamination, as determined by the regulatory agency with jurisdiction, remediation would be conducted prior to construction. In addition, construction bid documents routinely include provisions for the identification, segregation, handling, and disposal of contaminated materials, and require construction contractors to prepare site-specific health and safety plans prior to construction (e.g., grading and excavation).[20]

The proposed LAX Expressway will provide direct ground access to the airport, including transport of goods and materials. An estimated 99 percent of the hazardous materials stored at LAX are fuels, including jet fuel, diesel, gasoline, and liquid propane. Most of the jet fuel is delivered to the airport through underground pipelines.[21] Other hazardous materials and hazardous wastes used and stored on the airport property are transported to and from LAX by truck. The Hazardous Material Transportation Act of 1994 administered by the U.S. Department of Transportation, and other federal and state laws regulate transport of hazardous materials and hazardous wastes.

4.16.2.2 State Route 1

One known soil and/or groundwater contamination site is located within the project area for the State Route 1 improvements. The site is generally located near the north end of the proposed tunneling of Sepulveda Boulevard. Leaking USTs were identified along the 9200 and 9800 blocks of Sepulveda Boulevard. These properties are proposed for acquisition in conjunction with the LAX Master Plan.[22]

[19] Caltrans, Contractor's Guide, Caltrans Statewide Standard Agreement 430012, Hazardous Waste Site Assessment, Investigations, and Surveys (1998/2000).
[20] LAWA Policy HM-2.
[21] Ibid.
[22] Draft Draft LAX EIS/EIR (2000), Section 4.23.3.

4.17 VISUAL

This analysis has been prepared based on the Federal Highway Administration (FHWA) guidelines for conducting a visual impact analysis of proposed roadway projects. The analysis generally consists of the following components:

- definition of the affected visual environment of the project;
- identification of key views from sensitive visual receptors;
- evaluation of the existing visual quality of the affected environment and key views;
- assessment of the visual impacts of project alternatives; and
- recommendation of mitigation measures for adverse visual impacts.

4.17.1 General Approach

The FHWA guidelines for *Visual Impact Assessment for Highway Projects* (1981) provides evaluation criteria for defining visual quality of the affected environment and sensitive views, and for evaluating the potential visual impacts due to the change in either of these from the proposed project alternatives. The criteria applies a scale ranging from high to low for evaluating visual quality based on the overall vividness, intactness, and unity of an urban landscape and urban related roadway projects.

- ***Vividness*** is "the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- ***Intactness*** is "the visual integrity of the natural and man-built landscape and its freedom from encroaching elements.
- ***Unity*** is "the visual coherence and compositional harmony of the landscape considered as a whole."

A high quality rating is determined when all three criteria are rated as high quality together. An on-site field reconnaissance was conducted on October 11, 2000 to document and photographically record various segments of the proposed roadway improvement alignments. Sites were selected based on the location of sensitive visual receptors of the projects once constructed for both projects. Figure 4.17-1 depicts the locations of the photographs taken. Sensitive receptors included various viewers ranging from residents, park users, churchgoers, and school attendants.

Based on the FHWA guidelines, sensitive viewpoints that represent "*views from the road*" and "*views of the road*" were considered for adjacent roadways paralleling the I-405 and for State Route 1. Photographs were taken from each key view in the direction of the proposed roadway and then evaluated for their existing vividness, intactness and unity in terms of low, moderate or high visual quality. In conducting the impact analysis, vividness, intactness and unity for each key view was also determined per each roadway improvement alternative.

For the LAX Expressway, it was determined that the "*views of the road"* were the more dominant factor given the presence of residential communities along the proposed routes and the potential visual intrusion from the proposed elevated structures. For the State Route 1 improvements, it was determined that the "*views from the road"* would be the primary factor in determining visual impacts given that sensitive visual receptors such as residents, do not currently have direct views of the road. The dominant feature within these views is the landscape nearest the roadway and the LAX landing strip.

SOURCE: USGS Inglewood, CA and Venice, CA Quad Maps, Photorevised 1981

0 1/2 1

Scale in Miles

N

LAX Master Plan EIS/EIR	Photo Locations	Figure 4.17-1

L:\LAX pat\fig 4.17.1 photo locations 11/00

In determining the visual impacts resulting from the proposed roadway projects, a characterization of the existing environment was completed based upon the identification of the projects viewshed. Photos 1 through 14 represent the views to and from the LAX Expressway. Photos 15 through Photo 21 represent the views *from* and *of* the existing State Route 1. These views represent the unobstructed line of sight from a single sensitive viewpoint *from* and *of* the proposed roadway projects.

4.17.2 Affected Environment

This section identifies the existing visual quality of the sensitive visual resources and the potential visual receptors for the *views from the road* and *views of the road* for the LAX Expressway and State Route 1 Improvements project. The landscape within the areas adjoining both proposed roadway projects is urban in character. No dominant naturally occurring or landscape feature is present within either of the roadway improvement projects nor is any natural feature visible. The nearest natural feature with high visual quality and aesthetic value is the Pacific Ocean located approximately 3.2 kilometers (2.0 miles) west of the State Route 1 improvements study area. This feature can be viewed along Vista Del Mar, which is outside the two project areas. Views of the ocean can not be currently seen from either roadway project.

4.17.2.1 LAX Expressway

Views from the Road. The LAX Expressway would abut the I-405 freeway, between Arbor Vitae Street and Marina Freeway (SR-90), at its most northerly terminus. The I-405 freeway corridor is developed along the east and west sides of the freeway primarily accommodating land uses such as single-family residential dwelling units, commercial establishments, community facilities (i.e., church, cemetery, etc,) and other uses. The most visually dominant feature of the entire length of the corridor is the multi-story office building situated on the west side of the freeway at the SR-90 junction as depicted in Photos 8 through 12. The right-of-way along both sides of the freeway is sporadically landscaped with up to 9.1-meter (30-foot) trees as depicted in Photo 13 through 16. The overall visual character of the I-405 corridor along which roadway improvements are proposed is characteristic of an urban and built environment with only pockets of open space as depicted in Photo 17. A concrete-lined flood control channel, Centinela Creek, begins at La Cienega Boulevard and the I-405 and connects to Ballona Creek just east of Culver Boulevard. The channel is void of any vegetation and is not visible from a profile perspective from either side of the freeway. Therefore, this water feature does not contribute any natural aesthetic value to the area. Photo 18 depicts typical urban landscape features from the proposed project area. For purposes of this analysis, the dominant feature is the freeway itself including the incorporated landscaping and few multi-level structures protruding above the landscaping. Upon implementation of this project, the viewshed would likely change to include the surrounding built environment.

Views of the Road. The visual quality of the LAX Expressway project area is rated as low and moderate to low given that the visible features surrounding the project area are fairly low in vividness. No distinctive visual pattern emerge other than the road itself. Views are also low to moderate in tactness in that no natural landscape exists. Landscaping does exist in certain areas along the I-405 serving as visual screens of the roadway as depicted in Photo 19 and 20. However, it is clear that the area is strictly urban built in nature. And last, unity is considered to be low to moderate given that the road clearly disrupts and dissects the built environment as shown in Photo 18. Some landscaping and roadside sloping is present in an effort to harmonize the surrounding urban landscape with the road feature. Overall, the LAX Expressway project is considered to have a low visual quality.

4.17.2.2 State Route 1

A mix of commercial and industrial development are situated in the vicinity of the existing State Route 1, where the density and intensity of the built environment is dominated by airport and airport-related

PHOTO 1.
View to south from end of Emerson St. towards Westchester Parkway.

PHOTO 2.
View to south - partially vegetated sound wall along W. 88th Street.

PHOTO 3.

PHOTO 4.
View to east from Northside Parkway of SR-1 (Lincoln Blvd.)

PHOTO 5.
View to north of SR-1 (Lincoln Blvd.) and Westchester Parkway from Northside Parkway.

PHOTO 6.
View to northeast of proposed SR-1 interchange from Lincoln Blvd.

PHOTO 7.

PHOTO 8.
View looking south from Ramada Hotel at SR-90 junction.

PHOTO 9.
View to southeast from Ramada Hotel at SR-90 junction.

PHOTO 10.
View to west from Hillside Memorial Park.

PHOTO 11.
View to west from Hillside Memorial Park.

PHOTO 12.
View to northwest from Green Valley.

PHOTO 13.
View to southwest from Green Valley.

PHOTO 14.
View to west from Alvera Street - school playground.

PHOTO 15.
View to west - church parking lot.

PHOTO 16.
View to west from private residence.

PHOTO 17.
View to west from hotel.

PHOTO 18.
View to south of I-405.

PHOTO 19.
View to west from Ash Park.

PHOTO 20.
View to east from back of Centinela Adobe.

PHOTO 21.
View to northeast at La Cienega Blvd. and Arborvitae St. Site of proposed interchange.

development (i.e., hotels, offices, etc.). Residential, recreation (i.e., golf course), and commercial (i.e., retail, service, etc.) development is present north of the existing Westchester Parkway. In general, the building architecture, building materials, density, and open spaces (i.e., parkways, building setbacks, landscaping) contribute toward the overall visual character of the State Route 1 improvements study area. These characteristics of the State Route 1 corridor define the overall visual quality of the areas as moderate.

Views from the Road. As depicted in Photo 7, the dominant feature viewed from the State Route 1 improvements study area is the LAX airport airstrip. From the proposed roadway realignment, aircraft take-off and landing activities can be observed at various intervals throughout the day. Commuters along State Route 1 would potentially consider these views from the road of moderate visual quality. Observing aircraft operating during take-off can provide for a memorable experience. This view also demonstrates moderate to high intactness given the relative location of the road to the coast line, its well-kept park like atmosphere along the segment of State Route 1 to be realigned and the flat open space area serving as the landing strip for aircraft. This view is also considered to have moderate to high unity in that there is visual harmony between the flat features of the landing strip, the flat features of the golf course to the north of the road and the flat features of the coast line farther to the west. Though views of the ocean are not immediately visible to the viewer from the road, the flat urban features contribute to the viewer's awareness of the coastline in the area. Overall, the viewshed of the State Route 1 improvements study area is considered to have moderate visual quality in comparison to the surrounding urban environment. Any substantial change in the vividness, intactness or unity would potentially constitute an adverse impact.

Views of the Road. Views in the general direction of State Route 1 and Westchester Parkway are depicted in Photo 1 from the end of Emerson Street. The nearest residents to the State Route 1 improvements study area are set back approximately 342.9 meters (1,125 feet) from Westchester Parkway on 88th Street. Photo 2 depicts a partially vegetated sound wall approximately 3 meters (10 feet) high. This wall runs along the entire length of the street screening the views of the roadway and airstrip from the residents. A swath of grass, sidewalks, various landscaping features and planted trees parallel this sound wall providing a sense of open space for residents to enjoy walking, biking and dog walking. The visual quality of this area is considered moderate to high based on the park like landscaping.

The approach south along State Route 1 past Westchester Parkway is dominated by a bridge as depicted in Photo 3. Immediately to the south of the State Route 1 improvements study area, similar visual quality is present given the presence of the landscape median separating Westchester Parkway and Lincoln Boulevard and the absence of a built environment other than the road structures as depicted in Photos 4 and 5. As State Route 1 veers south onto Sepulveda Boulevard, the visual character of the project area changes considerably and is dominated primarily by commercial buildings and structures with only a few planted trees sporadically placed along Sepulveda Boulevard. The visual quality of this segment of State Route 1 is typical urban development within the area and considered moderate to low.

Table 4.17-1.
Existing Visual Conditions

Visual Assessment Unit	Visual Quality	Visual Quality
	Vividness, Intactness, Unity	
Views from LAX Expressway	Low, Low, Low to Moderate	
Manchester Boulevard		Low
Views of I-405	Low, Low, Low to Moderate	
Hillside Memorial Park		Moderate
Donut Shop		Low
Arbor Vitae Street		Low to Moderate
Views from State Route 1	Low to Moderate	
Westchester Golf Course		Moderate
Sepulveda Boulevard		Low
Airport		Moderate
View of State Route 1/Westchester Parkway	Moderate to High, Moderate to High, Moderate to High	
88th Street		Moderate to High
Northside Parkway		Moderate
State Route 1		Moderate to High

5.0 ENVIRONMENTAL CONSEQUENCES

Of the environmental topics addressed in Section 4.0, land use, air quality, noise, water quality, historic and archaeological preservation, and visual resources would be affected by one or more alternatives under consideration for the LAX Expressway and State Route 1 Improvements project. Section 5.0 contains a description of the probable impacts in the study area identified specific to these environmental disciplines. Mitigation measures that avoid, minimize, rectify, reduce, and/or compensate for impacts associated with each alternative are identified where appropriate. Each environmental topic addressed in this section concludes with a description of the probable cumulative impacts.

5.1 LAND USE

Due to the conceptual stage of roadway planning, precise roadway alignments for each alternative and associated right-of-way requirements are not available at this time. However, potentially affected parcels have been identified which may require partial or full acquisition for right-of-way purposes. They are presented in Tables 5.1-1 and 5.1-2. Figure 3.1-1, Figure 3.1-6, Figure 3.2-1, and Figure 3.2-5 depict the proximity and location of potentially affected parcels to the project sites.

Table 5.1-1

Number of Potentially Affected Parcels by Land Use Type

LAX Expressway

Land Use	Alternative 2	Alternative 3
Residential	115	47
Businesses	23	34
Public Facilities	7	14
Community Facilities	3[a]	2[b]
Other	0	2
Total Number of Parcels	148	99

Source: URS Corporation
[a] Church, 1 cemetery, Centinela Adobe
[b] 1 school, 1 cemetery

Table 5.1-2

Number of Potentially Affected Parcels by Land Use Type

State Route 1 Improvements

Land Use	Alternatives 2 and 3
Residential	8
Businesses	37
Public Facilities	1
Community Facilities	0
Other	
Total Number of Parcels	46

Source: URS Corporation

5.1.1 LAX Expressway

5.1.1.1 Alternative 1 -No Action

The No Action alternative would not implement any off-airport roadway improvement. In the absence of a direct link between the regional roadway system and the airport, motorists would continue to exit the I-405 north of the airport and "cut through" residential areas north of LAX. Under existing conditions, the demand for airport travel is expected to increase up to 54 percent in the year 2015, thereby, increasing the number of vehicles on the road without proper congestion management facilities in place. From this standpoint, the No Action alternative would conflict with planned land uses particularly with planned residential uses. Without such improvements, missed flights would likely result subsequently prompting business activity to relocate to regions that are more accessible.

The No Action alternative would not likely impact future on-airport land uses planned under either of the build alternatives of the LAX Master Plan in that on-airport land uses is limited to cargo space immediately adjacent to the project area to the south of Arbor Vitae Street at the I-405.

5.1.1.2 Alternative 2 (Split Viaduct)

Implementation of Alternative 2 (Split Viaduct) for the LAX Expressway project would potentially affect approximately 115 residential properties, 23 business properties, 7 public facilities, 3 community facilities and would result in additional right-of-way along both sides of the I-405 from Arbor Vitae Street to the SR-90 interchange. The potentially affected residential properties are primarily located along the west side of the I-405 beginning just north of Florence Avenue and up to Howard Hughes Parkway just south of the SR-90. Two historic resources would be potentially affected, Randy's Donut shop and the Centinela Adobe in the City of Inglewood. These two historic resources are discussed in Section 4.1 of this report. The affected commercial and industrial properties are concentrated at the southern end of the project area near Arbor Vitae Street. The project clearly involves the negotiation of additional right-of-way. Although this alternative would likely require the acquisition of additional right-of-way along both the east and the west side, it would not be considered a high priority roadway improvement under the City of Culver City General Plan Circulation Element. Irrespective of the emphasis the city places on the priority of the LAX Expressway project Alternative 2, no specific conflict with the City's Circulation Element have been identified.

This alternative would place additional traffic lanes closer to neighborhoods adjacent to the I-405, specifically near single-family dwellings units at Hillcrest Avenue and Ash Avenue, Ash Avenue and Kelso Street, and near Midfield Avenue and surrounding neighborhood just north of W. Florence Avenue and south of La Tijera Boulevard. One church and one school would be adversely affected by this alternative, namely Saint Jerome Church and School which is located at 5580 Thornburn Street.

Sensitive noise receptor areas currently experience calculated noise levels between 56 dBA and 76 dBA. This alternative would introduce a new noise source in these neighborhoods specifically to the church and school which are already experiencing elevated noise levels of up to 76 dBA. Projected noise levels under built conditions as, proposed under this alternative, would not exceed 77 dBA (URS 2000). Noise reduction features (i.e., 4.9-meter (16-foot) sound wall constructed at the top of the roadside on either side of the freeway near noise sensitive receptors) have been developed for the alternative that according to noise modeling projections is able to reduce noise levels down to 64 dBA (URS 2000). According to the City of Inglewood General Plan Noise Element, noise levels in excess of 60 dBA CNEL is considered a location of potential conflict. In the absence of Alternative 2 for the LAX Expressway project, several locations along the I-405 project area would still be considered an area of conflict. As per the City of Inglewood General Plan Noise Element and the City of Culver City General Plan Noise Element, the construction of a 4.3-meter (14-foot) sound walls at the top of the roadside slope on either side of the I-405 near known neighborhoods would reduce noise impacts in already degraded areas. Implementation of the alternative with the sound wall would lower projected noise levels under built conditions to below noise levels expected without the project.

The project would also result in long-term increases in vibration, light and glare and aesthetic impacts to the land uses adjacent to the LAX Expressway, thereby, resulting in potential land use incompatibility impacts. Where the project supports access to the LAX Expressway from La Cienega Boulevard and the connection of the HOV lane to the LAX Expressway just north of W. Florence Avenue, the interface of elevated ramps may reach heights in excess of 9.1 meters (30 feet). This would introduce a new dominant and visually intrusive feature within the adjacent neighborhood to the west of the I-405, thereby, resulting in a permanent visual impact and incompatible use. With the implementation of mitigation measures to reduce light and glare emissions, as well as incorporate design techniques that are consistent with the surrounding structures, including buffers and coloring, these impacts can be reduced to some degree.

Implementation of Alternative 2 would not likely result in on-airport land use conflicts for either of the three build alternatives (A, B, and C) of the LAX Master Plan in that the proposed land use just south of Arbor Vitae Street at the I-405 is limited to air cargo space and open space serving as landscaped buffer areas. In addition, the City of Inglewood with jurisdiction along portions of Arbor Vitae Street west of the I-405 has designated this area as predominantly industrial and commercial able to support one to two institutional facilities (i.e., schools). The new transportation facility would not divide or compromise the operations of these planned land uses and may, in fact, improve circulation in the area.

5.1.1.3 Alternative 3 (Single Viaduct)

Implementation of Alternative 3 would also introduce a new noise source and contribute to already high sound levels of up to 77 dBA near Ashwood Park on the east side of the I-405 freeway. Calculated sound levels along the I-405 range between 51 dBA and 77 dBA. Though sound levels are expected to increase over time given the increase in traffic congestion along this main thoroughfare, the construction of an added roadway would be expected to result in sound levels greater than under no build conditions. The new single viaduct LAX Expressway would result in sound levels ranging between 56 dBA and 77 dBA. Actual measurements and calculations are contained in Section 4.6 of this report. Noise reduction features (i.e., sound walls) are also recommended under this alternative that would further reduce existing and elevated noise levels originating from the existing freeway.

The project would also result in long-term increases in vibration, light and glare and aesthetic impacts to the land uses adjacent to the LAX Expressway on the east side, thereby, resulting in potential land use incompatibility impacts. However, these long-term impacts are less than those identified under Alternative 2 primarily because only the east side would be affected supporting fewer neighborhoods. Less acreage than Alternative 2 for right-of-way purposes would be needed under this alternative. As with Alternative 2, this alternative would also incorporate the use of sound walls to reduce existing sound levels as well as sound levels generated from the new LAX Expressway. This is consistent with the City of Inglewood General Plan Noise Element, and the City of Culver City General Plan Noise Element. However, the reduction in noise levels to 66 dBA would not be consistent with the City of Inglewood General Plan Noise Element.

As with Alternative 2, the single viaduct would not likely result in planned on-airport land use conflicts given that the area approved for acquisition would be designated for cargo space under all three build alternatives (A, B, and C) of the LAX Master Plan. The predominant use along Arbor Vitae Street supporting the LAX Expressway project would be industrial and commercial. However, one school site adjacent to Arbor Vitae Street on the north is designated by the City of Inglewood. Given the function and purpose of the LAX Expressway, the continuous flow of airport related traffic and diversion of motorists off surface streets would reduce congestion in the immediate vicinity of the school thereby improving circulation in the area for those attending this facility.

5.1.2 State Route 1

5.1.2.1 Alternative 1 - No Action

Under the No Action alternative of the State Route 1 improvements, no improvements to State Route 1 would occur thereby compromising the intent of the ring road proposed under all three build alternatives (A, B, and C) of the LAX Master Plan. The proposed ring road feature of the LAX Master Plan would allow continued and uninterrupted flow of traffic along the airport boundary perimeter. It would also provide direct access to the proposed terminal at the west-end of the airport. Without realigning State Route 1, which under the LAX Master Plan alternatives serves as part of the ring road, access to the west end of the airport from the north would be somewhat disrupted and result in some congestion along Pershing Drive for those utilizing the proposed west-end terminal station. The No Action alternative may preclude the selection of build Alternative A, in that, there would not be enough space to accommodate the construction of the fifth runway north of existing Runway 6R/24L. The No Action alternative would result in a failure to comply with the SCAG 1998 Regional Transportation Plan, the South Coast Air Quality Management District Air Quality Management Plan, the Los Angeles International Interim Plan, the Los Angeles International Airport Master Plan, the Los Angeles Citywide General Plan Framework, and the Westchester-Playa del Rey Community Plan. The No Action alternative would not improve on-airport circulation or off-airport access roads which are currently operating at unacceptable levels of service. Existing conditions would be exacerbated under forecasts for passenger and cargo circulation. The No Action alternative would hinder local jurisdiction planning efforts in meeting projected traffic demand.

5.1.2.2 Alternative 2 (Diamond Interchange) and Alternative 3 (Urban Interchange)

Under both State Route 1 build alternatives, proposed realignment improvements would occur on airport property and along areas of Westchester Parkway presently undeveloped. Construction of the Lincoln Boulevard/Westchester Parkway interchange under either State Route 1 alternative would be more compatible with projected 2015 land use than under existing conditions. Currently, a multi-family residential development is located at the northwest corner of the proposed interchange near Loyola Boulevard and La Tijera Boulevard, known as the Bethany Village Vistas Apartment. This development experiences noise levels of up to 51 dBA. Construction of the State Route 1 build alternatives would increase noise levels to 56 dBA at this particular site (URS 2000). However, implementation of the Westchester Southside, a collateral development project to the LAX Master Plan, would further develop the surrounding vacant land into a commercial village supporting retail, office, and light industrial uses, thereby, eliminating the existing land use as a potential sensitive noise source. Though circulation patterns would be nearer to existing and planned low density residential housing along 88th Street, the projected noise levels upon implementation of either of the LAX Master Plan alternatives (A, B and C) with the State Route 1 improvements would not exceed 58 dBA (URS 2000).

The site of the proposed new interchange at Sepulveda Boulevard/La Tijera Boulevard would occupy existing commercial, residential and parking space areas and continue to abut multi-family residential development near Kittyhawk Avenue and Fleetwing Avenue. Implementation of the LAX Master Plan alternatives (A, B and C) involves the acquisition of approximately 8 residential dwelling units along Fleetwing Avenue, Earhart Avenue, De Haviland and Croydon Avenue. In addition, 37 commercial properties along Sepulveda Boulevard, Sepulveda Boulevard Eastway and Sepulveda Boulevard Westway and a library at the corner of Sepulveda Eastway and Sepulveda Boulevard would be acquired. One public facility (i.e., library) would also be potentially affected. This property acquisition is proposed under the Manchester Square and Airport/Belford Area Voluntary Acquisition Project to accommodate construction of the Westchester Parkway/Sepulveda Boulevard interchange feature. Because land acquisition is fundamentally linked to the Westchester Parkway/Sepulveda Boulevard interchange, changes to the Westchester-Playa del Rey Community Plan from multi-family housing and commercial use to airport related use would be required for this area.

The LAX Master Plan provides continued noise protection of residents near Kittyhawk Avenue and Fleetwing Avenue through the use of berms. These berms would begin at Sepulveda Boulevard on the east side and continue along Arbor Vitae Street eastward to Airport Boulevard. According to the noise study, project noise levels near the single-family residential development would not exceed 65 dBA. However, the introduction of a new elevated and visible interchange would be visually disruptive to surrounding land uses particularly to the community at the northeast of the project area.

Ultimately, implementation of the State Route 1 improvements is consistent with all relevant local area jurisdictional plans, specifically the Westchester-Playa del Rey Community Plan despite minor land use changes needed to reflect planned airport expansion between Sepulveda Boulevard and Airport Boulevard north of Arbor Vitae Street. The Westchester-Playa del Rey Community Plan clearly supports the need “to provide for adequate access to Los Angeles International Airport while diverting to the extent possible such airport originating and destined traffic from that portion of the District north of the Westchester Parkway” (City of Los Angeles, 1996). The State Route 1 improvements are supported by the SCAG 1998 Regional Transportation Plan. The proposed transportation project is intended to meet the existing and/or projected traffic demand as defined in the LAX Master Plan.

5.1.3 Cumulative Impacts

Land uses under the No Action alternatives for the LAX Expressway and State Route 1 improvements would remain the same. The build alternatives for both projects would likely result in cumulative land use impacts in that residences, businesses, and other land uses would be displaced. In addition, displacement of residences, businesses, and other land uses are associated with the LAX Master Plan collateral developments and planned land acquisition programs. Both alternatives would contribute to noise levels that already exceed established standards thereby constituting a cumulative impact. The construction of a sound wall strategically placed near residential development would reduce such noise impacts. Reduced noise levels would still exceed the noise standards established by the City of Inglewood. The construction of the LAX Expressway and associated sound walls, however, would compound the existing low visual quality of the area in that the LAX Expressway would introduce more light and glare during night-time hours and introduce an incompatible linear feature into an already build environment.

5.1.4 Mitigation Measures

The following mitigation measures apply to the LAX Expressway and State Route 1 Improvements project.

1. Modify Westchester-Playa del Rey Community Plan to reflect the LAX Master Plan proposed new property boundary and planned on-airport land uses.
2. Implement mitigation measures identified under the Draft LAX EIS/EIR Section 4.18 *Light Emissions* and Section 4.21 *Design, Art and Architecture Application/Aesthetics* of the LAX Master Plan.

5.2 FARMLAND

Since no farmland exists in the vicinity of Los Angeles International Airport or the proposed route of the LAX Expressway or the State Route 1 improvements, no impacts to farmlands are created by any of the development alternatives and the no action alternative. Therefore no mitigation measures are required.

5.3 SOCIAL AND ECONOMIC

This evaluation of the potential social and economic consequences of the proposed roadway improvements focuses on minority and low-income populations residing within areas (census tracts) immediately adjacent to or including the alignments of both roadway projects. Each LAX Expressway and State Route 1 improvements alternative and associated environmental impacts is discussed below in the context of the affected populations.

The LAX Expressway and State Route 1 Improvements project propose construction of new facilities and modifications to existing facilities, respectively, within established transportation corridors serving residential and non-residential activities in the vicinity of the airport. For the reasons discussed below, the environmental evaluation of the social and economic consequences of the proposed roadway improvement projects focus on environmental justice related issues.

The LAX Expressway is proposed along the I-405 freeway between SR-90 and Arbor Vitae Street, a roadway proposed as an airport ground access-way from the east. The I-405 freeway transportation corridor provides access to urban development and open spaces within the western and southern portions of Los Angeles County. Location of an LAX Expressway within the existing freeway right-of-way and in proximity to this transportation corridor is not expected to separate existing or future neighborhoods or upset the physical layout and cohesion of nearby communities. There are retail and service commercial uses and institutional facilities (i.e., schools, parks, fire stations, police stations, medical facilities, libraries, etc.) on both sides of the I-405 freeway, serving the residential and business enclaves nearby. Existing bridges across the I-405 between State Route 90 (Marina Freeway) and Arbor Vitae Street connect these communities and services. The LAX Expressway project is not expected to disrupt activities associated with the land uses in the vicinity of the project. During construction, access along existing roadways would continue. Some inconvenience (i.e., delays, etc.) may occur particularly at locations where the proposed LAX Expressway would cross or connect to Florence Avenue, La Cienega Boulevard, La Tijera Boulevard, Bristol Parkway, and the I-405/SR-90 (Marina Freeway) interchange. Construction schedules will be posted on-site, advertised in advance of each construction segment, and conveyed to community, public, and emergency services to avoid conflicts during project-related construction.

The State Route 1 improvements are likewise located at the southern periphery of the Westchester community. State Route 1 at Sepulveda and Lincoln boulevards, essentially serves as the gateway to the Westchester community for northbound travelers on Sepulveda Boulevard and LAX for the Sepulveda Boulevard southbound travelers. The State Route 1 improvements will improve traffic flow through this gateway area. The land use mix along Sepulveda Boulevard begins to shift from predominantly airport-related to neighborhood and community serving uses north of Lincoln Boulevard. The proposed improvements would emphasize this gateway by introducing grade-separated roadway interchanges at Westchester Parkway/Lincoln Boulevard and Westchester Parkway/Sepulveda Boulevard.

Combined, the proposed LAX Expressway and State Route 1 Improvements project would shift airport-related traffic off of local streets and onto major roadways slated for improvements in conjunction with the LAX Master Plan build alternatives. Refer to the Draft LAX EIS/EIR, Section 4.4, for additional information on social impacts associated with LAX Master Plan off-airport road improvements.

If a combination of the build alternatives for the LAX Expressway and State Route 1 improvements (Alternatives 2 and 3 for each project) were selected, construction of the State Route 1 improvements are planned to occur over a two-year period ending prior to 2005. Construction of the LAX Expressway is targeted for the period 2007 through 2013. These projects and related airport improvements would involve an estimated workforce of 4,520 within the construction sector of the regional economy.[23] This sector is expected to add 76,000 construction-related jobs to the regional economy by 2010.[24] Due to the short-term nature of construction employment associated with the build alternatives for the LAX Expressway and State Route 1 improvements, measurable contributions toward growth and the demand for housing are not expected to occur. The "no action" alternatives for both roadway projects would have no effect on the regional economy.

5.3.1 LAX Expressway

For purposes of this analysis, the affected area for Alternative 1-No Action includes the eight census tracts corresponding to the affected area for LAX Expressway Alternative 3. Alternative 2-Split Viaduct would affect the populations within eight census tracts and Alternative 3-Single Viaduct would affect ten tracts. Because the proposed terminus of the LAX Expressway at Arbor Vitae Street are the same for both build alternatives, the impacts on the populations residing within census tracts 6013.02, 6014.01, 2772, and 2774 are the same for Alternatives 2 and 3.

To minimize impacts on the communities located in the vicinity of the proposed LAX Expressway, the alignments for Alternatives 2 and 3 are proposed within the existing I-405 Freeway right-of-way and on land immediately adjacent to the freeway wherever possible. As such, potential impacts that may be experienced by populations within the affected census tracts are similar for Alternatives 2 and 3. Notwithstanding, the number of properties potentially affected by Alternative 2 is greater. Based on the land uses affected by Alternative 2 (i.e., 115 residential properties, 3 community facilities, etc.) and other impacts discussed in Section 5.0 of this report, Alternative 3 has been identified as the preferred alternative by LAWA staff.

5.3.1.1 Roadway Noise

As noted in Section 4.6 of this report, noise sensitive land uses (e.g., residential, schools, churches, etc.) along the proposed alignments defined for Alternatives 2 (Split Viaduct) and 3 (Single Viaduct) currently experience noise levels that approach, equal or exceed the applicable noise abatement criteria. Accordingly, noise abatement options were evaluated to determine feasibility and reasonableness. Noise barriers ranging in height from 3.7 meters (12 feet) to 4.3 meters (14 feet) are proposed for all three alternatives, as described in Section 5.6 of this report.

Noise barrier No. 1 (Table 5.3-1) is proposed along two tracts potentially occupied by minority and low-income populations. Noise barriers No. 2 and 3 also would be located along neighborhoods potentially occupied by minority and/or low-income residents. The noise barriers would reduce roadway noise to levels consistent with the Federal Highway Administration noise abatement criteria. No noise impacts are anticipated with implementation of noise abatement measures.

[23] Supplemental Report 2b, Draft Draft LAX EIS/EIR (2000).
[24] Supplemental Report 3b, Draft Draft LAX EIS/EIR (2000).

5.3.1.2 Air Quality

In general, Alternative 1-No Action is not expected to cause substantial local carbon monoxide impacts. Regional emissions are anticipated to decrease in future years due to implementation of the California State Implementation Plan transportation control measures. These projected air quality environmental conditions would be equally distributed among the populations within the project area.

With implementation of the mitigation measures noted in Section 5.5 of this report[25], substantial construction impacts on air quality are expected to occur if the Alternative 2-Split Viaduct option is selected. This alternative would impact the population of all eight identified tracts estimated at 36,453 persons, particularly those residents residing closest to the construction areas.

Table 5.3-1

Proposed Noise Barriers for LAX Expressway Alternatives

Approximate Location, Length and Height[1]

No.	Location (from north to south)	Length / Height	Affected Properties
1	Along the east side of I-405 (northbound lanes) from La Cienega Boulevard to La Tijera Boulevard.	800.0 meters (2,624.0 feet) / 4.3 meters (14.0 feet)	32 residential properties
2	Along the west side of I-405 (southbound lanes) from Florence Avenue to L Tijera Boulevard.	1,170.0 meters (3,838.0 feet) / 4.3 meters (14.0 feet)	45 residential properties
3	Along east side of I-405 (northbound lanes) from Arbor Vitae Street to Olive Street.	1,800.0 meters (5,904.0 feet) / 3.7 (12.0 feet)	27 residential properties
Source: URS Corporation [1] The number of affected properties and the approximate location, length, and height of proposed noise barriers are tentative and subject to refinement.			

Similar to LAX Expressway Alternative 2, selection and construction of Alternative 3 would result in substantial construction impacts on air quality. This conclusion assumes the mitigation measures noted in Section 5.5 of this report are implemented. Alternative 3 would effect the population of all ten census tracts estimated at 49,905 persons, particularly those residents residing closest to the construction areas. Substantial construction-related air quality impacts are anticipated with selection of Alternatives 2 and 3. No air quality impacts are anticipated that would disproportionately affect non-minority and low income populations.

5.3.1.3 Health Risk

Toxic air pollutants and associated risks to human health is a growing area of concern within the Los Angeles region. Human health risks, such as cancer and non-cancer health hazards such as respiratory irritation and other lung disorders are among the specific concerns. A recent study by the South Coast Air Quality Management District suggests the central and east central portions of the Los Angeles County have the greatest estimated health risk from toxic air pollutants. The greatest contributors to risk include

[25] Mitigation measures include (1) use of low-NO_x construction equipment, (2) use of reformulated diesel fuel, (3) minimize concurrent use of equipment through equipment phasing, (4) water surface before grading, and (5) water exposed surface at least twice daily to maintain surface crust.

on-road mobile sources (70 percent) followed by other mobile sources including ships, aircraft, and off-road construction vehicles.[26]

The proposed LAX Expressway would enhance the area-wide surface transportation network by distributing non-airport and airport related traffic more efficiently. Exposure of resident populations within the affected area to toxic air pollutants associated with on-road mobile sources would incrementally increase as traffic on major transportation corridors such as the I-405 increases.

5.3.1.4 Hazardous Waste Sites

The LAX Expressway alignments are generally located within the existing right-of-way for the I-405 freeway and along adjoining properties, including residential, commercial, and industrial land uses. Construction of the LAX Expressway could result in grading and excavation of soils that have been contaminated by hazardous materials releases from nearby underground storage tanks (UST). Two known contamination sites are located adjacent to the alignments for LAX Expressway Alternatives 2 (Split Viaduct) and 3 (Single Viaduct). A site with planned or on-going remediation is located at the northwest corner of Manchester and La Cienega boulevards. A site with soil and/or groundwater contamination is located at the southwest corner of Olive Street and La Cienega Boulevard. Based on the information presented in subsection 4.16.2, no adverse impacts associated with hazardous materials usage and hazardous waste generation are anticipated with implementation of the LAX Expressway alternatives.

The proposed LAX Expressway will provide direct ground access to the airport, including transport of goods and materials. An estimated 99 percent of the hazardous materials stored at LAX are fuels, including jet fuel, diesel, gasoline, and liquid propane. Most of the jet fuel is delivered to the airport through underground pipelines.[27] Other hazardous materials and hazardous wastes used and stored on the airport property are transported to and from LAX by truck. The LAX Expressway build alternatives would add travel lanes for truck transport of goods, including hazardous materials and waste. The LAX Expressway travel lanes would be located adjacent to minority and/or low income residential neighborhoods. The Hazardous Material Transportation Act of 1994 administered by the U.S. Department of Transportation, and other federal and state laws regulate transport of hazardous materials and hazardous wastes. Under Alternative 1-No Action, transport of hazardous materials and hazardous waste would utilize the existing I-405 freeway and designated truck routes. Adherence to federal and state regulatory requirements for transporting hazardous materials and hazardous wastes would reduce potential impacts associated with continued use of existing transportation facilities (Alternative 1-No Action) and future use of an LAX Expressway, as proposed under Alternatives 2 and 3. No impacts associated with identified hazardous waste sites are anticipated which would disproportionately affect minority and low-income populations.

5.3.1.5 Relocation of Residents and Businesses

The potentially affected area for Alternative 2-Split Viaduct includes 115 residential properties, 23 business properties, 7 public facilities (i.e., Los Angeles County Flood Control District,), and 3 community facility (i.e., church, cemetery, and Centinela Adobe). Of the estimated 115 residential properties potentially affected, 38 properties are within the area covered by the Relocation Plan for the Manchester Square and Airport/Belford areas, under the Airport Noise Mitigation Program.

The potentially affected area for Alternative 3-Single Viaduct includes 47 residential properties, 34 business properties, 14 public facility properties (i.e., flood control), 2 community facilities (i.e., school,

[26] Draft LAX EIS/EIR (2000), Section 4.4.3.
[27] Draft LAX EIS/EIR (2000), Section 4.23.3.

cemetery), and 2 other properties for which land use has not been verified. Thirty-eight of the 47 residential properties are within the area covered by the Relocation Plan for the Manchester Square and Airport/Belford, under the Airport Noise Mitigation Program.

Under alternatives 2 and 3, potentially affected properties are located along the existing I-405 freeway, a physical element of the built environment that bounds and separates the urban landscape. Community cohesiveness may be present in the mix of land uses and activities that occur on the east and west sides of the I-405 freeway corridor, and between these areas. Roadway improvements within the freeway transportation corridor would add vertical and horizontal structural elements to the existing I-405 freeway and areas immediately adjacent to the freeway. Access to and between neighborhoods, community services and facilities, and employment areas would be maintained and indirectly enhanced by the LAX Expressway through overall improved local circulation. Alternative 2 would impact three community facilities. The church and cemetery sites are located west of the I-405 Freeway and south of Howard Hughes Parkway. The church provides for the spiritual and social needs of its members and both the church and the cemetery serve the individuals and families of the community. Impacts to the church site and the adjacent cemetery are not expected to be substantial based on the conceptual alignment, right-of-way needs at that location, and the size of each parcel. Church and cemetery operations are not expected to be affected by this alternative. The Centinela Adobe would be substantially impacted by the conceptual alignment, requiring relocation of the adobe building. This impact is discussed in Section 5.15.

The minority and/or low-income status of the individual occupants of the residential properties has not been ascertained, nor is data available regarding the number of minority-owned businesses and minority employees for the potentially affected properties.

5.3.1.6 Visual

Alternative 2-Split Viaduct introduces a four-lane highway utilizing the east and west sides of the I-405 freeway for approximately 0.75 miles. Two elevated structures each with two vehicular lanes would be constructed. These structural elements and proposed ramps connecting Arbor Vitae Street, La Cienega Boulevard, Howard Hughes Parkway, and I-405 high occupancy vehicle (HOV) lanes to the LAX Expressway would contrast with the existing urban environs. The visual experience of specific viewer groups such as park users, residents, church goers, and school students would potentially be affected depending on the extent to which existing right-of-way is to be used and the extent to which existing landscaping is to remain in place.

Under Alternative 3-Single Viaduct, the LAX Expressway would be located on the east side, possibly requiring an area greater than that provided for under the existing right-of-way associated with the I-405. Impacts may include removal of existing landscaping which would expose viewer groups to the new structure. Removal of existing landscaping and introduction of an elevated viaduct would ultimately change the visual setting and degrade the visual quality of the project area. Disproportionate affects to minority and low-income populations are anticipated for both Alternatives 2 and 3.

5.3.2 State Route 1

For all three alternatives, the affected area is comprised of one census tract which, based on the 1990 Census, has an estimated population of 2,460 persons. The airport, commercial, light industry, and other non-residential uses are located within tract 2780.

5.3.2.1 Roadway Noise

Existing and future unabated noise levels associated with the State Route 1 improvements are predicted to range between 56 and 65 dBA L_{eq} and will not approach or exceed the noise abatement criteria for the respective activity categories (i.e., residential, etc.). Refer to section 5.4 of this report for additional information.

5.3.2.2 Air Quality

No substantial air emissions are expected to occur with selection of Alternative 1-No Action. Build alternatives 2 and 3 would result in air emissions associated with construction. Regional emissions are anticipated to decrease in future years due to implementation of the California State Implementation Plan transportation control measures. These projected air quality environmental conditions would be equally distributed among the populations within the project area.

Mitigation measures that would minimize construction air emissions are proposed in Section 5.3 of this report. Notwithstanding, construction-related air quality impacts are expected to occur if one of the build alternatives is implemented. Residents and users of properties closest to the construction areas (i.e., golf course) would be affected by construction air emissions.

5.3.2.3 Health Risk

The description of potential health risks provided under subsection 5.2.1.3 is applicable to the State Route 1 improvements alternatives. Alternative 1-No Action assumes the LAX Master Plan No-Action/No Project alternative would be selected. Under this scenario, passenger and cargo activities at the projected levels for the 1981 LAX Master Plan would occur and the State Route 1 improvements would not be undertaken.

Exposure of populations within the affected area to toxic air pollutants associated with on-road mobile sources would change slightly as a result of the proposed build alternatives 2 and 3. The anticipated change is largely associated with the expected efficiencies in the traffic movement through the proposed interchange at Westchester Parkway and Sepulveda Boulevard.

5.3.2.4 Hazardous Wastes Sites

One known soil and/or groundwater contamination site is located within the project area for the State Route 1 improvements. The site is generally located near the north end of the proposed tunneling of Sepulveda Boulevard. Leaking USTs were identified along the 9200 and 9800 blocks of Sepulveda Boulevard. These properties are proposed for acquisition in conjunction with the LAX Master Plan.[28] No impacts to the community are anticipated.

5.3.2.5 Relocation of Residences or Businesses

The potentially affected properties for alternatives 2 and 3 include 8 residential properties, 37 business properties, and 1 public facility (i.e., former library site). As noted under subsection 5.2.1.5, the minority and/or low-income status of the individual occupants of the residential properties has not been ascertained, nor is data available regarding the number of minority-owned businesses and minority employees for the potentially affected properties.

[28] Draft Draft LAX EIS/EIR (2000), Section 4.23.3.

5.3.2.6 Visual

The visual impacts associated with the State Route 1 improvements are essentially identical under build Alternatives 2 and 3. New views would be introduced from the proposed interchange at Westchester Parkway and Sepulveda Boulevard. From this location, views of the surrounding urban landscape to the northeast and the airport to the south would be introduced.

5.3.3 Preliminary Findings

The build alternatives for the LAX Expressway and State Route 1 Improvements project would affect residential and non-residential properties along the alignments described for each project alternative. As a whole, the potential impacts of the LAX Expressway build alternatives fall largely on tracts heavily populated by minority and/or low-income residents. The State Route 1 build alternatives would affect the low-income residents. The impacts of the build alternatives for both projects appear to disproportionately fall on minority and/or low-income populations. The transportation and relocation activities would be fully mitigated under the related LAX Master Plan build alternatives. Such mitigation would consider the special needs of minority and low-income individuals and communities. For example, in the Los Angeles area minority and low-income individuals tend to use public transportation more than White and upper-income individuals. Thus, changes in public transportation services (e.g., routes, schedules, etc.), even if temporary in nature may affect minority and low-income populations more than other groups. Relocation of low-income and/or minority households may raise similar issues if available housing is not readily accessible by public transportation. Development of a Business Relocation Plan to meet the unique needs of project-affected, minority-owned businesses or businesses with a high proportion of minority employees or minority/low-income customers may also encounter special challenges to be considered.

In view of these preliminary findings and those contained in the Draft LAX EIS/EIR, Los Angeles World Airports proposes to initiate preparation of an Environmental Justice Program. For additional information concerning the Environmental Justice Program, refer to Draft LAX EIS/EIR subsection 4.4.3.7.

5.3.4 Mitigation Measures

Actions proposed to mitigate potential impacts such as air quality, noise, and visual are described in Sections 5.5, 5.6, and 5.17 of this report and listed for ease of reference in Section 6.0, Inventory of Mitigation Measures.

5.4 PEDESTRIAN AND BICYCLE FACILITIES

The proposed State Route 1 improvements would relocate that portion of Lincoln Boulevard/State Route 1 identified for realignment onto Westchester Parkway. According to design plans for the State Route 1 improvements, the replacement of such facilities is not included. Removal of this pedestrian facility without replacement would constitute a change and subsequent impact. According to the Draft LAX EIS/EIR, the proposed Westchester Southside Project proposes new pedestrian paths along the greenbelts within 36.8 hectares (91 acres) of proposed open space. In addition, the State Route 1 improvements would provide for an ADA compliant pedestrian walkway within the proposed Sepulveda Boulevard tunnel under the north airfield. The redevelopment and reconstruction of new pedestrian facilities is assumed to provide the same link between the west and east side of the project area. Due to proposed plans for such facilities, no adverse impacts are identified.

Construction of the State Route 1 improvements is expected to have a short term use impact on a portion of the Class II designated bike route along Westchester Parkway between the junction of Westchester

Parkway and Lincoln Boulevard and Sepulveda Boulevard. As with the removal of the pedestrian sidewalks from Westchester Parkway to accommodate the relocation portions of State Route 1, the signed bikeway along Westchester Parkway would also be removed resulting in a short-term impact. Similarly, the approved Westchester Southside project involves the development of bike paths along greenbelts within 36.8 hectares (91.0 acres) of planned open space and is expected to provide the same Class II bike path function as does the existing bicycle facility. Adherence to the Revised Bicycle Plan Citywide Bikeway System Policy 1.1.4 would ensure comparable replacement development of sidewalks and the Class II bike path identified for removal along Westchester Parkway. The LAX Master Plan has adopted a Land Use Policy (LU3) that supports the City of Los Angeles Transportation Element Bicycle Plan. As stated in the Draft LAX EIS/EIR in Section 4.2.5:

> "LAWA will support bicycle policies and plans, most notably those outlined in the City of Los Angeles Transportation Element Bicycle Plan and the General Plan Framework that delineate and promote bikeways in the vicinity of LAX. As a primary objective, LAWA will provide maximum feasible incorporation of bike paths and bike lanes into proposed LAX Master Plan circulation systems with a fundamental priority for ensuring safe and efficient bicycle and vehicular circulation. This will include, among other improvements, a bike path along Imperial Highway. In addition, bicycle access and parking facilities shall be provided at transit centers, including the West Terminal MetroRail Station, major parking lots, and Bus Transit Centers. Bicycle facilities such as lockers and showers shall also be provided where feasible to promote employee bicycle use. Bike paths and lanes shall be incorporated into Master Plan circulation improvements at the earliest possible stage of plan preparation" (Draft LAX EIS/EIR 2000).

Ultimately, no impacts to pedestrian or bicycle facilities within the LAX Expressway project study area are identified based on the city's commitment to maintaining the various bicycle lanes in the area.

5.5 AIR QUALITY

The CAA sets out the conformity rule in Section 176(c)(1) that applies to all general federal actions. In addition to this general conformity rule, Sections 176(c)(2) and 176(c)(3) of the CAA add more specific requirements regarding when a transportation action will be found to conform to a State Implementation Plan. The LAX Expressway and State Route 1 improvements are included in the 1998 Regional Transportation Plan, which has been evaluated for air quality transportation conformity by FHWA. The Expressway and State Route 1 Improvements project will be considered for inclusion with the Regional Transportation Improvement Program following completion of the PSR for each project. Accordingly, conformance with the State Implementation Plan is pending completion of the PSR for each project.

5.5.1 Evaluation Criteria

5.5.1.1 Construction Impacts

The evaluation criteria developed by the South Coast Air Quality Management District (SCAQMD 1993) for construction activities were used to evaluate construction air quality impacts. The daily criteria are 75, 100, 550, 150, and 150 pounds per day for ROC, NO_x, CO, PM_{10}, and SO_x, respectively. The quarterly criteria are 2.5, 2.5, 24.75, 6.75, and 6.75 tons per quarter for ROC, NO_x, CO, PM_{10}, and SO_x, respectively.

5.5.1.2 Operational Impacts

The National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for CO were used to evaluate local CO impacts. The 1-hour and 8-hour NAAQS for CO are 35 and 9 parts per million (ppm), respectively. The 1-hour and 8-hour CAAQS for CO are 20 and 9.0 ppm, respectively.

5.5.2 Environmental Consequences

This section describes air quality impacts of all the proposed alternatives for the LAX Expressway and State Route 1 improvements, respectively. Table 5.5-1 presents estimated construction impacts for project alternatives. Table 5.5-2 summarizes the regional emissions estimated in the State Implementation Plan (SIP), as required by the FHWA guidance (FHWA, 1987). Table 5.5-3 summarizes the predicted local CO concentrations for the selected intersections, which have been included previously in the Draft LAX EIS/EIR. The results of the project-level CO impact analysis conducted for the subject intersections are provided in Tables 5.5-4, 5.5-5, and 5.5-6 for Alternatives 1, 2, and 3, respectively.

If a build alternative becomes the preferred alternative, the proposed project will be listed in a Regional Transportation Plan (RTP) and Regional Traffic Improvement Program (RTIP) for which FHWA and FTA have issued a conformity determination. The design concept and scope of the selected alternative must be the same as the proposed project described in the RTP and RTIP to demonstrate conformity with the State Implementation Plan.

Table 5.5-1
Summary of Estimated Construction Emissions for All Alternatives

Pollutant	State Route 1		LAX Expressway		Significance Thresholds (lb/day)
	Alternative 2	Alternative 3	Alternative 2	Alternative 3	
Emissions before Mitigation					
Pounds per Day					
ROC	69.38	69.38	84.83	62.17	75
NOx	526.67	526.67	530.47	524.73	100
CO	13.03	13.03	20.24	9.35	550
PM10	265.35	265.35	383.58	204.98	150
SO_x	54.83	54.83	54.83	54.83	150
Tons per Quarter					
ROC	2.25	2.25	2.76	2.02	2.5
NOx	17.12	17.12	17.24	17.05	2.5
CO	0.42	0.42	0.66	0.30	24.75
PM10	8.62	8.62	12.47	6.66	6.75
SO_x	1.78	1.78	1.78	1.78	6.75
Emissions after Mitigation					
Pounds per Day					
ROC	67.69	67.69	82.69	60.03	75
NOx	500.68	500.68	504.48	498.74	100
CO	13.03	13.03	20.24	9.35	550
PM10	187.33	187.33	295.20	162.75	150
SO_x	54.83	54.83	54.83	54.83	150
Tons per Quarter					
ROC	2.20	2.20	2.69	1.95	2.5
NOx	16.27	16.27	16.40	16.21	2.5
CO	0.42	0.42	0.66	0.30	24.75
PM10	6.09	6.09	9.59	5.29	6.75
SO_x	1.78	1.78	1.78	1.78	6.75

Table 5.5-2
Projected Regional Air Quality Emissions
South Coast Air Basin

Pollutant	Emissions by Year (tons/day)		
	2000	2006	2010
Total NOx Emissions	882	738	697
NOx Emissions from Mobile On-Road Sources	521	403	365
Total VOC Emissions	891	801	770
VOC Emissions from Mobile On-Road Sources	350	222	165
Total CO Emissions	4405	3657	3341
CO Emissions from Mobile On-Road Sources	2963	2103	1810
Total SOx Emissions	66	66	70
SOx Emissions from Mobile On-Road Sources	14	16	17
Total PM10 Emissions	441	454	463
PM10 Emissions from Mobile On-Road Sources	16	14	14

Table 5.5-3
Local CO Concentrations (ppm) Predicted in the Draft LAX EIS/EIR
For LAX Expressway Project

Intersection	Alternative A		Alternative B		Alternative C		No Action/No Project	
	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr
Airport Blvd./Century Blvd.	4.3	3.5	4.3	3.5	4.3	3.6	4.4	3.5
Aviation Blvd./Century Blvd.	4.4	3.6	4.4	3.5	4.6	3.7	4.5	3.5
La Cienega Blvd./Arbor Vitea St.	4.6	3.5	4.4	3.5	4.6	3.5	4.5	3.6
La Cienega Blvd./Century Blvd.	4.4	3.5	4.4	3.5	4.5	3.5	4.4	3.6
La Cienega Blvd.//I-405 Ramps N/O Century	4.3	3.5	4.3	3.5	4.2	3.5	4.4	3.5
La Cienega Blvd./Florence Ave.	4.3	3.5	4.3	3.5	4.3	3.6	4.3	3.5
La Cienega Blvd./Manchester Ave.	4.5	3.5	4.5	3.5	4.6	3.5	4.3	3.5
Lincoln Blvd./Manchester Ave.	4.7	3.6	4.6	3.5	4.7	3.6	4.6	3.7
Lincoln Blvd./83rd St.	4.3	3.5	4.3	3.5	4.3	3.5	4.7	3.6
Lincoln Blvd./La Tijera Blvd.	4.5	3.7	4.5	3.6	4.5	3.7	4.7	3.7
Sepulveda Blvd./Imperial Hwy.	4.6	3.6	4.5	3.5	4.5	3.6	4.4	3.5
Sepulveda Blvd./I-405 Ramps	4.1	3.4	4.1	3.3	4.2	3.4	4.2	3.5
Sepulveda Blvd./Manchester Ave.	4.2	3.4	4.2	3.4	4.2	3.5	4.3	3.5
Sepulveda Blvd./La Tijera Blvd.	4.4	3.6	4.5	3.6	4.4	3.6	4.3	3.5
Sepulveda Blvd./Mariposa Ave.	4.4	3.6	4.4	3.5	4.5	3.6	4.3	3.4
Sepulveda Blvd./Rosecrans Ave.	4.7	3.7	4.5	3.7	4.7	3.6	4.2	3.4
Vista Del Mar/Imperial Hwy.	4.2	3.4	4.2	3.4	4.2	3.4	5.1	3.6

Source: Draft LAX EIS/EIR (FAA, 2000)

Table 5.5-4
Estimated Maximum CO Concentrations, Alternative 1 (2015)
State Route 1 Improvements Project

Receptors1	Maximum Model-Predicted Concentrations (ppm)		Background Concentrations (ppm)		Maximum Total Concentrations (ppm)	
	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour
r1	2.5	2.29	4.2	3.4	6.7	5.69
r2	2.1	1.95	4.2	3.4	6.3	5.35
r3	2.3	2.11	4.2	3.4	6.5	5.51
r4	1.5	1.13	4.2	3.4	5.7	4.53
r5	3.8	3.01	4.2	3.4	8.0	6.41
r6	2.7	2.37	4.2	3.4	6.9	5.77
r7	2.2	1.91	4.2	3.4	6.4	5.31
r8	2.0	1.45	4.2	3.4	6.2	4.85
r9	1.6	1.17	4.2	3.4	5.8	4.57
r10	1.4	1.00	4.2	3.4	5.6	4.40
r11	1.4	0.98	4.2	3.4	5.6	4.38
r12	1.0	0.72	4.2	3.4	5.2	4.12
r13	0.9	0.75	4.2	3.4	5.1	4.15
r14	0.8	0.69	4.2	3.4	5.0	4.09
r15	1.6	1.10	4.2	3.4	5.8	4.50
r16	1.4	1.07	4.2	3.4	5.6	4.47
r17	1.4	1.07	4.2	3.4	5.6	4.47
r18	2.2	1.67	4.2	3.4	6.4	5.07
r19	2.0	1.32	4.2	3.4	6.2	4.72
r20	1.6	0.93	4.2	3.4	5.8	4.33
r21	1.5	1.02	4.2	3.4	5.7	4.42
r22	2.0	1.42	4.2	3.4	6.2	4.82
r23	1.3	0.90	4.2	3.4	5.5	4.30
r24	0.9	0.57	4.2	3.4	5.1	3.97
r25	0.8	0.53	4.2	3.4	5.0	3.93
r26	1.1	0.70	4.2	3.4	5.3	4.10
r27	1.3	0.88	4.2	3.4	5.5	4.28
r28	1.5	1.12	4.2	3.4	5.7	4.52
CAAQS (ppm)	-	-	-	-	20	9.0
NAAQS (ppm)	-	-	-	-	35	9

Table 5.5-5
Estimated Maximum CO Concentrations, Alternative 2 (2015)
State Route 1 Improvements Project

Receptors1	Maximum Model-Predicted Concentrations (ppm)		Background Concentrations (ppm)		Maximum Total Concentrations (ppm)	
	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour
r1	0.8	0.45	4.2	3.4	5.0	3.85
r2	0.6	0.40	4.2	3.4	4.8	3.80
r3	0.6	0.38	4.2	3.4	4.8	3.78
r4	0.4	0.37	4.2	3.4	4.6	3.77
r5	1.1	0.63	4.2	3.4	5.3	4.03
r6	0.9	0.62	4.2	3.4	5.1	4.02
r7	1.0	0.67	4.2	3.4	5.2	4.07
r8	1.3	0.80	4.2	3.4	5.5	4.20
r9	1.6	1.15	4.2	3.4	5.8	4.55
r10	1.5	1.10	4.2	3.4	5.7	4.50
r11	1.6	1.25	4.2	3.4	5.8	4.65
r12	1.3	0.96	4.2	3.4	5.5	4.36
r13	1.2	0.90	4.2	3.4	5.4	4.30
r14	0.9	0.60	4.2	3.4	5.1	4.00
r15	1.0	0.76	4.2	3.4	5.2	4.16
r16	1.2	0.95	4.2	3.4	5.4	4.35
r17	1.6	1.30	4.2	3.4	5.8	4.70
r18	2.5	1.97	4.2	3.4	6.7	5.37
r19	2.3	1.97	4.2	3.4	6.5	5.37
r20	2.3	2.11	4.2	3.4	6.5	5.51
r21	2.7	2.27	4.2	3.4	6.9	5.67
r22	2.4	2.23	4.2	3.4	6.6	5.63
r23	1.3	1.15	4.2	3.4	5.5	4.55
r24	0.9	0.72	4.2	3.4	5.1	4.12
r25	0.8	0.63	4.2	3.4	5.0	4.03
r26	0.9	0.74	4.2	3.4	5.1	4.14
r27	1.2	0.93	4.2	3.4	5.4	4.33
r28	1.3	1.05	4.2	3.4	5.5	4.45
CAAQS (ppm)	-	-	-	-	20	9.0
NAAQS (ppm)	-	-	-	-	35	9

Table 5.5-6
Estimated Maximum CO Concentrations, Alternative 3 (2015)
State Route 1 Improvements Project

Receptors1	Maximum Model-Predicted Concentrations (ppm)		Background Concentrations (ppm)		Maximum Total Concentrations (ppm)	
	1-hour	8-hour	1-hour	8-hour	1-hour	8-hour
r1	0.5	0.42	4.2	3.4	4.7	3.82
r2	0.3	0.25	4.2	3.4	4.5	3.65
r3	0.3	0.22	4.2	3.4	4.5	3.62
r4	0.4	0.27	4.2	3.4	4.6	3.67
r5	0.8	0.57	4.2	3.4	5.0	3.97
r6	0.6	0.52	4.2	3.4	4.8	3.92
r7	0.7	0.53	4.2	3.4	4.9	3.93
r8	0.7	0.53	4.2	3.4	4.9	3.93
r9	0.7	0.50	4.2	3.4	4.9	3.90
r10	0.9	0.60	4.2	3.4	5.1	4.00
r11	1.0	0.68	4.2	3.4	5.2	4.08
r12	1.0	0.67	4.2	3.4	5.2	4.07
r13	0.9	0.67	4.2	3.4	5.1	4.07
r14	0.9	0.55	4.2	3.4	5.1	3.95
r15	0.7	0.56	4.2	3.4	4.9	3.96
r16	0.9	0.65	4.2	3.4	5.1	4.05
r17	1.3	1.00	4.2	3.4	5.5	4.40
r18	2.3	1.90	4.2	3.4	6.5	5.30
r19	2.2	1.97	4.2	3.4	6.4	5.37
r20	2.3	2.11	4.2	3.4	6.5	5.51
r21	2.4	2.15	4.2	3.4	6.6	5.55
r22	2.4	2.23	4.2	3.4	6.6	5.63
r23	1.3	1.13	4.2	3.4	5.5	4.53
r24	0.7	0.63	4.2	3.4	4.9	4.03
r25	0.8	0.61	4.2	3.4	5.0	4.01
r26	0.8	0.54	4.2	3.4	5.0	3.94
r27	0.8	0.53	4.2	3.4	5.0	3.93
r28	0.9	0.55	4.2	3.4	5.1	3.95
CAAQS (ppm)	-	-	-	-	20	9.0
NAAQS (ppm)	-	-	-	-	35	9

5.5.3 LAX Expressway

5.5.3.1 Alternative 1 – No Action

Under this alternative, no roadway improvement would occur; therefore the proposed alternative would not cause construction impacts. Concerning regional air quality impacts air pollutant emissions, including mobile source (on-road) emissions, estimated by the SCAQMD are presented in Table 5.5-2. The regional emissions are anticipated to decrease in future years due to implementation of the SIP transportation control measures (TCMs).

Project-level CO Impacts. As presented in Table 5.5-3, the local CO modeling analyses conducted in the Draft LAX EIS/EIR indicate that maximum 1-hour and 8-hour CO concentrations in the vicinity of the LAX Expressway project site would not exceed the NAAQS or CAAQS under No Action/No Project Alternative. Therefore, Alternative 1 would not cause substantial local CO impacts.

5.5.3.2 Alternative 2 - Split Viaduct

Alternative 2 would provide a direct connection between I-405 and the ring road via an LAX Expressway. The total area in which earthmoving would take place was estimated to be approximately 53.4 hectares (132 acres). As shown in Table 5.5-1, the estimated resulting emissions for ROC, NO_x, and PM_{10} would exceed the corresponding significance thresholds for these pollutants. Therefore, the proposed alternative would cause substantial construction impacts on air quality, and mitigation measures are required.

Regional Air Quality Impacts. The regional air pollutant emissions, including mobile source (on-road) emissions, estimated by the SCAQMD are presented in Table 5.5-2. The regional emissions are anticipated to decrease in future years due to implementation of the SIP transportation control measures (TCMs).

Project-level CO Impacts. As presented in Table 5.5-3, the local CO modeling analyses conducted in the Draft LAX EIS/EIR indicate that maximum 1-hour and 8-hour CO concentrations in the vicinity of the project site would not exceed the NAAQS or CAAQS for all alternatives under the LAX Master Plan. Therefore, the proposed alternative would not cause substantial local CO impacts.

5.5.3.3 Alternative 3 – Single Viaduct

Alternative 3 would involve constructing a single four-lane viaduct. The total area in which earthmoving would take place was estimated to be approximately 24.7 hectares (61 acres). As shown in Table 5.5-1, the estimated resulting emissions for NO_x and PM_{10} would exceed the corresponding significance thresholds. Therefore, the proposed alternative would cause substantial construction impacts on air quality, and mitigation measures are required.

The regional air pollutant emissions, including mobile source (on-road) emissions estimated by the SCAQMD are presented in Table 5.5-2. The regional emissions are anticipated to decrease in future years, due to implementation of the SIP transportation control measures (TCMs).

Project-level CO Impacts. As presented in Table 5.5-3, the local CO modeling analyses conducted in the Draft LAX EIS/EIR indicate that 1-hour and 8-hour CO concentrations in the vicinity of the project site would not exceed the NAAQS or CAAQS for all alternatives under the LAX Master Plan. Therefore, the proposed alternative would not cause substantial local CO impacts.

5.5.4 State Route 1

5.5.4.1 Alternative 1 – No Action

Construction. Some construction activities are anticipated to occur to improve runway utility and safety. This alternative would generate some minor emissions of air pollutants; however, it would not cause substantial impacts.

Operations Regional Air Quality Impacts. Air pollutant emissions associated with a roadway project would mainly be generated from vehicles. No overall increase in vehicular trips would be associated with this alternative; therefore, no regional air quality impacts would occur under Alternative 1.

Project-level CO Impacts. As shown in Table 5.5-4, the maximum total CO concentrations, including background concentrations, were predicted to be below the NAAQS and CAAQS for CO under Alternative 1. Relocation of Runway 24R may result in changes of traffic volumes at nearby intersections. However, these changes would not cause substantial impacts on ambient CO concentrations at these intersections.

5.5.4.2 Alternatives 2 (Diamond Interchange) and 3 (Urban Interchange)

Construction. In Alternatives 2 and 3, two new interchanges along State Route 1 would be constructed. The total area that would be disturbed by earthmoving would be approximately 34.4 hectares (85 acres). As shown in Table 5.5-1, the estimated construction emissions for NO_x and PM_{10} would exceed the corresponding significance thresholds for these pollutants. Therefore, the proposed alternative would cause substantial construction impacts on air quality, and mitigation measures are required.

Operations Regional Air Quality Impacts. As described in the FHWA guidance, O_3, NO_x and hydrocarbon (HC) air quality concerns associated with mobile sources are regional in nature and, as such, meaningful evaluation on a project-by-project basis is not possible (FHWA 1987). According to the approach suggested by the FHWA, the air quality emission inventories developed in the "1997 Air Quality Management Plan" (AQMP) were summarized in Table 5.5-2. The 1997 AQMP is part of the California SIP developed by the SCAQMD. The AQMP emission inventories include emissions of NO_x, VOC, CO, SO_x, and PM_{10}. This project is in a federal air quality nonattainment area for CO, PM_{10}, and O_3 that has transportation control measures (TCMs) in the SIP. The regional air quality emission inventories in the SIP also include emissions associated with the projected mobile sources in the SCAB nonattainment area. As shown in Table 5.5-2, the air pollutant emissions, including mobile source (on-road) emissions, are anticipated to decrease in future years, due to implementation of the SIP transportation control measures (TCMs).

Project-level CO Impacts As presented in Table 5.5-5, the CO modeling analysis conducted for the project site indicates that maximum 1-hour and 8-hour CO concentrations would not exceed the NAAQS or CAAQS under Alternatives 2 and 3. Therefore, the proposed Alternatives 2 and 3 would not cause substantial local CO impacts.

5.5.5 Cumulative Impacts

NEPA requires that a proposed project be examined within the context of the existing setting and that the examination take into account new and planned, similar and nearby projects. As identified in the Draft LAX EIS/EIR (2000), operational emissions associated with the LAX Master Plan alternatives would occur in conjunction with emissions from other past, present, and probable future development projects in the vicinity. Construction emissions associated with the LAX Master Plan would also occur within a similar time frame with emissions from other construction activities associated with planned and nearby projects. The cumulative air quality impacts associated with the LAX Master Plan, in conjunction with other projects would be substantial. The proposed project is part of the LAX Master Plan; therefore, the cumulative impacts associated with the proposed project would be considerable.

5.5.6 Mitigation Measures

Mitigation measures are required if project construction and/or operations would cause adverse air quality impacts. The following mitigation measures would be used to reduce air quality impacts during construction of the proposed project:

1. Use low- NO_x construction equipment
2. Use reformulated diesel fuel.
3. Minimize concurrent use of equipment through equipment phasing.
4. Water surface before grading.
5. Water exposed surface at least twice daily to maintain surface crust.

Air pollutant emissions estimated after implementation of the above construction mitigation measures are also provided in Table 5.5-1. As shown in the table, the construction impacts associated with the proposed project would remain measurable after mitigation.

5.6 NOISE

FHWA requires consideration of noise abatement (e.g., construction of a noise barrier such as a masonry wall) to attenuate noise when the existing or predicted peak-noise-hour levels approach or exceed FHWA noise abatement criteria (NAC) for appropriate land use categories (refer to Table 4.6-1). In this report, noise-sensitive land use areas with noise levels that approach, equal or exceed the applicable NAC were considered and evaluated for feasible and reasonable noise abatement. The land adjacent to the LAX Expressway and the State Route 1 Improvements project includes commercial, residential, park, and school uses. Some noise-sensitive land uses (e.g., library) will not exist in their present locations if the projects were to be constructed. These locations were not evaluated further. Land use with potential for noise impact (only land near the LAX Expressway) consists primarily of private residential, schools, and a local park. Tables 5.6-1 through 5.6-3 present the evaluation, taking into consideration the land use and activities described for LAX Master Plan Alternatives A, B and C.

Table 5.6-1. Summary of Noise Levels and Abatement
Assumes LAX Master Plan Alternative A Land Use and Activities

Receiver ID No.	Type Location or Address	NAC Activity Category	Approx. # of Receptors [1]	Offset Distance to Centerline (m)	Existing (1996) Noise Levels L_{eq} Peak-Noise-Hour, dBA		Predicted Noise Levels, L_{eq} Peak-Noise-Hour dBA (2015)		Abated Noise Levels, L_{eq} Peak-Noise-Hour, dBA — Heights of Barrier (Screen Wall)						Benefited Receiver Cost
					Measured	Calculated	No Build	Build	1.8 m (6 ft)	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16 ft)	
State Route 1															
RD-22	SF Resi. near Loyola Blvd. & La Tijera Blvd.	B	5	250	--	51	53	56							0
RD-23	SF Resi. Near Kittyhawk Ave. & Fleetwing Ave.	B	4	190	65 [2]	60	62	65							0
RD-24	SF Resi. near 88'th St. & Emerson Ave.	B	23	310	61 [2]	52	54	58							0
RD-31	Westchester Rec. Center, near Lincoln Blvd. & La Tijera Blvd.	B	3	70	--	58	60	61							0
RD-32	SF Resi., near Rayford Dr. & 91 St.	B	7	110	66 [2]	56	58	59							0
I-405 LAX Expressway															
RD-25	SF Resi. near Glasgow Pl. & W. 93 St.	B	9	80	--	56	58	62							0
RD-26	SF Resi. near Hillcrest Blvd. & Ash Ave.	B	3	60	--	75	77	77	74 [3]	71 [3]	70 [3]	68 [3]	67 [3]	66 [3]	$36,852
RD-27	SF Resi. near Ash Ave. & Nectarine St.	B	5	50	--	66	66	69	69 [4]	68 [4]	68 [4]	67 [4]	66 [4]	66 [4]	$36,852

Receiver ID No.	Type Location or Address	NAC Activity Category	Approx. # of Receptors[1]	Offset Distance to Centerline (m)	Existing (1996) Noise Levels L_{eq} Peak-Noise-Hour, dBA		Predicted Noise Levels, L_{eq} Peak-Noise-Hour dBA (2015)		Abated Noise Levels, L_{eq} Peak-Noise-Hour, dBA — Heights of Barrier (Screen Wall)						Benefited Receiver Cost
					Measured	Calculated	No Build	Build	1.8 m (6 ft)	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16 ft)	
RD-28	SF Resi. near Midfield Ave. & 82 St.	B	9	80	--	61	61	64							0
RD-29	SF Resi. near Midfield Ave. & Benjamin Ave.	B	15	40	--	73	73	76	71[5]	69[5]	68[5]	67[5]	66[5]	66[5]	$16,756
RD-30	St. Jerome School & Church, on Thornburn St.	B	7	30	61	61	61	65							0
RD-33	Ashwood Park, near Ash Ave. & Kelso St.	B	6	30	75	76	77	76	71[6]	69[6]	68[6]	66[6]	65[6]	64[6]	$36,852

1 - For non-residential land uses, equivalent receptors were estimated using a rate of 1 receptor per 30.5 meters of effected frontage.
2 - Noise measurement influenced by LAX aircraft noise.
3 - Modeled with a barrier positioned at R/W and a barrier along the I-405 LAX Expressway E/S.
4 - Modeled with a barrier at the Top of Slope and a barrier along the I-405 LAX Expressway E/S.
5 - Modeled with a barrier along the Top of Slope.
6 - Modeled with a barrier at the Top of Slope and a barrier on the I-405 LAX Expressway E/S.
= abatement not required

Table 5.6-2. Summary of Noise Levels and Abatement

Assumes LAX Master Plan Alternative B Land Use and Activities

Receiver ID No.	Type Location or Address	NAC Activity Category	Approx. # of Receptors [1]	Offset Distance to Centerline (m)	Existing (1996) Noise Levels L_{eq} Peak-Noise-Hour, dBA		Predicted Noise Levels, L_{eq} Peak-Noise-Hour dBA (2015)		Abated Noise Levels, L_{eq} Peak-Noise-Hour, dBA — Heights of Barrier (Screen Wall)						Benefited Receiver Cost
					Measured	Calculated	No Build	Build	1.8 m (6 ft)	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16 ft)	
State Route 1															
RD-22	SF Resi. near Loyola Blvd. & La Tijera Blvd.	B	5	250	--	51	53	56							0
RD-23	SF Resi. Near Kittyhawk Ave. & Fleetwing Ave.	B	4	190	65 [2]	60	62	65							0
RD-24	SF Resi. near 88'th St. & Emerson Ave.	B	23	310	61 [2]	52	54	58							0
RD-31	Westchester Rec. Center, near Lincoln Blvd. & La Tijera Blvd.	B	3	70	--	58	60	61							0
RD-32	SF Resi., near Rayford Dr. & 91 St.	B	7	110	66 [2]	56	58	59							0
I-405 LAX Expressway															
RD-25	SF Resi. near Glasgow Pl. & W. 93 St.	B	9	80	--	56	58	62							0
RD-26	SF Resi. near Hillcrest Blvd. & Ash Ave.	B	3	60	--	75	77	77	74 [3]	71 [3]	70 [3]	68 [3]	67 [3]	66 [3]	$36,852
RD-27	SF Resi. near Ash Ave. & Nectarine St.	B	5	50	--	66	66	69	69 [4]	68 [4]	68 [4]	67 [4]	66 [4]	66 [4]	$36,852

Receiver ID No.	Type Location or Address	NAC Activity Category	Approx. # of Receptors [1]	Offset Distance to Centerline (m)	Existing (1996) Noise Levels L_{eq} Peak-Noise-Hour, dBA		Predicted Noise Levels, L_{eq} Peak-Noise-Hour dBA (2015)		Abated Noise Levels, L_{eq} Peak-Noise-Hour, dBA — Heights of Barrier (Screen Wall)						Benefited Receiver Cost
					Measured	Calculated	No Build	Build	1.8 m (6 ft)	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16 ft)	
RD-28	SF Resi. near Midfield Ave. & 82 St.	B	9	80	--	61	61	64							0
RD-29	SF Resi. near Midfield Ave. & Benjamin Ave.	B	15	40	--	73	73	77	72 [5]	70 [5]	69 [5]	68 [5]	67 [5]	67 [5]	$16,756
RD-30	St. Jerome School & Church, on Thornburn St.	B	7	30	61	61	61	65							0
RD-33	Ashwood Park, near Ash Ave. & Kelso St.	B	6	30	75	76	77	77	72 [6]	70 [6]	69 [6]	67 [6]	66 [6]	65 [6]	$36,852

1 - For non-residential land uses, equivalent receptors were estimated using a rate of 1 receptor per 30.5 meters of effected frontage.
2 - Noise measurement influenced by LAX aircraft noise.
3 - Modeled with a barrier positioned at R/W and a barrier along the I-405 LAX Expressway E/S.
4 - Modeled with a barrier at the Top of Slope and a barrier along the I-405 LAX Expressway E/S.
5 - Modeled with a barrier along the Top of Slope.
6 - Modeled with a barrier at the Top of Slope and a barrier on the I-405 LAX Expressway E/S.
= abatement not required

Table 5.6-3. Summary of Noise Levels and Abatement
Assumes LAX Master Plan Alternative C Land Use and Activities

Receiver ID No.	Type Location or Address	NAC Activity Category	Approx. # of Receptors [1]	Offset Distance to Centerline (m)	Existing (1996) Noise Levels L_{eq} Peak-Noise-Hour, dBA		Predicted Noise Levels, L_{eq} Peak-Noise-Hour dBA (2015)		Abated Noise Levels, L_{eq} Peak-Noise-Hour, dBA — Heights of Barrier (Screen Wall)						Benefited Receiver Cost
					Measured	Calculated	No Build	Build	1.8 m (6 ft)	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16 ft)	
State Route 1															
RD-22	SF Resi. near Loyola Blvd. & La Tijera Blvd.	B	5	250	--	51	53	56							0
RD-23	SF Resi. Near Kittyhawk Ave. & Fleetwing Ave.	B	4	190	65 [2]	60	62	65							0
RD-24	SF Resi. near 88'th St. & Emerson Ave.	B	23	310	61 [2]	52	54	58							0
RD-31	Westchester Rec. Center, near Lincoln Blvd. & La Tijera Blvd.	B	3	70	--	58	60	61							0
RD-32	SF Resi., near Rayford Dr. & 91 St.	B	7	110	66 [2]	56	58	59							0
I-405 LAX Expressway															
RD-25	SF Resi. near Glasgow Pl. & W. 93 St.	B	9	80	--	56	58	62							0
RD-26	SF Resi. near Hillcrest Blvd. & Ash Ave.	B	3	60	--	75	77	76	73 [3]	70 [3]	69 [3]	67 [3]	66 [3]	65 [3]	$36,852
RD-27	SF Resi. near Ash Ave. & Nectarine St.	B	5	50	--	66	66	69	69 [4]	68 [4]	68 [4]	67 [4]	66 [4]	66 [4]	$36,852

Receiver ID No.	Type Location or Address	NAC Activity Category	Approx. # of Receptors [1]	Offset Distance to Centerline (m)	Existing (1996) Noise Levels L_{eq} Peak-Noise-Hour, dBA		Predicted Noise Levels, L_{eq} Peak-Noise-Hour dBA (2015)		Abated Noise Levels, L_{eq} Peak-Noise-Hour, dBA — Heights of Barrier (Screen Wall)						Benefited Receiver Cost
					Measured	Calculated	No Build	Build	1.8 m (6 ft)	2.4 m (8 ft)	3.0 m (10 ft)	3.7 m (12 ft)	4.3 m (14 ft)	4.9 m (16 ft)	
RD-28	SF Resi. near Midfield Ave. & 82 St.	B	9	80	--	61	61	64							0
RD-29	SF Resi. near Midfield Ave. & Benjamin Ave.	B	15	40	--	73	73	76	71 [5]	69 [5]	68 [5]	67 [5]	66 [5]	66 [5]	$16,756
RD-30	St. Jerome School & Church, on Thornburn St.	B	7	30	61	61	61	65							0
RD-33	Ashwood Park, near Ash Ave. & Kelso St.	B	6	30	75	76	77	76	71 [6]	69 [6]	68 [6]	66 [6]	65 [6]	64 [6]	$36,852

1 - For non-residential land uses, equivalent receptors were estimated using a rate of 1 receptor per 30.5 meters of effected frontage.
2 - Noise measurement influenced by LAX aircraft noise.
3 - Modeled with a barrier positioned at R/W and a barrier along the I-405 LAX Expressway E/S.
4 - Modeled with a barrier at the Top of Slope and a barrier along the I-405 LAX Expressway E/S.
5 - Modeled with a barrier along the Top of Slope.
6 - Modeled with a barrier at the Top of Slope and a barrier on the I-405 LAX Expressway E/S.
= abatement not required

5.6.1 LAX Expressway

Future, unabated noise levels associated with the LAX Expressway build alternatives are predicted to range between 62 and 77 dBA L_{eq} for Alternatives A and B and between 62 and 76 dBA L_{eq} for Alternative C. Thus, traffic noise levels will exceed the NAC at adjacent noise-sensitive locations and noise abatement in the form of noise barriers was evaluated for the LAX Expressway project. Because right-of-way is not generally available to construct earthen berms, masonry walls (soundwalls) were considered for the abatement of traffic noise.

5.6.1.1 Noise Abatement

This noise impact evaluation focuses on noise abatement measures consisting of the construction of acoustically opaque noise barriers referred to generically in the following discussion as soundwalls. Noise insulation of private residential dwellings is only considered when severe traffic noise impacts are predicted and normal noise abatement measures are not physically feasible or economically reasonable. Because severe traffic noise impacts are not predicted for any of the project alternatives, noise insulation of structures was not considered further in this analysis.

Noise abatement must be feasible and reasonable if it is to be incorporated into a project. Feasible noise abatement, for example from soundwalls, will provide a minimum noise reduction of 5 dBA to achieve a noticeable change in noise levels.

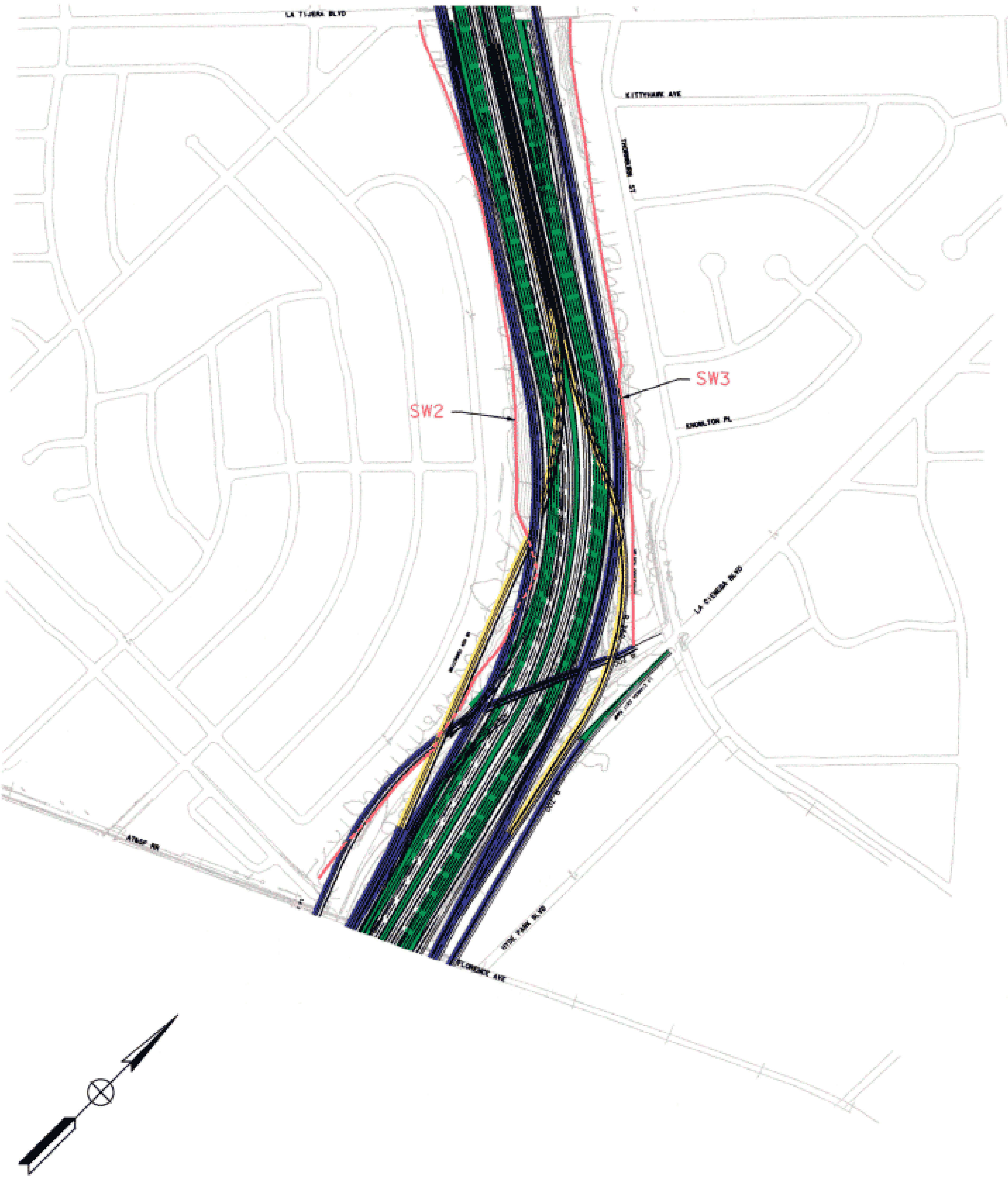
The effectiveness of soundwalls for noise abatement was evaluated using the LEQV2 model. The soundwalls evaluated in this analysis were assumed to be constructed of an effective acoustical barrier material (e.g., masonry block). The effectiveness of a range of soundwall heights of 2.4 to 4.9 meters (8.0 feet to 16.0 feet) was modeled using the criteria of obtaining a minimum noise reduction of 5 dBA at the receptor.

Soundwall placement was determined by roadway/receptor geometry. For locations in which the roadway facility will be elevated above surrounding terrain and noise-sensitive receptors, the most effective location for a barrier would be along the edge-of-shoulder. For locations in which the main lanes will be depressed below surrounding terrain and noise-sensitive receptors, the most effective location for a barrier would be along the right-of-way.

Reasonableness of abatement such as soundwalls is based upon the number of receptors that would benefit from the barriers, the cost of abatement, and other environmental factors. Caltrans has established procedures (Caltrans Noise Abatement Protocol, October, 1998) to evaluate the reasonableness of abatement consistent with FHWA policies. The reasonableness of feasible soundwalls was evaluated using the procedures contained in the Caltrans Noise Abatement Protocol. The effectiveness, feasibility and reasonableness of noise abatement soundwalls are shown in Tables 5.4-1 through 5.4-3. The costs of noise abatement are calculated and presented for each benefited receiver.

The recommended noise abatement features likely to be incorporated by Caltrans into the LAX Expressway alternatives are shown on Figure 5.6-1 and 5.6-2. Noise abatement features will be subject to additional review during the public comment period and during subsequent phases of the Caltrans Project Development Process. This is discussed further in Section 5.6.4. The preliminary noise abatement features are described as follows:

- Noise Barrier SW-1 (LAX Master Plan Alternatives A, B and C for LAX Expressway Alternatives 2 and 3)



BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

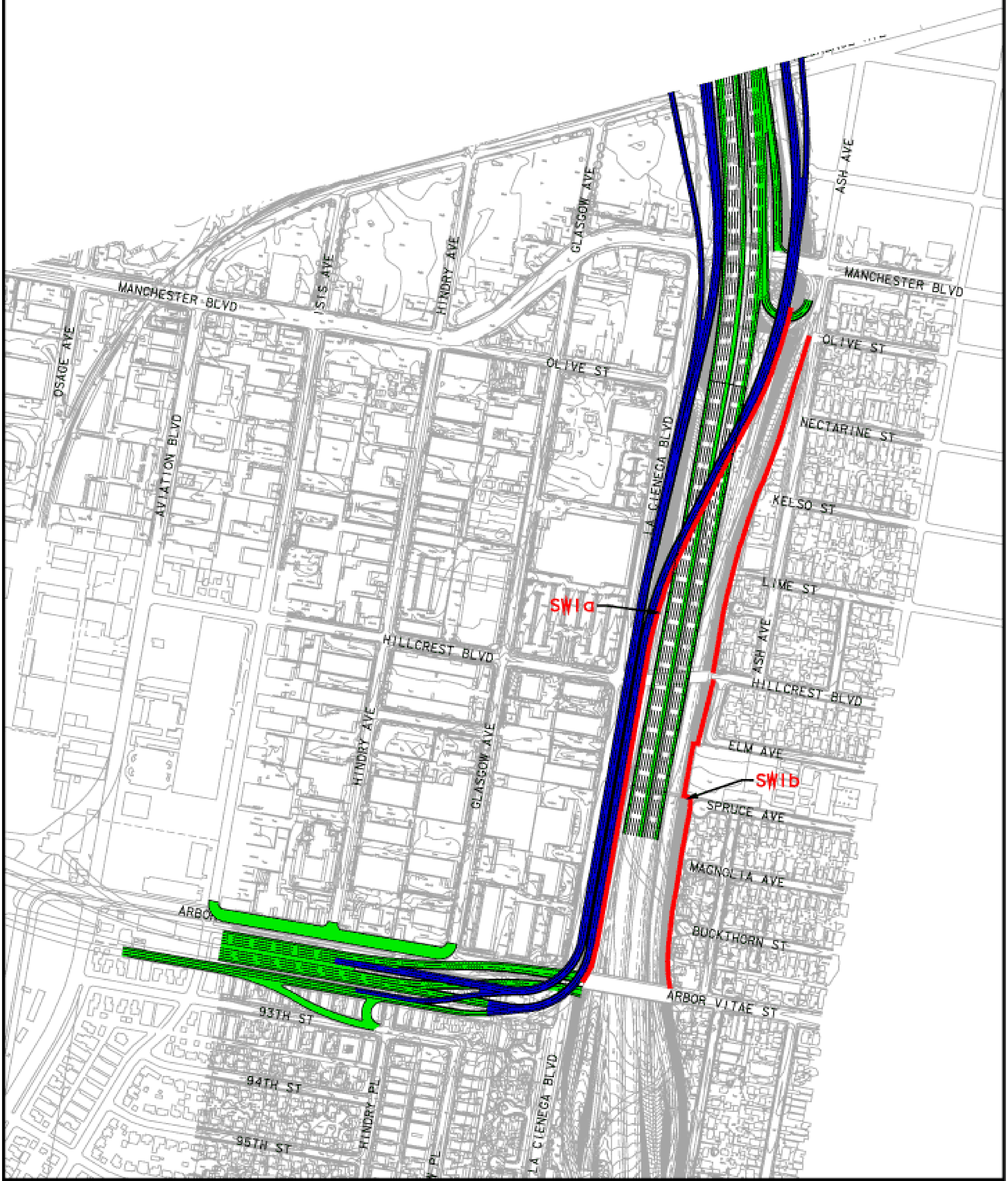
SW2- SOUNDWALL 2

SW2- UNDER EXPRESSWAY

SW3- SOUNDWALL 3

PROPOSED NOISE ABATEMENT LAX EXPRESSWAY ALTERNATIVES 2&3 SEGMENT B

FIGURE 5.6-1



BASELINE CONDITIONS

I-405 AND EXISTING ROADWAYS

LAX EXPRESSWAY FEATURES

EXPRESSWAY

HOV LANES

FREEWAY WIDENING / ROADWAY IMPROVEMENTS

SW1a- SOUNDWALL 1a ON EXPRESSWAY

SW1b- SOUNDWALL 1b

PROPOSED NOISE ABATEMENT
LAX EXPRESSWAY
ALTERNATIVES 2&3
SEGMENT C

FIGURE 5.6-2

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For all alternatives, Noise Barrier SW-1 would be approximately 1800 meters (5,904 feet) long. The barrier would extend from Arbor Vitae Street northward to Olive Street on the northbound side of I-405 and would be 3.7 meters (12 feet) in height. Noise Barrier SW-1 consists of two parts. The first would be placed at the Top-of-Slope and the second part would be on the I-405 LAX Expressway Northbound edge-of-shoulder (E/S). The barrier would benefit approximately 27 residential units. Based upon the barrier height and length, the number of benefited residences, the dates of construction of the residences and the noise levels and benefit provided by the barrier, Noise Barrier SW-1 was found to be preliminarily reasonable to construct.

- Noise Barrier SW-2 (LAX Master Plan Alternatives A, B and C for LAX Expressway Alternatives 2 and 3)

For all alternatives, Noise Barrier SW-2 would be approximately 1170 meters (3,838 feet) long. The barrier would extend from Florence Avenue northward to La Tijera Boulevard on the southbound side of I-405 and would be 4.3 meters (14 feet) in height. Noise Barrier SW-2 would be at the Top-of-Slope. The barrier would benefit approximately 45 residential units. Based upon the barrier height and length, the number of benefited residences, the dates of construction of the residences and the noise levels and benefit provided by the barrier, Noise Barrier SW-2 was found to be preliminarily reasonable to construct.

- Noise Barrier SW-3 (LAX Master Plan Alternatives A, B and C for LAX Expressway Alternatives 2 and 3)

For all alternatives, Noise Barrier SW-3 would be approximately 800 meters (2,624 feet) long. The barrier would extend from La Cienega Boulevard northward to La Tijera Boulevard on the northbound side of I-405 and would be 4.3 meters (14 feet) in height. Noise Barrier SW-3 would be at the Top-of-Slope. The barrier would benefit approximately 32 residential units. Based upon the barrier height and length, the number of benefited residences, the dates of construction of the residences and the noise levels and benefit provided by the barrier, Noise Barrier SW-3 was found to be preliminarily reasonable to construct.

A screening analysis was conducted regarding potential noise effects from LAX Expressway Alternative 3 upon several residences located along Coolidge Avenue in Culver City. This area is northerly of SR-90 and easterly of I-405. Construction of the project alternative could increase traffic noise levels by a small increment. However, the existing and future-without-project traffic noise level is likely to approach or exceed the FHWA NAC due to the major highway facilities including the I-405, SR-90 and interchange/on ramps in the vicinity of these residential uses. Thus, noise abatement in the form of soundwalls will be evaluated as part of the Caltrans Project development process for this LAX Expressway alternative.

5.6.2 State Route 1

As inspection of the above table reveals, existing and future, unabated noise levels associated with the State Route 1 Improvements project are predicted to range between 56 and 65 dBA L_{eq} and thus, will not approach or exceed the NAC for the respective Activity Categories, including residential areas along this project route. Thus, noise abatement for the State Route 1 improvements is not required.

5.6.2.1 Noise Abatement Review

Based on the studies completed to date, Caltrans will evaluate and it is likely they would construct noise abatement measures in the form of barriers at the locations discussed above for the selected LAX Expressway build alternative. These preliminary indications of likely abatement measures are based upon preliminary designs for barriers as described above and as listed in Tables 5.6-1 through 5.6-3. If during final design these conditions substantially change, the abatement measures might not be provided. Also, in accordance with FHWA regulations and Caltrans policies, the views of the impacted residents should be a major consideration in determining the reasonableness of abatement. Barriers would not be constructed if most of the impacted residents do not want them. A final decision on the installation of abatement measures will be made upon completion of more detailed Caltrans project design phases and the public involvement process. The noise abatement review will be coordinated with the Caltrans PSR; Project Report (PR); and the Plans, Specifications, & Estimates (PS&E) phases of the Caltrans Project Development process.

5.6.3 Cumulative Impacts

The cumulative effects of traffic noise and other environmental noise is discussed in the Noise Section of the Draft LAX EIS/EIR. There are no substantial cumulative noise effects from the LAX Expressway project with incorporation of recommended noise abatement features into the design of the selected alternative form of the LAX Expressway project. There are no substantial cumulative noise effects from the State Route 1 improvements.

5.6.4 Construction Noise

Noise from construction of highway facilities associated with the LAX Master Plan is discussed in the Draft LAX EIS/EIR. That discussion and analysis is applicable to construction of both the LAX Expressway and State Route 1 improvements. The potential noise from construction was found to be a substantial and unavoidable impact.

5.6.5 Mitigation Measures

Mitigation measures identified in the Draft LAX EIS/EIR for construction noise will be considered for the proposed roadway improvements .

5.7 WATERWAYS AND HYDROLOGIC SYSTEMS

This section describes the environmental impacts of the three alternatives for each of the two roadway projects on drainage and groundwater recharge. As described in Section 4.7.1, *General Approach,* the drainage analysis addresses changes in impervious area and how these changes would be expected to affect the potential for flooding and the quantity of surface recharge of groundwater. Since the extent of impact on any given parcel is not known at this time, the analysis uses the “worst case” assumption that the entire parcel is impacted. Potential environmental impacts related to the effects of flooding, both locally and on “downstream” areas, are considered. The recharge analysis qualitatively discusses how changes in impervious area may affect the quantity of surface recharge and how this change would be expected to affect the beneficial uses of groundwater in the West Coast Groundwater Basin and the Santa Monica Groundwater Basin.

5.7.1 LAX Expressway

5.7.1.1 Drainage, Alternatives 1, 2, and 3

Land use designations, impervious area and estimated quantity of storm water runoff for Alternatives 1, 2, and 3 of the study area for the LAX Expressway are provided in Table 5.7-1. Implementation of Alternative 2 would result in an estimated 14 percent increase in impervious area and a 12 percent increase in the average annual storm water runoff generated. Implementation of Alternative 3 would result in an estimated 11 percent increase in impervious area and a 10 percent increase in the average annual storm water runoff generated. Given that the majority of the storm water runoff generated would be directed to the adjacent (and in some cases underlying) Centinela Creek Channel (a flood control channel) this small increase associated with either Alternative 2 or Alternative 3 would have only a nominal impact on localized drainage or downstream areas.

5.7.1.2 Surface Recharge, Alternatives 1, 2, and 3

The change in impervious surface available for surface recharge relative to baseline conditions is nominal. Similar to the surface recharge analysis for the Draft LAX EIS/EIR, it would be expected that the change associated with this roadway project would represent only a small fraction of a percent reduction in the total groundwater inflows estimated for the West Coast Basin under baseline conditions. This roadway alternative would not substantially change groundwater storage or groundwater elevations in the study area.

5.7.1.3 Construction Effects, Alternatives 2 and 3

A U.S. Army Corps of Engineers permit is required for structures or work in or affecting "navigable water of the United States." The center of the columns supporting the LAX Expressway would be approximately 2.0 meters (6.5 feet) from the top of the Centinela Creek channel. Construction of the LAX Expressway and supporting columns under both build alternatives (Alternative 2 and 3) would involve the temporary placement of a pier-like structure on the embankment of the boxed channel, Centinela Creek. Therefore, a Section 404 permit would be applicable for the construction phase of the LAX Expressway for the segment crossing the Centinela Creek channel. Impacts to the channel would be temporary and short-term in nature. In conjunction with the Section 404 permit, a Section 401 Water Quality Certification from the Los Angeles RWQCB would also be required.

5.7.2 State Route 1

5.7.2.1 Drainage, Alternatives 1, 2, and 3

Land use designations, impervious area and estimated quantity of storm water runoff for baseline conditions of the study area for the State Route 1 improvements are provided in Table 5.7-2. Project implementation of either Alternative 2 or Alternative 3 would result in approximately a 2 percent net reduction of both impervious area and the average annual storm water runoff generated. This nominal reduction is achieved since slightly more paved surface would be removed (e.g., Georgetown Avenue, Northside Parkway, and the portion of Lincoln Boulevard from just east of Georgetown Avenue to Sepulveda Boulevard) than would be added in widening Westchester Parkway. Land use designations, impervious area and estimated changes in the quantity of storm water runoff for the two State Route 1 build alternatives are provided in Table 5.7-2.

5.7.2.2 Surface Recharge, Alternatives 1, 2, and 3

The change in impervious surface available for surface recharge relative to baseline conditions is nominal. Similar to the surface recharge analysis for the Draft LAX EIS/EIR, it would be expected that the change associated with this roadway project would represent only a small fraction of a percent reduction in the total groundwater inflows estimated for the West Coast Basin under baseline conditions. This roadway alternative would not substantially change groundwater storage or groundwater elevations in the study area.

Table 5.7-1. Average Annual Runoff, LAX Expressway Alternatives

Land Use Category	Alternative 1		Alternative 2		Alternative 3	
	Impervious Area (m^2)	Average Annual Runoff[29] (m^3)	Impervious Area (m^2)	Average Annual Runoff[16] (m^3)	Impervious Area (m^2)	Average Annual Runoff[16] (m^3)
Open Space	0	0	0	0	0	0
Residential						
Single Family	25,829	7,605	1,627	479	23,668	6,969
Multi-family	51,845	13,543	33,221	8,678	1,843	481
Community Facilities						
Schools, Libraries, etc.	23,736	5,885	19,487	4,832	4,249	1,054
Cemeteries	6,034	1,576	4,022	1,050	2,011	525
Churches	14,690	3,642	0	0	14,690	3,642
Business						
Commercial	69,864	17,319	34,233	8,486	31,065	7,701
Industrial	62,315	15,449	42,472	10,530	19,397	4,809
Public Facilities						
Centinela Channel, ROWs	70,707	18,075	24,834	6,347	2,098	536
Streets/Roadway	63,572	15,761	285,312	70,735	333,118	82,584
Total	**388,592**	**98,855**	**445,208**	**111,137**	**432,140**	**108,302**

[29] Average Annual Runoff = Average Annual Precipitation × Area × Runoff Coefficient.

Table 5.7-2
Average Annual Runoff, State Route 1 Improvements Alternatives

Land Use Category	Alternative 1		Alternatives 2 and 3	
	Impervious Area (m^2)	Average Annual Runoff[1] (m^3)	Impervious Area (m^2)	Average Annual Runoff[15] (m^3)
Open Space	0	0	0	0
Residential				
Single Family	1,427	420	0	0
Multi-family	1,099	287	0	0
Community Facilities				
Schools, Libraries, etc.	1,200	297	0	0
Cemeteries	0	0	0	0
Churches	0	0	0	0
Business				
Commercial	63,848	15,831	0	0
Industrial	0	0	0	0
Public Facilities				
Centinela Channel, ROWs	0	0	42,511	10,870
Streets/Roadway	333,697	82,737	350,744	86,963
Total	**401,271**	**99,572**	**393,255**	**97,833**

5.7.3 Cumulative Impacts

Selection of the No Action alternatives for the LAX Expressway and the State Route 1 Improvements project assume selection of the LAX Master Plan No Action/No Project alternative. Anticipated development in the vicinity of the LAX Expressway and State Route 1 Improvements project include the LAX Northside, which would increase impervious surfaces within the Argo sub-basin and, to a limited extent, the Culver sub-basin, and the Continental City development, which would increase impervious surfaces within the Dominguez Channel sub-basin. The Argo sub-basin is over capacity. Accordingly, development that would occur under the roadway No Action alternatives, which assumes implementation of the Northside and Continental development would proceed, when combined with past projects, would result in a considerable cumulative impact on surface water runoff and rates of peak storm water discharges.

The potential cumulative impacts of the LAX Expressway and State Route 1 build alternatives are considered in light of LAX Master Plan alternatives A, B and C. As noted in Section 4.7.7.2 of the Draft LAX EIS/EIR, under any of the LAX Master Plan build alternatives planned improvements would increase impervious surfaces within four sub-basins (i.e., Argo, Imperial, Dominguez Channel, and Culver). The LAX Expressway would increase impervious surfaces within the Centinela Creek Channel, which is partially within the Santa Monica Bay drainage area and partially within the Dominguez Channel drainage area. The State Route 1 improvements would slightly reduce the amount of impervious surfaces within the Santa Monica Bay drainage area. Combined the roadway projects and the LAX Master Plan

[1] Average Annual Runoff = Average Annual Precipitation × Area × Runoff Coefficient.

build alternatives, when considered in light of past projects, would substantially increase the average annual storm water runoff generated and the storm water discharge rates.

5.7.4 Mitigation Measure

The following mitigation measure is proposed within Section 4.7.8.1 of the Draft LAX EIS/EIR and is hereby incorporated by reference. This mitigation measure only addresses cumulative impacts.

1. "Regional Drainage facilities should be upgraded, as necessary, in order to accommodate current and projected future flows within the water shed of each outfall. This could include upgrading the existing outfalls, or building new ones. The responsibility for implementing this mitigation measure lies with the Los Angeles County Department of Public Works and/or the City of Los Angeles Department of Public Works, Bureau of Engineering. The new or upgraded facilities should be designed in accordance with the drainage design standards of each agency."

5.8 WATER QUALITY

This section describes the environmental impacts of the three alternatives for each of the two roadway projects on water quality.

As described in Section 4.8.1, *General Approach,* the water quality analysis estimates the storm water pollutant load that would be discharged to receiving water bodies and qualitatively assesses the effects of construction associated with the three alternatives for each of the two roadway projects. Consistent with the analysis for drainage and groundwater recharge, since the extent of impact on any given parcel is not known at this time, the analysis uses the "worst case" assumption that the entire parcel is impacted.

5.8.1 LAX Expressway

5.8.1.1 Storm Water Pollutant Loading, Alternatives 1, 2, and 3

Pollutant loads delivered from the study area to receiving water bodies associated with the LAX Expressway alternatives, as estimated using the methods described in Section 4.8.1, *General Approach*, are presented in Table 5.8-1, Estimated Average Annual Pollutant Loads. Table 5.8-1 provides land use designations and pollutant loading estimates for Alternatives 1, 2, and 3. For comparison with baseline conditions (Alternative 1), the pollutant loading estimates for Alternatives 2 and 3 do not reflect the reduction that would be expected from the post-construction storm water best management practices (BMPs) that will be implemented.

Table 5.8-1
Estimated Average Annual Pollutant Loads, LAX Expressway

Pollutant[a]	Estimated Average Annual Pollutant Loads[b]				
	Alt. 1	Alt. 2		Alt. 3	
	(kg)	(kg)	% change	(kg)	% change
Total Suspended Solids (TSS)	9,684	9,803	1	9,170	(5)
Oil and Grease	219	300	37	312	42
Total Phosphorus (P)	37	46	24	46	24
Total Kjeldahl Nitrogen (TKN)	260	237	(9)	221	(15)
Total Cadmium (Cd)	0	0	--	0	--
Total Copper (Cu)	3	5	67	5	67
Total Lead (Pb)	1	1	--	1	--
Total Nickel (Ni)	1	1	--	1	--
Total Zinc (Zn)	25	31	24	29	16

(a) The EMCs for each pollutant by land use category are shown in Table 4.8-1.
(b) Percent decreases are reflected in parentheses.

Implementation of either Alternative 2 or 3 would result in moderate changes in the pollutant loading to receiving waters. The most substantial increase is for copper, which would be expected with an increase in roadway surface. However, Alternatives 2 and 3 would include post-construction BMPs that will reduce the pollutant loading. These BMPs would also be expected to have a beneficial impact on drainage. Some of the potential post-construction BMPs that may be used in Alternatives 2 and 3 include:

- Catch basin inserts and screens
- Continuous flow deflective systems or other manufactured storm water treatment units
- Detention basins
- Infiltration basins
- Media filtration
- Vegetated swales and strips

5.8.1.2 Construction Effects

The potential effects of construction activities on water quality are typically short-term (i.e., during the construction phase only). Some potential sources of pollutants are exposed soil and soil stockpiles, tracking of soil onto adjacent roadways as vehicles/equipment exit the site, waste materials, fueling activities, and maintenance or repair of equipment at the construction site. However, rigorous compliance with state and local requirements for construction activity will effectively limit impacts to water quality associated with construction activities.

Clean Water Act Section 404. A U.S. Army Corps of Engineers permit is required for structures or work in or affecting “navigable water of the United States.” The center of the columns supporting the LAX Expressway would be approximately 2.0 meters (6.5 feet) from the top of the channel. Construction of the LAX Expressway and supporting columns under both build alternatives (Alternative 2 and 3) would involve the temporary placement of a pier-like structure on the embankment of the boxed channel, Centinela Creek. Therefore, a Section 404 permit would be applicable for the construction phase of the LAX Expressway for the segment crossing the Centinela Creek Channel. Impacts to the channel would be temporary and short-term in nature. In conjunction with the Section 404 permit, a Section 401 Water Quality Certification from the Los Angeles RWQCB would also be required.

California Fish and Game Code Section 1600. The California Department of Fish and Game has authority under Fish and Game Code Section 1600 et seq. with regard to any proposed activity that would divert, obstruct, or affect the natural flow or change the bed, channel, or bank of any river, stream, or lake. Again, since at the closest point the center of a column would be approximately 2.0 meters (6.5 feet) from the top of the channel, a permit would be needed for the construction phase of LAX Expressway for the segment crossing the Centinela Creek Channel.

5.8.2 State Route 1

5.8.2.1 Storm Water Pollutant Loading, Alternatives 1, 2, and 3

Pollutant loads delivered from the study areas to receiving water bodies under baseline conditions, as estimated using the methods described in Section 4.8.1, *General Approach*, are presented in Table 5.8-2, Estimated Average Annual Pollutant Loads. Table 5.8-2 provides land use designations and pollutant loading estimates for Alternatives 1, 2, and 3. For some pollutants and/or for some land use categories estimated pollutant loads could not be calculated. In some cases there is no data on a land use basis (for example, trash and debris) or not enough data (for example, some metals and pesticides primarily due to analyses resulting in non-detects) to develop a statistically meaningful EMC for a particular land use category.

Table 5.8-2
Estimated Average Annual Pollutant Loads, State Route 1

Pollutant[a]	Estimated Average Annual Pollutant Loads (kg)	
	Alternative 1	**Alternatives 2 and 3**
Total Suspended Solids (TSS)	**7,388**	**7,285**
Oil and Grease	**322**	**317**
Total Phosphorus (P)	**43**	**43**
Total Kjeldahl Nitrogen (TKN)	**205**	**194**
Total Cadmium (Cd)	**0**	**0**
Total Copper (Cu)	**5**	**5**
Total Lead (Pb)	**1**	**1**
Total Nickel (Ni)	**1**	**1**
Total Zinc (Zn)	**27**	**27**

(a) The EMCs for each pollutant by land use category are shown in Table 4.8-1.

The implementation of either Alternative 2 or Alternative 3 is likely to decrease average annual pollutant loading since a nominal reduction in impervious surface is achieved by removing slightly more paved surface (e.g., Georgetown Avenue, Northside Parkway, and the portion of Lincoln Boulevard from just east of Georgetown Avenue to Sepulveda Boulevard) than would be added in widening Westchester Parkway.

5.8.2.2 Construction Effects

Rigorous compliance with state and local requirements for construction activity will effectively limit impacts to water quality associated with construction activities. The potential effects of construction activities on water quality are typically short-term (i.e., during the construction phase only). Some potential sources of pollutants are exposed soil and soil stockpiles, tracking of soil onto adjacent roadways as vehicles/equipment exit the site, waste materials, fueling activities, and maintenance or repair of equipment at the construction site.

5.8.3 Cumulative Impacts

Selection of the No Action alternatives for the LAX Expressway and the State Route 1 Improvements project assume selection of the LAX Master Plan No Action/No Project alternative. Under this scenario, anticipated development in the vicinity of the LAX Expressway and State Route 1 Improvements project include the LAX Northside and the Continental City development. These projects would be required to comply with the Standard Urban Storm Water Mitigation Plan requirements through incorporation of BMPs designed to reduce storm water pollutant loads during and post-construction. Compliance with applicable regulations would substantially reduce water quality impacts associated with the No Action roadway alternatives and the related LAX Master Plan No Action/No Project alternative. No adverse impacts are identified.

The potential cumulative impacts of the LAX Expressway and State Route 1 Improvements project build alternatives are considered in light of LAX Master Plan alternatives A, B and C. As noted in Section 4.7.7.2 of the Draft LAX EIS/EIR, compliance with Standard Urban Storm Water Mitigation Plan provisions would be required under any of the LAX Master Plan build alternatives. Said requirements would reduce potential storm water pollutant loads during and post-construction. The LAX Expressway and State Route 1 Improvements project build alternatives will be expected to incorporate post-construction BMPs such as those listed in subsection 5.8.2.1 above (e.g., catch basin inserts and screens, etc.) and, thereby, reduce and/or eliminate potential impacts on water quality. Combined, the roadway projects and the LAX Master Plan build alternatives, when considered in light of past projects and current regulatory requirements, would not result in measurable adverse impacts on water quality.

5.8.4 Mitigation Measures

No mitigation measures are contemplated at this time. As TMDLs are developed for specific pollutants, and as CTR provisions are incorporated into NPDES permits, mitigation measures may become necessary.

5.9 WETLANDS AND WATERS OF THE UNITED STATES

No impacts to wetlands are identified. Impacts to waters of the United Sates are discussed in Section 5.7, Waterways and Hydrologic Systems.

5.10 WILDLIFE, FISHERIES AND VEGETATION

An impact on biotic communities would occur if the proposed project would result in any direct or indirect changes in the environment resulting from one or more of the following:

- “Take” of any bird species afforded protection under the Migratory Bird Treat Act by the removal of occupied nesting habitat during the breeding season (March 15 to August 15).

- A reduction of greater than 10 percent in locally designated natural communities including state-designated sensitive habitats, ESHAs and habitat preservation areas designated pursuant to local ordinances.
- A conflict with the provision of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.
- A net reduction in federal or state-listed or otherwise sensitive plants, pursuant to the Native Plant Protection Act.

These criteria are consistent with those identified in the Draft LAX EIS/EIR of the Master Plan.

5.10.1 LAX Expressway Project

Field surveys and mapping of plant and animal species have not been conducted on these private lands, however, there is a high probability invasive plant species are present in unknown quantities on the potentially affected properties. Construction activities involving site preparation (i.e., clearing, grubbing, grading, etc.) may contribute toward the spread of invasive species through transport of such species onto and from the construction sites.

5.10.1.1 Alternative 1 – No Action

The No Action design alternative for the LAX Expressway project does not involve any new road construction.

Alternative 1 would not increase the likelihood for an increased introduction of noxious weeds. The "No Action" would neither decrease the current abundance of existing noxious weeds. Ongoing weed abatement includes periodic mowing in compliance with local ordinances. This activity does not induce the spread of desirable plant species because the mowed areas are continuously disturbed and no desirable seed source is able to establish within the ruderal grass and weed areas. Also existing landscaped areas include invasive species such as Iceplant and African Daisy that have the potential to flourish in adjacent soils that are not in the landscape maintenance areas.

5.10.1.2 Alternatives 2 (Split Viaduct) and 3 (Single Viaduct)

LAX Expressway Alternative 2 involves potential acquisition of 148 parcels, of which a majority (115 parcels) is developed with residential uses. LAX Expressway Alternative 3 involves potential acquisition of 99 parcels, including 47 properties with residential uses and 52 properties with non-residential uses (e.g., businesses, public facilities, community facilities, etc.). Although field surveys and mapping of plant and animal species have not been conducted, there is a high probability invasive plant species are present in unknown quantities on the potentially affected properties. Construction activities involving site preparation (i.e., clearing, grubbing, grading, etc.) may contribute toward the spread of invasive species through transport of such species onto and from the construction sites.

Alternative 2 and 3 are anticipated to decrease the current abundance of noxious weeds within the existing right-of-way and proposed parcel acquisitions. Both alternatives will increase the amount of paved areas and thereby decrease the overall area covered by the current vegetation. Implementation of either alternative may decrease the abundance of noxious weeds with adherence to local and FHWA weed abatement guidelines. Mitigation measures should be considered to further reduce the potential spread of noxious weeds.

To ensure potential impacts are minimized, invasive species surveys will be conducted and mapped in conjunction with preparation of the Project Report for the selected alternative. At that time, construction and maintenance procedures designed to minimize the transport and spread of invasive plant species will be identified for incorporation into subsequent plans, specifications and estimates for the selected alternative. Construction and maintenance procedures will be consistent with Caltrans construction requirements and vegetation management practices relative to invasive plant species, and FHWA requirements for implementation of Executive Order 13112, the Federal Noxious Weed Act (1974), and the Endangered Species Act.

No sensitive biotic communities exist within the study area for Alternative 1 – No Action, on the build Alternatives 2-Split Viaduct and 3-Single Viaduct. The proposed construction areas are primarily disturbed vegetation communities or paved and developed.

5.10.2 State Route 1

5.10.2.1 Alternative 1 – No Action

The No Action alternative for State Route 1 does not involve any new road construction and therefore no impacts or changes to known biotic communities is expected.

Alternative 1 would not increase the likelihood for an increased introduction of noxious weeds. The “No Action” would neither decrease the current abundance of existing noxious weeds. Ongoing weed abatement includes periodic mowing in compliance with local ordinances. This activity does not induce the spread of desirable plant species because the mowed areas are continuously disturbed and no desirable seed source is able to establish within the ruderal grass and weed areas. Also existing landscaped areas include invasive species such as Iceplant and African Daisy that have the potential to flourish in adjacent soils that are not in the landscape maintenance areas.

5.10.2.2 Alternatives 2 and 3

State Route 1 Alternatives 2 and 3 involve potential acquisition of 46 parcels. Of the 46 potentially affected properties, 37 are developed with commercial uses and the remainder is residential. Selection of Alternatives 2 (Diamond Interchange) or 3 (Urban Interchange) may affect burrowing owl nesting and foraging habitat found on the vacant lots along the proposed State Route 1 improvements north of the airport. Although this species has been identified within the portion of the LAX Master Plan study area that includes the State Route 1 improvements, it has not been observed to be nesting. These vacant lots may also provide a foraging area for endemic red-tailed hawks and other migratory raptors. None of the observed vacant lots by themselves (without the current airport property to the south) are considered of adequate size to support breeding and foraging habitat.

Alternative 2 and 3 are anticipated to decrease the current abundance of noxious weeds within the existing right-of-way and proposed parcel acquisitions. Both alternatives will increase the amount of paved areas and thereby decrease the overall area covered by the current vegetation. Implementation of either alternative may decrease the abundance of noxious weeds with adherence to local and FHWA weed abatement guidelines. Mitigation measures should be considered to further reduce the potential spread of noxious weeds.

5.10.3 Cumulative Impacts

Under all three alternatives for the proposed LAX Expressway project, no cumulative impact on biotic communities would occur because no such sensitive biotic communities exist within the project study area. Therefore, no impacts to biotic communities would result from implementation of either of the design alternatives for the LAX Expressway project.

Under all three alternatives for the proposed State Route 1 improvements, no cumulative impact on biotic communities would occur because no such sensitive biotic communities exist within the project study area.

5.10.4 Mitigation Measures

There are no substantial impacts identified for biotic communities. Therefore, no mitigation measures are required. However, the following measures are recommended for implementation by LAWA and its contractors to minimize the potential spread of noxious weeds.

1. All construction equipment used on the project should be clean of non-indigenous soil prior to arriving onsite. Equipment should be washed prior to transporting to the project area.
2. Disturbed soils should be seeded by hydromulching as soon as possible after final grading is completed. Efforts should be made to prevent grades slopes from being untreated for more than sixty days.
3. Landscape plans for the roadway projects should incorporate native or non-invasive groundcover, shrubs, and trees.
4. The responsible agency shall identify and implement appropriate weed abatement procedures.
5. Acquired parcels that will not be developed should be treated by the responsible agency for invasive weeds by seeding with appropriate native species, mulching, or otherwise removing existing weeds and preventing future establishment of undesirable species.
6. Roadway maintenance by the responsible agency on the completed project will include impact minimization methodology (i.e., limiting mowing activity to after seed production by native species is completed) to increase natural reseeding of disturbed project areas.

5.11 FLOODPLAINS

Based on the information presented in the Affected Environment Section, the proposed roadway improvements are within an area of minimal flooding; therefore, no impacts are anticipated to occur.

5.12 WILD AND SCENIC RIVERS

There are no wild and scenic rivers within the proposed right-of-way for both projects, therefore, no impacts would occur.

5.13 COASTAL BARRIERS/COASTAL ZONE

There are no coastal barriers along this section of the pacific coast, therefore, no impacts would occur.

5.14 THREATENED AND ENDANGERED SPECIES

Based on the survey conducted for the Draft LAX EIS/EIR and the database searches prepared for the roadway projects, no federally listed threatened and endangered species were identified within or adjacent to the proposed project right-of-way, therefore no impacts would occur.

5.15 CULTURAL RESOURCES

The following evaluation criteria were adopted from the Supplemental Section 106 Report (2000) that evaluated potential historic and archaeological effects resulting from the implementation of the proposed LAX Master Plan alternatives. Such criteria, as defined in 36 CFR 800.5, on historic properties, are also applicable to the analysis of potential roadway effects on historic and archaeological resources. Adverse effects from implementation of the proposed roadway improvement projects would occur if:

- Physical destruction of or damage to all or part of the property;
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;
- Removal of the property from its historic location;
- Change in the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
- Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

5.15.1 LAX Expressway

Several alternative concepts were developed, evaluated, and rejected. A direct connection between the airport and SR-90 (Marina Freeway) was considered and rejected due to the potential impacts on wetlands and conflicts with the Playa Del Rey development. In addition, preliminary traffic calculations proved unfavorable. An I-405 to Sepulveda Boulevard trench was evaluated and considered not a viable alternative on the basis of potential cut-through traffic within the surrounding neighborhoods and the potential aesthetic impacts of the facility. This concept also proved unfavorable based on preliminary traffic calculations. The third concept evaluated was a viaduct along Airport Avenue. This concept was rejected due to the potential disruption and division it might cause to the surrounding community and the visual, aesthetic impacts of the structure. The fourth concept connected Florence Avenue to Arbor Vitae Street via the railroad corridor. This concept was rejected due to the potential impacts on historic resources (i.e., Merle Norman building) and the constraints such a proposal would place on future use as a passenger rail facility.

Two LAX Expressway build alternatives were selected for evaluation in this report along with a No Action alternative. The three alternatives for the expressway project are described in the following paragraphs (See Table 5.15-1 for a summary of the potential effects).

Table 5.15-1
Listed or Eligible National Register Properties
Potential to Cause Effects (Directly or Indirectly) by Alternative

	Alternative 1-No Action	Alternative 2-Split Viaduct[1]		Alternative 3-Single Viaduct 1	
	Effect	Effect	Adverse	Effect	Adverse
Centinela Adobe	No	Yes	Yes	No	No
Randy's Donuts	No	Yes	Yes	No	No
[1] Applies to both LAX Master Plan EIS/EIR Alternatives A and C.					

5.15.1.1 Alternative 1 - No Action

Under the No Action alternative, no new road construction would occur. In the absence of construction, no existing buildings or structures would be affected. There would not be a need to acquire property or addition right-of-way. No new visual, atmospheric or audible elements would be introduced there would not be a need for the acquisition of property or additional right-of-way, thereby, eliminating any potential impacts on sensitive historic resources. Furthermore, no potentially historic properties exist with the LAX Expressway study area. Therefore, no impacts on historic sites are anticipated from implementation of Alternative 1, the No Build alternative, under the LAX Expressway project.

No other new structures or transportation facilities would be introduced, thereby, eliminating any demolition and/or additional excavation activities that would disturb existing soil surfaces potentially exposing archaeological/cultural resources. Therefore, this alternative would have no affect on properties listed or eligible for listing on the National Register.

5.15.1.2 Alternatives 2 – Split Viaduct

Alternative 2 would likely result in adverse impacts on two of the historic resources identified within the roadway improvement APE, namely the Centinela Adobe house and Randy's Donut shop. The southbound elevated LAX Expressway on the west side of the I-405 infringes upon a portion of the these two properties. The new road facility would visually impose upon these two sites and compromise the integrity of their immediate surroundings. Alternative 2 involves the use of heavy machinery and equipment to erect the 6.1 meters (20.0 feet) elevated viaduct and associated ramps and overpasses, which could result in indirect impacts on the Centinela Adobe and Randy's Donuts due to vibration and potential structural damage.

In addition, the record searches and other literature received and reviewed as part of this survey indicate that the likelihood of discovering archaeological/cultural resources within or near the Supplemental APE is relatively high; particularly given the record of sites recorded in the vicinity of the airport. This conclusion suggests unanticipated discoveries may occur from the use of heavy machinery during construction for use in grading and excavation. The disturbance or destruction of potentially significant undiscovered archaeological/cultural resources by these activities would be considered an adverse effect unless mitigated.

5.15.1.3 Alternative 3 – Single Viaduct

Alternative 3 would not result in adverse impacts on either of the historic resources identified existing within the Supplemental APE. However, as with Alternative 2, this alternative also involves the use of heavy machinery and equipment to erect the elevated viaducts and associated ramps and overpasses. Such activities would potentially expose, uncover and/or disturb archaeological resources given that a fair number of archaeological sites have already been discovered and recorded within the vicinity of the airport.

Although there would be changes in project features, impacts on archaeological/cultural resources would be the same under Alternative 3 as those described for Alternative 2. Under Alternative 3 there is the potential for undiscovered archaeological resources that may be eligible for the National Register. Therefore, Alternative 3 may have adverse effects on potentially significant archaeological sites unless mitigated.

5.15.2 State Route 1

5.15.2.1 Alternative 1 - No Action

Under Alternative 1, no new road construction would occur. In the absence of construction, there would not be a need for the acquisition of property or additional right-of-way, thereby, eliminating any potential impacts on sensitive historic resources. Though the No Action Alternative under the State Route 1 improvements does not introduce any new road facilities. Reconstruction of Sepulveda Boulevard would occur as a result of implementation of the LAX Master Plan alternatives. Under the Master Plan alternatives, runway 24L would be extended eastward forcing the Sepulveda Boulevard to be placed as a tunnel beneath the runway if vehicle traffic is to be maintained. The nearest potential historic properties to the segment of Sepulveda Boulevard planned for tunneling is the 1961 Airport Traffic Control Tower, the Intermediate Terminal Complex and the Theme Building. The two former sites were determined to be ineligible for national or state listing as a historic site while the latter was determined to be eligible for national listing. All three of these sites would remain in place upon implementation of the No Action alternative. No new visual, atmospheric or audible elements would be introduced that would diminish the integrity of these resources. In fact, redirecting traffic flows underground would actually reduce audible effects on these resources. Therefore, no impacts on historic sites are anticipated from implementation of Alternative 1 - No Action.

Though this area has been previously disturbed from the initial construction of Sepulveda Boulevard at grade, excavation and grading activities to a depth of approximately 3.0 meters (10.0 feet) would potentially impact undiscovered archaeological resources. Given the number of sites previously recorded within the APE, there is a relatively high likelihood of discovering archaeological resources within or near the APE during tunneling activities of Sepulveda Boulevard under the No Build alternative assuming implementation of the LAX Master Plan alternatives. This potential disturbance could result in the loss or destruction of such resources and therefore is considered an adverse impact.

No other new structures or transportation facilities would be introduced, thereby, eliminating any demolition and/or additional excavation activities that would disturb existing soil surfaces potentially exposing archaeological/cultural resources.

5.15.2.2 Alternatives 2 (Diamond Interchange)and 3 (Urban Interchange)

The State Route 1 improvements Alternatives 2 and 3 are reasonably identical in their footprints, ultimately resulting in similar environmental impacts relating to historical/architectural and archaeological/cultural resources. Neither of the identified historic resources would be affected by either Alternative 2 or 3 under the State Route 1 improvements. The nearest historic property to the project area is the Theme Building which is eligible for national listing which would remain in place upon implementation of these two alternatives. No historic properties were identified along the portion of State

Route 1 proposed for realignment or near the proposed interchange at Sepulveda Boulevard and Arbor Vitae Street.

With respect to archaeological resources, the potential to expose, uncover and/or disturb such resources is relatively high given that a fair number of archaeological sites have already been discovered and recorded within the vicinity of the airport. Both projects would involve the use of heavy equipment for the demolition of a portion of Lincoln Boulevard (State Route 1) that is to be realigned, for the tunneling of a portion of Sepulveda Boulevard and for the construction of either the diamond or urban interchange. Should archaeological artifacts or objects be discovered during the construction of the proposed roadway projects, work will be temporarily suspended in the immediate area of the remnant to allow for the evaluation and disposition of such resources by a qualified archaeologist, in accordance with the NHPA and the Archaeological and Historic Preservation Act of 1974.

5.15.3 Cumulative Impacts

As identified, the LAX Expressway project Alternative 2 (Split Viaduct) would likely result in impacts to two known historically sensitive sites. Though other roadway improvement projects are planned along the I-405, no other known historic site would be affected. It is likely, however, that the combined excavation activities of related roadway projects to depths previously undisturbed may expose undiscovered archaeological sites not currently recorded within the LAX Expressway project area. As such, a cumulative impact may occur. As per the State Route 1 improvements study area, implementation of the LAX Master Plan Southside Project and airfield expansion may also result in cumulative impacts on undiscovered archaeological sites. However, the implementation of mitigation measures for both the LAX Expressway and State Route 1 Improvements project would ensure proper protection and preservation of unknown and previously undiscovered archaeological resources within both study areas.

5.15.4 Mitigation Measures

Historic Resources

Adverse impacts to the two identified historic properties under Alternative 2, the Centinela Adobe and Randy's Donuts would be reduced and possibly mitigated with the implementation of the mitigation measures. The mitigation measures are consistent with those measures recommended in the Supplemental Section 106 Report of the Draft LAX EIS/EIR. LAWA will be responsible for implementation of the measures and coordination with Caltrans.

1. **Avoidance -** Avoiding the impacts to these two historic resources is preferred. If feasible, modify or limit the magnitude of the placement of the southbound HOV lanes as to not directly impact the Centinela Adobe and Randy's donuts. This measure would include relocating the southbound HOV lane off all property associated with and adjacent to the Centinela Adobe and Randy's Donuts, thereby placing it along the base of the west shoulder embankment of the I-405, out of view of both resources' primary elevations.
2. **Relocation -** If feasible, relocate the properties if directly impacted by this alternative. Randy's Donuts is of wood construction, and therefore is a good candidate for relocation. However, because of historic construction techniques and materials used on the Centinela Adobe relocation for this resource is limited and not advised.
3. **Recordation -** Prior to any project-related demolition or construction activity that poises direct or indirect effects onto the Centinela Adobe and Randy's Donuts, Historic American Building Survey (HABS) documents shall be prepared by LAWA in accordance with the Secretary of the Interior's Guidelines for Architectural and Engineering Documentation Standards. The level of

documentation (I, II, III, IV) will be determined by the National Park Service. This documentation shall adequately explicate and illustrate what is significant or valuable about each of the historic properties. Archival copies of the documentation shall be submitted to the National Park Service, the California Office of Historic Preservation, the Los Angeles Public Library, and the Inglewood Public Library.

4. **Coordination of Demolition/Significant Modifications with New Construction -** None of the historic properties proposed for demolition and/or significant modification, including direct and indirect effects, shall be impacted (demolished and/or significantly modified) until the proposed project is fully entitled and financed.
5. **Reuse of Building Materials and Design Elements -** Prior to completion of project design and prior to the modification, including direct and indirect impacts, of the historic properties an inventory of significant, character-defining features and materials of the historic resources shall be made by a qualified architectural historian or historic architect. These materials and design elements shall be salvaged and incorporated to the extent feasible into the final design of the project. Any salvaged materials not incorporated into the project design shall be made available for use in rehabilitation and/or restoration projects in the Los Angeles region. Some materials shall also be incorporated into an educational and interpretive exhibit, as described below.
6. **Educational and Interpretative Programs -** For those significant historic resources proposed for demolition or modification, including direct and indirect impacts, educational materials suitable for the general public, secondary school use, and/or historians shall be designed and implemented. The purpose of these materials will be to present in two- or three-dimensional format, the history of the adobe and surrounding area, as well as, the architectural history of Programmatic architecture (including Randy's Donuts) in the southern California region. Such materials shall include, but not be limited to, a video/film documentary, curriculum program and teacher's guide, architectural models, and a historical brochure or pamphlet. These materials shall be made available via LAWA's public relations department to the general public, local community school history programs, related interest groups, and the Los Angeles and Inglewood Public Libraries.
7. **Historic Preservation Policy -** The City of Los Angeles shall develop a historic preservation policy and implementation strategy so that the remaining adobe structures located within the City limits may be preserved for future generations.

Archaeological Resources

Adverse impacts to unanticipated discoveries of archaeological resources and/or human remains would be reduced with the implementation of mitigation measures. The measures are consistent with those recommended in the Supplemental 106 Report of the Draft LAX EIS/EIR. LAWA will be responsible for implementation of the measures and coordination with Caltrans.

1. **Discovery -** Any grading and excavation activities associated with the LAX Expressway project shall be monitored by a professional, Society of Professional Archaeologists (SOPA) certified archaeologist retained by LAWA. Upon discovery of human remains, the project archaeologist shall be empowered to halt construction activities if potentially significant resources are identified. In the event of notification by the project archaeologist that a potentially significant or unique find has been unearthed, LAWA should be notified and grading operations shall cease immediately on-site until the geographic extent and scientific value of the resource can be reasonably verified.

2. **Excavation -** Any excavation of identified resources (features) shall be performed using standard archaeological techniques. Excavations shall be conducted by a professional, SOPA certified archaeologist selected by LAWA. In the event that human remains are found, all grading and excavation activities in the vicinity shall cease immediately and the appropriate LAWA authority shall be notified; compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code shall be required. In addition, a Native American representative/monitor will be selected by LAWA from a list of suitable candidates obtained from the Native American Heritage Commission and contacted for assistance.
3. **Administration -** Where known resources, such as the Centinela Adobe, are present, all grading and construction plans shall be clearly imprinted with all the archaeological/cultural mitigation measures. All site workers shall be informed in writing by the on-site archaeologist of the restrictions regarding disturbance and removal as well as procedures to follow should a resource deposit be detected. The FAA shall prepare an archaeological treatment plan (ATP), in consultation with SHPO, that ensures the long-term protection and proper treatment of those unexpected archaeological discoveries within the APE of this alternative, which FAA and SHPO agreed are considered eligible for listing in the National Register. The ATP would include a research design and data recovery plan. The ATP would be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44634-37), California Office of Historic Preservation's (OHP) Archaeological Resources Management Report; Recommended Contents and Format (1989), and the Guidelines for Archaeological Research Design (1991), and take into account the ACHP's publication Treatment of Archaeological Properties: A Handbook. It would also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the NHPA. All artifacts, notes, photographs, and other project-related materials recovered during the monitoring program shall be curated at a facility meeting federal, state, and local standards.

Implementation of the above actions and mitigation measures would minimize potentially adverse impacts to historic and archaeological resources resulting from the two proposed roadway projects.

5.16 HAZARDOUS WASTE SITES

Based on the information presented in subsection 4.16.2, no adverse impacts associated with hazardous materials usage and hazardous waste generation are anticipated with implementation of the LAX Expressway and State Route 1 Improvements project.

5.17 VISUAL

5.17.1 LAX Expressway

5.17.1.1 Alternative 1 – No Action

Under the No Action alternative, no improvements to the I-405 would occur and therefore no change in the visual environment is expected.

5.17.1.2 Alternative 2 – Split Viaduct

Both Alternatives 2 and 3 would be constructed in an already built environment with moderately low visual quality.

Alternative 2 introduces a divided four-lane highway utilizing both sides of the freeway for almost ¾ of the length of the viaduct. Essentially two elevated structures would be constructed. With limited roadside and right-of-way, construction of this alternative would appear much larger and wider in scale. Use of available roadside would likely create a more abrupt visual contrast between the roadway and surrounding urban environs. There would be little to no additional space to allow for any visual modifications or improvements.

Where the project supports access to the LAX Expressway from La Cienega Boulevard and the connection of the HOV lane to the LAX Expressway just north of W. Florence Avenue, the interface of elevated ramps may reach heights in excess of 21.9 meters (72 feet). This would introduce a new dominant and visually intrusive feature within the adjacent neighborhood to the west of the I-405, thereby, resulting in a permanent visual impact. Residential parcels on the west side of the I-405 on W. 74th Street and Midfield Avenue are less than 112 meters (370 feet) from the shoulder of the existing freeway. Views from these residential parcels would be adversely affected should existing landscaping be removed to accommodate the viaduct (Photo 20). Trees rising up to approximately 9 meters (30 feet) are present to shield these residents from views of the freeway. However, with the construction of the split-viaduct and its potential encroachment onto residential property, it is assumed that landscaping would need to be removed. Replacement of comparable landscaping would considerably reduce visual impacts to residents in this neighborhood.

Similarly, residents along Thornburn Street, Hyde Park Boulevard and S. Ash Avenue, approximately 112 meters (370 feet) away, would experience adverse visual impacts upon implementation of the split viaduct should existing landscaping be removed (Photo 14, 15, 16 and 19). The viaduct on the east side of the I-405 would be a highly visible structure to these source viewers including church goers and students at St. Jerome Catholic Church and School located on Thornburn Street (Photo 14 and 15). Those occupants of a condominium complex (Villa Azure Apartments) on Centinela Boulevard facing south would also experience visual impacts from the viaduct.

With the implementation of the noise abatement measure to construct a sound wall up to 4.9 meters (16 feet) in height, the addition of a hardscape structure in lieu of existing natural landscaping would have a negative visual impact on residents. Implementation of mitigation involving the incorporation of vegetative screening on the sound walls would considerably reduce this impact.

It is assumed that this alternative would also involve the installation of light standards on the proposed LAX Expressway for illuminating the roadway during evening hours. In effect, the introduction of a new light source higher in elevation than existing freeway light sources would constitute an adverse visual impact to adjacent residents in the evening even though the project area is predominantly in a built-out urban environmental with lighting characteristics of urban areas. The implementation of mitigation measures would reduce such impacts.

Construction of this alternative would also introduce a short-term adverse visual impact on nearby residents given that construction crews would, on occasion, be scheduled to work during the evening hours utilizing high powered lights for illumination.

The HOV and on-ramp overpasses would rise up to 21.9 meters (72 feet). The visual experience of specific viewer groups such as park users, residents, church goers and school students along the eastside of the I-405 would potentially be affected depending on the extent to which existing right-of-way is to be used and the extent to which existing landscaping is to remain in place.

This alternative introduces an overpass allowing smooth transition between Arbor Vitae Street and the elevated viaduct (LAX Expressway). The location of this interchange is depicted in Photo 21. It also provides access to the LAX Expressway from La Cienega Boulevard southbound. A connection between the existing La Cienega Boulevard ramp and the proposed LAX Expressway would occur just north of Florence Avenue. The point of visual impact would be at the potential historic site, Randy's Donut Shop, located at Manchester Boulevard and La Cienega Boulevard (Photo 17). This site supports a massive-sized donut on top of the establishment which can be seen from the freeway and at a distance. It is a prominent feature of the existing landscape reflecting perceptions and glimpses of the past and its relevance to the present. Construction of an elevated structure on the west side of the I-405 would not entirely obstruct this feature from view but it would substantially compromise the visual compatibility of the project.

Though the existing environment is rated as low in visual quality, the added structure would not likely improve the visual quality in the area. With particular attention paid to sensitive historic resources, this alternative would likely further degrade existing visual quality.

5.17.1.3 Alternative 3 – Single Viaduct

This alternative introduces an undivided four-lane highway to parallel the I-405 on the eastside from Arbor Vitae Street to the SR-90. By concentrating construction on only one side, the project would appear much smaller in scale than Alternative 2. It would also appear more compact and space conscious. Utilizing only one side of the existing freeway appears less obtrusive than utilizing both sides. As with Alternative 2, the roadside and right-of-way is already limited. Use of available roadside would likely create a more abrupt visual contrast between the roadway and surrounding urban environs. There would be little to no additional space to allow for any visual modifications or improvements. Restricting the structure to one side would possibly require an area greater than that provided for under the existing right-of-way, subsequently, conflicting with existing sound and visual barrier landscaping. The removal of such landscaping would expose viewer groups to the new structure and ultimately change the visual setting and further degrade the visual quality of the project area. Implementation of mitigation measures would provide limited screening to the overhead structures. Mitigation recommending that exiting landscaping remain in place would further screen the structures and reduce adverse impacts from this alternative.

Alternative 3 would have similar visual and lighting impacts on residents located along Thornburn Street, Hyde Boulevard, S. Ash Avenue and Centinela Boulevard as with Alternative 2. Implementation of mitigation measures would reduce such adverse impacts.

As with Alternative 2, this alternative introduces an overpass allowing smooth transition between Arbor Vitae Street and the elevated viaduct (LAX Expressway). This juncture would not affect the visual setting of the Centinela Adobe and Randy's Donut historic sites. Alternative 3 is considered to create less visual impacts than both Alternative 2 and the No Build alternative.

5.17.2 State Route1

5.17.2.1 Alternative 1 – No Action

Under the No Action alternative, no improvements to State Route 1 would occur and therefore no change in the visual environment is expected.

5.17.2.2 Alternatives 2 (Diamond Interchange) and 3 (Urban Interchange)

Alternatives 2 and 3 share the same footprint and include slightly different features. Impacts associated with either of the build alternatives are expected to be the same. The State Route 1 Improvements project and its two build alternatives introduces a number of components that have the potential to change the visual quality of the area. The project introduces a new structure such as the interchange at Lincoln Boulevard and Sepulveda Boulevard to allow for smooth and uninterrupted traffic flow from Sepulveda Boulevard to Lincoln Boulevard (State Route 1). Several overpasses are also proposed at the west end of Lincoln Boulevard (State Route 1) to allow for direct transition between Westchester Parkway and Lincoln Boulevard (State Route 1) heading east to northbound Lincoln Boulevard (State Route 1).

The interchange at Lincoln Boulevard (State Route 1) and Sepulveda Boulevard would become the dominant structure once constructed in the midst of a commercial use area with scattered multi-story structures. Photo 6 depicts the site of the proposed interchange and existing land uses. Upon implementation of the project, the interchange would rise up to 14.6 meters (48 feet). The property of current viewer groups would be acquired, therefore, views of these viewer groups would not be affected. The resulting effect would be a more unifying landscape than under current conditions. Traffic would be able to flow more freely without having to stop to make the connection between Sepulveda Boulevard and Lincoln Boulevard (State Route 1). The elevation gain provided by the new structure would introduce new views from the interchange. New views would include that of the surrounding urban landscape to the northeast and the striking contrast to the flatness of the airport landing strip and vastness of the Pacific ocean to the southwest. These visual resource changes would be moderate and provides a beneficial change in terms of vividness, intactness and unity.

Another component of both Alternative 2 and 3 involves the relocation of State Route 1 onto Westchester Parkway. Implementation of the proposed Master Plan alternatives A and C would result in the need to re-grade and lower the roadway by approximately 3 meters (10 feet) to comply with FAA requirements. The potential effects of this criteria would not alter existing views from the newly aligned roadway. The general flatness of the area would remain unchanged allowing the natural and built environment to remain intact and in harmony. The swath of grass between Lincoln Boulevard and Westchester Parkway would be permanently removed and only moderately affect the park like atmosphere under current conditions. However, landscaping features would be incorporated into the final design plans to maintain such a quality.

The proposed overpasses in the area farthest west of the project site would not compromise the existing visual quality given that an overpass currently exists in this area as depicted in Photo 3. A community village is located just west of the project site which would be acquired as part of the project. Therefore, no visual impacts on these viewers would be expected. As discussed previously, the new overpasses would provide additional views of the airport landing strip and its visual coherence with the natural environment. Overall, implementation of either build alternative for the State Route 1 project would not likely result in any visual conflicts or adverse impacts.

5.17.3 Cumulative Impacts

Implementation of either LAX Expressway alternative would result in a cumulative visual impact in that the project introduces a dominant linear feature into an already intensively built environment. Nearby residents would be exposed to a more intensely built urban environment. In addition, the project alternatives introduce more light and glare during the nighttime further obscuring the night skyline.

The State Route 1 improvements would not result in cumulative visual impacts in that the projects in and of themselves would not change the existing visual quality of the area.

5.17.4 Mitigation Measures

The following mitigation measures apply to the LAX Expressway and State Route 1 Improvements project.

1. Provide for comparable roadside clearance as under existing conditions.
2. Existing sound and visual barrier landscaping features shall be retained wherever possible.
3. The final plans and specifications of the proposed LAX Expressway project should contain lighting specifications and placement requirements to ensure that lighting intensity over existing conditions for residential uses does not increase by more than two foot-candles.

6.0 INVENTORY OF MITIGATION MEASURES

The following mitigation measures apply to the LAX Expressway and State Route 1 Improvements project.

Land Use

1. Modify Westchester-Playa del Rey Community Plan to reflect the LAX Master Plan proposed new property boundary and planned on-airport land uses.
2. Implement mitigation measures identified under the Draft LAX EIS/EIR Section 4.18 *Light Emissions* and Section 4.21 *Design, Art and Architecture Application/Aesthetics* of the LAX Master Plan.

Air Quality

1. Use low- NO_x construction equipment
2. Use reformulated diesel fuel.
3. Minimize concurrent use of equipment through equipment phasing.
4. Water surface before grading.
5. Water exposed surface at least twice daily to maintain surface crust.

Waterways and Hydrologic Systems

1. Regional drainage facilities should be upgraded, as necessary, in order to accommodate current and projected future flows within the water shed of each outfall. This could include upgrading the existing outfalls, or building new ones. The responsibility for implementing this mitigation measure lies with the Los Angeles County Department of Public Works and/or the City of Los Angeles Department of Public Works, Bureau of Engineering. The new or upgraded facilities should be designed in accordance with the drainage design standards of each agency.

Wildlife, Fisheries, and Vegetation

There are no substantial impacts identified for biotic communities. Therefore, no mitigation measures are required. However, the following measures are recommended for implementation by LAWA and its contractors to minimize the potential spread of noxious weeds.

1. All construction equipment used on the project should be clean of non-indigenous soil prior to arriving onsite. Equipment should be washed prior to transporting to the project area.
2. Disturbed soils should be seeded by hydromulching as soon as possible after final grading is completed. Efforts should be made to prevent grades slopes from being untreated for more than sixty days.
3. Landscape plans for the roadway projects should incorporate native or non-invasive groundcover, shrubs, and trees.
4. The responsible agency shall identify and implement appropriate weed abatement procedures.
5. Acquired parcels that will not be developed should be treated by the responsible agency for invasive weeds by seeding with appropriate native species, mulching, or otherwise removing existing weeds and preventing future establishment of undesirable species.

6. Roadway maintenance by the responsible agency on the completed project will include impact minimization methodology (i.e., limiting mowing activity to after seed production by native species is completed) to increase natural reseeding of disturbed project areas.

Cultural Resources

Historic Resources

The mitigation measures recommended to reduce potential adverse impacts on historical resources are identical to those identified for the Centinela Adobe and Randy's Donut properties in the Supplemental Section 106 evaluation of the Draft LAX EIS/EIR. LAWA will be responsible for implementation of the measures and coordination with Caltrans.

1. **Avoidance -** Avoiding the impacts to these two historic resources is preferred. If feasible, modify or limit the magnitude of the placement of the southbound HOV lanes as to not directly impact the Centinela Adobe and Randy's donuts. This measure would include relocating the southbound HOV lane off all property associated with and adjacent to the Centinela Adobe and Randy's Donuts, thereby placing it along the base of the west shoulder embankment of the I-405, out of view of both resources' primary elevations.
2. **Relocation -** If feasible, relocate the properties if directly impacted by this alternative. Randy's Donuts is of wood construction, and therefore is a good candidate for relocation. However, because of historic construction techniques and materials used on the Centinela Adobe relocation for this resource is limited and not advised.
3. **Recordation -** Prior to any project-related demolition or construction activity that poises direct or indirect effects onto the Centinela Adobe and Randy's Donuts, Historic American Building Survey (HABS) documents shall be prepared by LAWA in accordance with the Secretary of the Interior's Guidelines for Architectural and Engineering Documentation Standards. The level of documentation (I, II, III, IV) will be determined by the National Park Service. This documentation shall adequately explicate and illustrate what is significant or valuable about each of the historic properties. Archival copies of the documentation shall be submitted to the National Park Service, the California Office of Historic Preservation, the Los Angeles Public Library, and the Inglewood Public Library.
4. **Coordination of Demolition/Significant Modifications with New Construction -** None of the historic properties proposed for demolition and/or significant modification, including direct and indirect effects, shall be impacted (demolished and/or significantly modified) until the proposed project is fully entitled and financed.
5. **Reuse of Building Materials and Design Elements -** Prior to completion of project design and prior to the modification, including direct and indirect impacts, of the historic properties an inventory of significant, character-defining features and materials of the historic resources shall be made by a qualified architectural historian or historic architect. These materials and design elements shall be salvaged and incorporated to the extent feasible into the final design of the project. Any salvaged materials not incorporated into the project design shall be made available for use in rehabilitation and/or restoration projects in the Los Angeles region. Some materials shall also be incorporated into an educational and interpretive exhibit, as described below.
6. **Educational and Interpretative Programs -** For those significant historic resources proposed for demolition or modification, including direct and indirect impacts, educational materials suitable for the general public, secondary school use, and/or historians shall be designed and implemented. The purpose of these materials will be to present in two- or three-dimensional format, the history of the adobe and surrounding area, as well as, the architectural history of

Programmatic architecture (including Randy's Donuts) in the southern California region. Such materials shall include, but not be limited to, a video/film documentary, curriculum program and teacher's guide, architectural models, and a historical brochure or pamphlet. These materials shall be made available via LAWA's public relations department to the general public, local community school history programs, related interest groups, and the Los Angeles and Inglewood Public Libraries.

7. **Historic Preservation Policy -** The City of Los Angeles shall develop a historic preservation policy and implementation strategy so that the remaining adobe structures located within the City limits may be preserved for future generations.

Archaeological Resources

Unanticipated discoveries of archaeological resources and/or human remains will be mitigated as follows:

1. **Discovery -** Any grading and excavation activities associated with the LAX Expressway project shall be monitored by a professional, Society of Professional Archaeologists (SOPA) certified archaeologist retained by LAWA. Upon discovery of human remains, the project archaeologist shall be empowered to halt construction activities if potentially significant resources are identified. In the event of notification by the project archaeologist that a potentially significant or unique find has been unearthed, LAWA should be notified and grading operations shall cease immediately on-site until the geographic extent and scientific value of the resource can be reasonably verified.
2. **Excavation -** Any excavation of identified resources (features) shall be performed using standard archaeological techniques. Excavations shall be conducted by a professional, SOPA certified archaeologist selected by LAWA. In the event that human remains are found, all grading and excavation activities in the vicinity shall cease immediately and the appropriate LAWA authority shall be notified; compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code shall be required. In addition, a Native American representative/monitor will be selected by LAWA from a list of suitable candidates obtained from the Native American Heritage Commission and contacted for assistance.
3. **Administration -** Where known resources, such as the Centinela Adobe, are present, all grading and construction plans shall be clearly imprinted with all the archaeological/cultural mitigation measures. All site workers shall be informed in writing by the on-site archaeologist of the restrictions regarding disturbance and removal as well as procedures to follow should a resource deposit be detected. The FAA shall prepare an archaeological treatment plan (ATP), in consultation with SHPO, that ensures the long-term protection and proper treatment of those unexpected archaeological discoveries within the APE of this alternative, which FAA and SHPO agreed are considered eligible for listing in the National Register. The ATP would include a research design and data recovery plan. The ATP would be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44634-37), California Office of Historic Preservation's (OHP) Archaeological Resources Management Report; Recommended Contents and Format (1989), and the Guidelines for Archaeological Research Design (1991), and take into account the ACHP's publication Treatment of Archaeological Properties: A Handbook. It would also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the NHPA. All artifacts, notes, photographs, and other project-related materials recovered during the monitoring program shall be curated at a facility meeting federal, state, and local standards.

Visual

1. Provide for comparable roadside clearance as under existing conditions.
2. Existing sound and visual barrier landscaping features shall be retained wherever possible.
3. The final plans and specifications of the proposed LAX Expressway project should contain lighting specifications and placement requirements to ensure that lighting intensity over existing conditions for residential uses does not increase by more than two foot-candles.

7.0 LIST OF PREPARERS

This section list the individuals who assisted in the preparation of this document.

URS Corporation

Dennis J. Papilion – M.S., Landscape Architecture and Natural Resource. 16 years experience. Project Director responsible for management of entire project team on all technical and strategic issues regarding NEPA and related FHWA requirements.

Patricia Flores Shoemaker, AICP – M.S., Environmental Studies. 20 years experience. Responsible for overall review and edit of the Draft EIS and coordination of its preparation.

Barbara A. Klos – M.S., Water Resource Management. 13 years experience. Responsible for hydrology and water quality sections of the Draft EIS.

Christine Lenches-Hinkel – M.S., Forestry. 2 years experience. Responsible for Section 4(f) and overall preparation and edit of the Draft EIS and coordination of sections.

Mari Ledesma – B.S., Environmental Studies. 4 years experience. Responsible for land use analysis sections of the Draft EIS.

Rob Greene, INCE, Bd. Cert. – B.S., Environmental Science. 23 years experience. Responsible for roadway noise impact analysis.

Michael G. Greene, INCE, Bd. Cert. – B.S., Applied Mechanics. 11 years experience. Responsible for noise field measurements, computer modeling and noise abatement evaluation.

Rachel Pirie, INCE – B.Eng., Acoustics and Vibration, M.S., Ocean Engineering (Acoustics). 3 years experience. Assisted with noise field measurements and computer modeling of roadway noise, and noise abatement feasibility/reasonableness evaluation.

Thomas E. Herzog – B.A. Biological Sciences. 13 years experience. Responsible for biological resources sections of the Draft EIS.

Ralph E. Braboy - PE. Aesthetic Site Development Design. 18 years experience. Responsible for Section 3 and overall preparation and edit of the Draft EIS and coordination of sections.

David B. Lew – P.E. Traffic Structures Design, Roadway Computer Modeling. 5 years experience. Responsible for Section 3 and overall preparation and edit of the Draft EIS and Coordination of sections.

8.0 LIST OF AGENCIES AND ORGANIZATIONS

This section lists the agencies and persons consulted during the evaluation of and preparation process for this document.

Agencies

U.S. Department of Transportation, Federal Highway Administration

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Camp Dresser & McKee Inc.
Robin E. Ijams
Anthony Skidmore

PCR Corporation
Jay Ziff

9.0 REFERENCES

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Attachment 1

Air Quality Technical Data

LAX Expressway and State Route 1 Improvements

OCT-16-00 10:55 FROM:

3F15M5NP

March 4, 2000 ,Saturday 03:23:49 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: SEPULVEDA BLVD   W/E: LINCOLN BLVD   I/S No: 93

AM/PM: PM   Comments: *No Action/No Project Alternative 2015 PM*

COUNT DATE: 4/15/2094   STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	0	0	0	1568	0	18	0	2149	1779	0	2087	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	0	0	1568	0	18	0	2149	1779	0	2087	0

LANE							
NORTHBOUND	0	0	0	0	0	0	0
SOUTHBOUND	3	0	0	0	0	0	1
WESTBOUND	0	0	3	0	0	3	0
EASTBOUND	0	0	3	0	0	0	0

SIGNAL	NORTHBOUND Phasing	NORTHBOUND RTOR	SOUTHBOUND Phasing	SOUTHBOUND RTOR	WESTBOUND Phasing	WESTBOUND RTOR	EASTBOUND Phasing	EASTBOUND RTOR
	<none>	<none>	Perm	<none>	Perm	Free	Perm	<none>

Critical Movements Diagram

	A	B
SouthBound	396	396
EastBound	696	0
WestBound	716	0
NorthBound	0	0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E
> 1.00	F

Results

North/South Critical Movements = A(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{0 + 396 + 716 + 0}{{}^{*}1500} = 0.671$$

LOS = B

3F15MSNP

CalcaDB

March 4, 2000 ,Saturday 03:23:49 PM

INTERSECTION DATA SUMMARY SHEET

N/S: SEPULVEDA BLVD W/E: WESTCHESTER PKWY I/S No: 109

AM/PM: PM Comments: No Action/No Project All year 2015 PM

COUNT DATE: 4/15/2097 STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	179	1652	72	338	1198	196	131	1026	302	75	849	45
AMBIENT												
RELATED												
PROJECT												
TOTAL	179	1652	72	338	1198	196	131	1026	302	75	849	45

LANE							
NORTHBOUND	1	0	2	0	1	0	0
SOUTHBOUND	1	0	2	0	1	0	0
WESTBOUND	1	0	1	0	1	0	0
EASTBOUND	1	0	1	0	1	0	0

SIGNAL	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
Phasing	Perm	Perm	Perm	Perm
RTOR	Auto	Auto	Auto	Auto

Critical Movements Diagram

SouthBound
A: 464
B: 338

EastBound
A: 447
B: 75

WestBound
A: 664
B: 131

NorthBound
A: 575
B: 179

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E
> 1.00	F

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{575 + 338 + 664 + 75}{*1500} = 1.031$$

LOS = F

Developed by Chun Wong, 12/94

3F15M5AP

CalcaDB

February 25, 2000 ,Friday 11:02:25 AM

INTERSECTION DATA SUMMARY SHEET

N/S: SEPULVEDA BLVD W/E: WESTCHESTER PKWY I/S No: 109

AM/PM: PM Comments: Intersection 109A - South Portion ALT- A 2015 PM

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	2266	0	549	2060	0	0	0	0	201	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	2266	0	549	2060	0	0	0	0	201	0	0

	NORTHBOUND							SOUTHBOUND							WESTBOUND							EASTBOUND						
LANE	0	0	3	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

	NORTHBOUND		SOUTHBOUND		WESTBOUND		EASTBOUND	
	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR	Phasing	RTOR
SIGNAL	Perm	<none>	Prot-Fix	<none>	<none>	<none>	Perm	<none>

Critical Movements Diagram

SouthBound
A: 1030
B: 302

EastBound
A: 0
B: 201

WestBound
A: 0
B: 0

NorthBound
A: 755
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E
> 1.00	F

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{755 + 302 + 0 + 201}{*1425} = 0.813$$

LOS = D

Developed by Chun Wong, 12/94

3F15M5AP

CalcaDB

February 25, 2000 ,Friday 11:02:25 AM

INTERSECTION DATA SUMMARY SHEET

N/S: SEPULVEDA BLVD
W/E: WESTCHESTER PKWY
I/S No: 109

AM/PM: PM

Comments: Intersection 109B - North Portion Alt. A Year 2015 PM

COUNT DATE: 4/15/2097
STUDY DATE:
GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	0	2467	0	0	2387	570	222	0	290	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	2467	0	0	2387	570	222	0	290	0	0	0

LANE							
NORTHBOUND	0	0	3	0	0	0	0
SOUTHBOUND	0	0	3	0	0	1	0
WESTBOUND	2	0	0	0	1	0	0
EASTBOUND	0	0	0	0	0	0	0

SIGNAL	Phasing	RTOR
NORTHBOUND	Perm	<none>
SOUTHBOUND	Perm	Auto
WESTBOUND	Split	Auto
EASTBOUND	<none>	<none>

Critical Movements Diagram

SouthBound
A: 796
B: 0*

EastBound
A: 0
B: 0

WestBound
A: 290
B: 122

NorthBound
A: 822
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E
> 1.00	F

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{822 + 0 + 290 + 0}{*1500} = 0.671$$

LOS = B

Developed by Chun Wong, 12/94

3F15M5BP

CalcaDB

February 28, 2000 ,Monday 09:32:06 AM

INTERSECTION DATA SUMMARY SHEET

N/S: SEPULVEDA BLVD W/E: WESTCHESTER PKWY I/S No: 109

AM/PM: PM Comments: Intersection 109A - South Portion Alt. B Year 2015 PM

COUNT DATE: STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND			SOUTHBOUND			WESTBOUND			EASTBOUND		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
EXISTING	0	2225	0	340	2931	0	0	0	0	75	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	2225	0	340	2931	0	0	0	0	75	0	0

LANE							
NORTHBOUND	0	0	3	0	0	0	0
SOUTHBOUND	1	0	3	0	0	0	0
WESTBOUND	0	0	0	0	0	0	0
EASTBOUND	1	0	0	0	0	0	0

SIGNAL	NB Phasing	NB RTOR	SB Phasing	SB RTOR	WB Phasing	WB RTOR	EB Phasing	EB RTOR
	Perm	<none>	Perm	<none>	<none>	<none>	Perm	<none>

Critical Movements Diagram

	A:	B:
SouthBound	977	340
EastBound	0	75
WestBound	0	0
NorthBound	742	0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E
> 1.00	F

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{742 + 340 + 0 + 75}{*1500} = 0.701$$

LOS = C

3F15M5BP

CalcaDB

February 28, 2000 ,Monday 09:32:06 AM

INTERSECTION DATA SUMMARY SHEET

N/S: SEPULVEDA BLVD W/E: WESTCHESTER PKWY I/S No: 109

AM/PM: PM Comments: Intersection 109B - North Portion ALT. B year 2015 PM

COUNT DATE: 4/15/2097 STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	0	2300	0	0	2421	177	850	0	238	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	2300	0	0	2421	177	850	0	238	0	0	0

LANE	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
	0 0 3 0 0 0 0	0 0 3 0 0 1 0	2 0 0 0 1 0 0	0 0 0 0 0 0 0

SIGNAL	NB Phasing	NB RTOR	SB Phasing	SB RTOR	WB Phasing	WB RTOR	EB Phasing	EB RTOR
	Perm	<none>	Perm	Auto	Split	Auto	<none>	<none>

Critical Movements Diagram

SouthBound A: 807 B: 0

EastBound A: 0 B: 0

WestBound A: 238 B: 467

NorthBound A: 767 B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E
> 1.00	F

Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = B(W/B) + A(E/B)

$$V/C = \frac{0 + 807 + 467 + 0}{*1500} = 0.779$$

LOS = C

Developed by Chun Wong, 12/94

P415ACPM

December 1, 1999 ,Wednesday 12:39:52 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: SEPULVEDA BLVD W/E: WESTCHESTER PKWY I/S No: 109

AM/PM: PM Comments: Intersection 109A - South Portion Alt. C Year 2015 PM

COUNT DATE: 4/15/1997 STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	0	2622	402	643	2457	0	0	0	0	101	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	2622	402	643	2457	0	0	0	0	101	0	0

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	0 0 3 0 0 1 0	2 0 3 0 0 0 0	0 0 0 0 0 0 0	2 0 0 0 0 0 0

	NORTHBOUND Phasing	NORTHBOUND RTOR	SOUTHBOUND Phasing	SOUTHBOUND RTOR	WESTBOUND Phasing	WESTBOUND RTOR	EASTBOUND Phasing	EASTBOUND RTOR
SIGNAL	Perm	Free	Prot-Fix	<none>	<none>	<none>	Perm	<none>

Critical Movements Diagram

SouthBound
A: 819
B: 354

EastBound
A: 0
B: 56

WestBound
A: 0
B: 0

NorthBound
A: 874
B: 0

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

Results

North/South Critical Movements = A(N/B) + B(S/B)

West/East Critical Movements = A(W/B) + B(E/B)

$$V/C = \frac{874 + 354 + 0 + 56}{*1425} = 0.831$$

LOS = D

Developed by Chun Wong, 12/94

P415ACPM

December 1, 1999 ,Wednesday 12:41:13 PM

CalcaDB

INTERSECTION DATA SUMMARY SHEET

N/S: SEPULVEDA BLVD W/E: WESTCHESTER PKWY I/S No: 109

AM/PM: PM Comments: Intersection 109B - North Portion ALT C year 2015 PM

COUNT DATE: 4/15/1997 STUDY DATE: GROWTH FACTOR:

Volume/Lane/Signal Configurations

	NORTHBOUND LT	NORTHBOUND TH	NORTHBOUND RT	SOUTHBOUND LT	SOUTHBOUND TH	SOUTHBOUND RT	WESTBOUND LT	WESTBOUND TH	WESTBOUND RT	EASTBOUND LT	EASTBOUND TH	EASTBOUND RT
EXISTING	0	2723	0	0	2685	278	415	0	304	0	0	0
AMBIENT												
RELATED												
PROJECT												
TOTAL	0	2723	0	0	2685	278	415	0	304	0	0	0

	NORTHBOUND	SOUTHBOUND	WESTBOUND	EASTBOUND
LANE	0 0 3 0 0 0 0	0 0 2 0 1 0 0	2 0 0 0 0 1 0	0 0 0 0 0 0 0

	NB Phasing	NB RTOR	SB Phasing	SB RTOR	WB Phasing	WB RTOR	EB Phasing	EB RTOR
SIGNAL	Perm	<none>	Perm	Auto	Perm	Auto	<none>	<none>

Critical Movements Diagram

SouthBound A: 988 B: 0

EastBound A: 0 B: 0

WestBound A: 304 B: 228

NorthBound A: 908 B: 0

V/C RATIO	LOS
0.00 - 0.60	A
0.61 - 0.70	B
0.71 - 0.80	C
0.81 - 0.90	D
0.91 - 1.00	E

A = Adjusted Through/Right Volume
B = Adjusted Left Volume
* = ATSAC Benefit

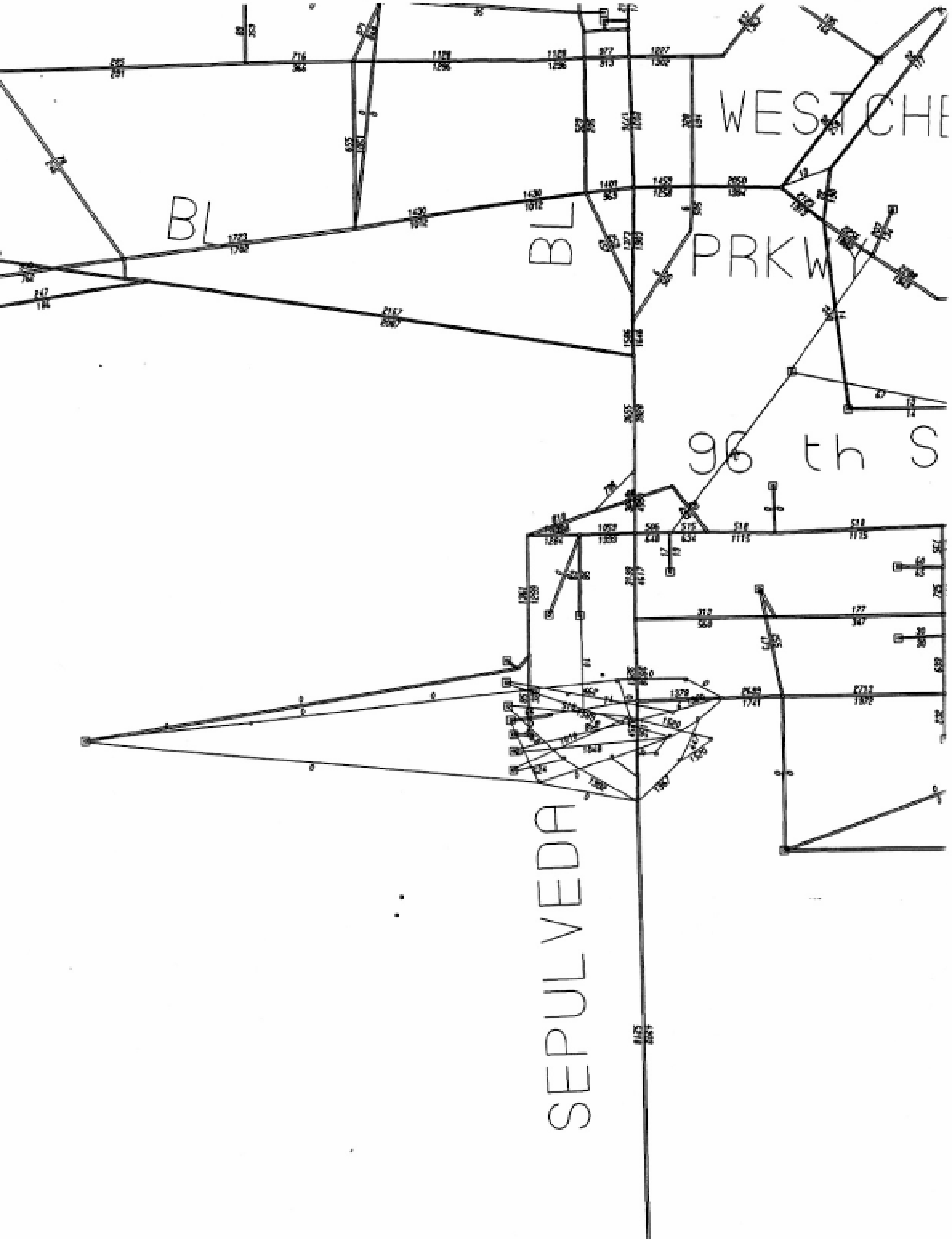
Results

North/South Critical Movements = B(N/B) + A(S/B)

West/East Critical Movements = A(W/B) + A(E/B)

$$V/C = \frac{0 + 988 + 304 + 0}{*1500} = 0.791$$

LOS = C


WESTCHE
BL
BL
PRKWY
96 th S
SEPULVEDA

Attachment 1

Air Quality Data

Construction Emission Calculations

Table 1-1 Source Data for SOx Emissions - All Alternatives

Equipment Type (a)	*Number Active(a)*	*Rated HP (b)*	*Load Factor (b)*	*Work Hrs Per Day (a)*	*Work Days Per Quarter*	*Emission Factors (lb/hp-hr) (b) SOx*
Scraper	6	266.76	0.660	10	65	2.00E-03
Front End Loader	1	147	0.540	10	65	2.00E-03
Compactor	3	161	0.620	10	65	2.00E-03
Light Plant	8	161	0.620	10	65	2.00E-03
Welder	4	35	0.450	10	65	2.00E-03
Fork Lift	1	83	0.300	10	65	2.00E-03
Dozer	2	356	0.590	10	65	2.00E-03

Notes: (a) Source of Data: CDM 2000. All equipment is diesel-fueled, unless otherwise indicated.
(b) Source of Data: SCAQMD 1993.

Table 1-2 Estimated SOx Construction Emissions

Equipment Type	*Daily Emissions (pounds/day) SOx*	*Quarter Emissions (tons/quarter) SOx*
Scraper	21.13	0.69
Front End Loader	1.59	0.05
Compactor	5.99	0.19
Light Plant	15.97	0.52
Welder	1.26	0.04
Fork Lift	0.50	0.02
Dozer	8.40	0.27
Total Emissions	**54.83**	**1.78**

Table 1-3 Summary of the Estimated Emissions

Pollutant	State Route 1 Alternative 2	State Route 1 Alternative 3	LAX Expressway Alternative 2	LAX Expressway Alternative 3	Significance Thresholds
Emission before Mitigation					
			Pounds per Day		
ROC	69.38	69.38	84.830	62.17	75
NOx	526.67	526.67	530.470	524.73	100
CO	13.03	13.03	20.240	9.35	550
PM10	265.35	265.35	383.580	204.98	150
SOx	54.83	54.83	54.830	54.83	150
			Tons per Quarter		
ROC	2.25	2.25	2.76	2.02	2.5
NOx	17.12	17.12	17.24	17.05	2.5
CO	0.42	0.42	0.66	0.30	24.75
PM10	8.62	8.62	12.47	6.66	6.75
SOx	1.78	1.78	1.78	1.78	6.75
Emissions after Mitigation					
			Pounds per Day		
ROC	67.69	67.69	82.69	60.03	75
NOx	500.68	500.68	504.48	498.74	100
CO	13.03	13.03	20.24	9.35	550
PM10	187.33	187.33	295.20	162.75	150
SOx	54.83	54.83	54.83	54.83	150
			Tons per Quarter		
ROC	2.20	2.20	2.69	1.95	2.5
NOx	16.27	16.27	16.40	16.21	2.5
CO	0.42	0.42	0.66	0.30	24.75
PM10	6.09	6.09	9.59	5.29	6.75
SOx	1.78	1.78	1.78	1.78	6.75

Notes: (a) Emissions of ROC, NOx, CO, and PM10 were estimated using URBEMIS7G, and emissions of SOx were estimated using the SCAQMD emission factor.

URBEMIS 7G: Version 3.1

File Name: laxsr1s.URB
Project Name: Construction, SR1, Alt 2 & 3, Summer
Project Location: South Coast Air Basin (Los Angeles area)

DETAILED REPORT - Summer

Total Land Use Area to be Developed (Estimated): 85 acres
Retail/Office/Institutional Square Footage: 1851300
Single Family Units 0 Multi-family Units 0

CONSTRUCTION EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
Demolition				0.00
Site Grading	0.00	0.00	-	212.50
Const. Worker Trips	4.86	6.87	13.03	1.32
Stationary Equip.	0.00	0.00	-	0.00
Mobile Equip. - Gas	0.00	0.00	-	0.00
Mobile Equip. - Diesel	42.70	519.80	-	51.53
Architectural Coatings	0.00			
Asphalt Offgasing	22.27			
TOTALS (ppd, unmitigated)	69.83	526.67	13.03	265.35

CONSTRUCTION EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
Demolition				0.00
Site Grading	0.00	0.00	-	137.06
Const. Worker Trips	4.86	6.87	13.03	1.32
Stationary Equip.	0.00	0.00	-	0.00
Mobile Equip. - Gas	0.00	0.00	-	0.00
Mobile Equip. - Diesel	40.57	493.81	-	48.95
Architectural Coatings	0.00			
Asphalt Offgasing	22.27			
TOTALS (ppd, mitigated)	67.69	500.68	13.03	187.33

Construction-Related Mitigation Measures

Soil Erosion Measures: Water Exposed Surfaces 2x Per Day:
Percent Reduction(ROG 0% NOx 0% CO 0% PM10 68%)
Properly Maintain Equipment:
Percent Reduction(ROG 5% NOx 5% CO 0% PM10 5%)

Implement Water/Paved Road Measures: Water All Haul Roads 2x Per Day:
   Percent Reduction(ROG 0% NOx 0% CO 0% PM10 3%)
Mobile Equipment: Properly Maintain Equipment:
   Percent Reduction(ROG 5% NOx 5% CO 5% PM10 5%)

Changes Made to the Default Values

Construction Related:
The demolition emissions option switch has been changed
The stationary emissions option switch has been changed
The architectural coatings option switch has been changed
The default values for diesel powered powered fork lifts (50hp) have been modified by the user.
The default values for diesel gasoline powered fork lifts (175hp) have been modified by the user.
The default values for diesel powered scrapers have been modified by the user.
The default values for diesel powered wheeled dozers have been modified by the user.
The default values for diesel powered wheeled loaders have been modified by the user.
The default values for diesel powered miscellaneous equipment have been modified by the user.

URBEMIS 7G: Version 3.1

File Name: laxex2.URB
Project Name: Construction, LAX EX Alt 2
Project Location: South Coast Air Basin (Los Angeles area)

DETAILED REPORT - Summer

Total Land Use Area to be Developed (Estimated): 132 acres
Retail/Office/Institutional Square Footage: 2874960
Single Family Units 0 Multi-family Units 0

CONSTRUCTION EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
Demolition				0.00
Site Grading	0.00	0.00	-	330.00
Const. Worker Trips	7.54	10.67	20.24	2.05
Stationary Equip.	0.00	0.00	-	0.00
Mobile Equip. - Gas	0.00	0.00	-	0.00
Mobile Equip. - Diesel	42.70	519.80	-	51.53
Architectural Coatings	0.00			
Asphalt Offgasing	34.58			
TOTALS (ppd, unmitigated)	84.83	530.47	20.24	383.58

CONSTRUCTION EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
Demolition				0.00
Site Grading	0.00	0.00	-	244.20
Const. Worker Trips	7.54	10.67	20.24	2.05
Stationary Equip.	0.00	0.00	-	0.00
Mobile Equip. - Gas	0.00	0.00	-	0.00
Mobile Equip. - Diesel	40.57	493.81	-	48.95
Architectural Coatings	0.00			
Asphalt Offgasing	34.58			
TOTALS (ppd, mitigated)	82.69	504.48	20.24	295.20

Construction-Related Mitigation Measures

Soil Erosion Measures: Replace Ground Cover in Disturbed Areas Quickly:
  Percent Reduction(ROG 0% NOx 0% CO 0% PM10 49%)
Properly Maintain Equipment:
  Percent Reduction(ROG 5% NOx 5% CO 0% PM10 5%)
Implement Water/Paved Road Measures: Water All Haul Roads 2x Per Day:

Percent Reduction(ROG 0% NOx 0% CO 0% PM10 3%)
Mobile Equipment: Properly Maintain Equipment:
Percent Reduction(ROG 5% NOx 5% CO 5% PM10 5%)

Changes Made to the Default Values

Construction Related:
The demolition emissions option switch has been changed
The stationary emissions option switch has been changed
The architectural coatings option switch has been changed
The default values for diesel powered powered fork lifts (50hp) have been modified by the user.
The default values for diesel gasoline powered fork lifts (175hp) have been modified by the user.
The default values for diesel powered scrapers have been modified by the user.
The default values for diesel powered wheeled dozers have been modified by the user.
The default values for diesel powered wheeled loaders have been modified by the user.
The default values for diesel powered miscellaneous equipment have been modified by the user.

URBEMIS 7G: Version 3.1

File Name: laxex3.URB
Project Name: Construction, LAX EX Alt 3
Project Location: South Coast Air Basin (Los Angeles area)

DETAILED REPORT - Summer

Total Land Use Area to be Developed (Estimated): 61 acres
Retail/Office/Institutional Square Footage: 1328580
Single Family Units 0 Multi-family Units 0

CONSTRUCTION EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
Demolition				0.00
Site Grading	0.00	0.00	-	152.50
Const. Worker Trips	3.49	4.93	9.35	0.95
Stationary Equip.	0.00	0.00	-	0.00
Mobile Equip. - Gas	0.00	0.00	-	0.00
Mobile Equip. - Diesel	42.70	519.80	-	51.53
Architectural Coatings	0.00			
Asphalt Offgasing	15.98			
TOTALS (ppd, unmitigated)	62.17	524.73	9.35	204.98

CONSTRUCTION EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
Demolition				0.00
Site Grading	0.00	0.00	-	112.85
Const. Worker Trips	3.49	4.93	9.35	0.95
Stationary Equip.	0.00	0.00	-	0.00
Mobile Equip. - Gas	0.00	0.00	-	0.00
Mobile Equip. - Diesel	40.57	493.81	-	48.95
Architectural Coatings	0.00			
Asphalt Offgasing	15.98			
TOTALS (ppd, mitigated)	60.03	498.74	9.35	162.75

Construction-Related Mitigation Measures

Soil Erosion Measures: Replace Ground Cover in Disturbed Areas Quickly:
Percent Reduction(ROG 0% NOx 0% CO 0% PM10 49%)
Properly Maintain Equipment:
Percent Reduction(ROG 5% NOx 5% CO 0% PM10 5%)

Implement Water/Paved Road Measures: Water All Haul Roads 2x Per Day:
    Percent Reduction(ROG 0% NOx 0% CO 0% PM10 3%)
Mobile Equipment: Properly Maintain Equipment:
    Percent Reduction(ROG 5% NOx 5% CO 5% PM10 5%)

Changes Made to the Default Values

Construction Related:
The demolition emissions option switch has been changed
The stationary emissions option switch has been changed
The architectural coatings option switch has been changed
The default values for diesel powered powered fork lifts (50hp) have been modified by the user.
The default values for diesel gasoline powered fork lifts (175hp) have been modified by the user.
The default values for diesel powered scrapers have been modified by the user.
The default values for diesel powered wheeled dozers have been modified by the user.
The default values for diesel powered wheeled loaders have been modified by the user.
The default values for diesel powered miscellaneous equipment have been modified by the user.

1ENV028F1.1 CALTRANS DIVISION OF RUN DATES:
ENV028F1.1 10/13/2000
NEW TECHNOLOGY, MATERIALS AND RESEARCH
EMFAC7F1.1 10/13/2000

EMFAC7F1.1 RATES AS OF 1/25/94
TIME RATE ADJUSTMENT BAGS 1 & 3 LAX Roadway Improvement

YEAR: 2015 DEWPOINT: 10 % COLD STARTS 40.0 % LDA 69.0 % LDT 19.4 % MDT 6.4
INSPECTION & MAINTENANCE: YES % HOT STARTS 0.0 % UBD 0.0 % HDG 1.2 % HDD 3.6
SEASON: WINTER % HOT STAB 60.0 % MCY 0.4

TABLE 1: ESTIMATED TRAVEL FRACTIONS

	LIGHT DUTY AUTOS			LIGHT DUTY TRUCKS			MED DUTY TRUCKS URBAN BUS			HEAVY DUTY TRUCKS			MCY
	NCAT	CAT	DIESEL	NCAT	CAT	DIESEL	NCAT	CAT	DIESEL	NCAT	CAT	DIESEL	ALL
% VMT	0.00	99.98	0.02	0.00	100.00	0.00	0.00	100.00	100.00	11.00	89.00	100.00	100.00
% TRIP	0.00	99.98	0.02	0.00	100.00	0.00	0.00	100.00	100.00	11.00	89.00	100.00	100.00
% VEH	0.00	99.96	0.04	0.00	100.00	0.00	0.00	100.00	100.00	11.00	89.00	100.00	100.00

1ENV028F1.1 CALTRANS DIVISION OF RUN DATES:
ENV028F1.1 10/13/2000
NEW TECHNOLOGY, MATERIALS AND RESEARCH
EMFAC7F1.1 10/13/2000

EMFAC7F1.1 RATES AS OF 1/25/94
TIME RATE ADJUSTMENT BAGS 1 & 3 LAX Roadway Improvement

YEAR: 2015 DEWPOINT: 10 % COLD STARTS 40.0 % LDA 69.0 % LDT 19.4 % MDT 6.4
INSPECTION & MAINTENANCE: YES % HOT STARTS 0.0 % UBD 0.0 % HDG 1.2 % HDD 3.6
SEASON: WINTER % HOT STAB 60.0 % MCY 0.4

TABLE 2: COMPOSITE EMISSION FACTORS

POLLUTANT NAME: CARBON MONOXIDE   IN GRAMS PER MILE

SPEED MPH	TEMPERATURE IN DEGREES FAHRENHEIT 53
IDLE*	1.70
3	33.96
5	22.20
10	11.97
15	8.11
20	6.12
25	4.93
30	4.15
35	3.61
40	3.23
45	2.99
50	2.90
55	3.00
60	3.46
65	4.88

*IDLE EMISSIONS IN GRAMS/MIN, DERIVED FROM 3 MPH RATES

CAL3QHCR (Dated: 95221)

DATE : 10/17/ 0
PAGE: 1
TIME : 18: 5:51

JOB: SR 1 No Project RUN: SR 1

General Information

Run start date: 1/ 1/81 Julian: 1
end date: 12/31/81 Julian: 365

A Tier 1 approach was used for input data preparation.

The MODE flag has been set to C for calculating CO averages.

Ambient background concentrations are excluded from the averages below.

Site & Meteorological Constants

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM ATIM = 60.

Met. Sfc. Sta. Id & Yr = 52118 81
Upper Air Sta. Id & Yr = 91919 81

Urban mixing heights were processed.

In 1981, Julian day 1 is a Thursday.

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	LENGTH (M)	BRG (DEG)	TYPE	H (M)	W (M)	NLANES
1. A	*	10.0	-550.0	10.0	-400.0	*	150.	360.	AG	.0	13.4	
2. B	*	10.0	-400.0	10.0	-300.0	*	100.	360.	AG	.0	13.4	
3. C	*	10.0	-300.0	10.0	-275.0	*	25.	360.	AG	.0	13.4	
4. D	*	10.0	-275.0	10.0	-145.0	*	130.	360.	AG	.0	13.4	

5. Dd	10.0	-145.0	10.0	-48.0	97.	360.	AG	.0	13.4	
6. E	10.0	-48.0	10.0	10.0	58.	360.	AG	.0	13.4	
7. F	10.0	10.0	10.0	35.0	25.	360.	AG	.0	13.4	
8. G	10.0	35.0	10.0	65.0	30.	360.	AG	.0	13.4	
9. H	10.0	65.0	10.0	200.0	135.	360.	AG	.0	13.4	
10. I	-10.0	200.0	-10.0	85.0	115.	180.	AG	.0	13.4	
11. J	-10.0	85.0	-10.0	-35.0	120.	180.	AG	.0	13.4	
12. K	-10.0	-35.0	-10.0	-215.0	180.	180.	AG	.0	13.4	
13. L	-10.0	-215.0	-10.0	-320.0	105.	180.	AG	.0	13.4	
14. M	-10.0	-320.0	-10.0	-550.0	230.	180.	AG	.0	13.4	
15. N	500.0	-180.0	265.0	-40.0	274.	301.	AG	.0	13.4	

JOB: SR 1 No Project RUN: SR 1

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	H (M)	W (M)	NLANES
	LINK COORDINATES (M)									
16. O	265.0	-40.0	150.0	-5.0	120.	287.	AG	.0	13.4	
17. P	150.0	-5.0	60.0	10.0	91.	279.	AG	.0	13.4	
18. Q	60.0	10.0	10.0	10.0	50.	270.	AG	.0	13.4	
19. R	10.0	10.0	-550.0	10.0	560.	270.	AG	.0	13.4	
20. S	-550.0	-10.0	10.0	-10.0	560.	90.	AG	.0	13.4	
21. T	10.0	-10.0	50.0	-10.0	40.	90.	AG	.0	13.4	
22. U	50.0	-10.0	190.0	-30.0	141.	98.	AG	.0	13.4	
23. V	190.0	-30.0	315.0	-80.0	135.	112.	AG	.0	13.4	
24. W	315.0	-80.0	435.0	-160.0	144.	124.	AG	.0	13.4	
25. X	435.0	-160.0	500.0	-200.0	76.	122.	AG	.0	13.4	
26. A1	10.0	-300.0	-75.0	-200.0	131.	320.	AG	.0	13.4	
27. B1	-75.0	-200.0	-180.0	-140.0	121.	300.	AG	.0	13.4	
28. C1	-180.0	-140.0	-550.0	-140.0	370.	270.	AG	.0	13.4	
29. D1	-550.0	-155.0	-180.0	-155.0	370.	90.	AG	.0	13.4	
30. E1	-180.0	-155.0	-85.0	-210.0	110.	120.	AG	.0	13.4	
31. F1	-85.0	-210.0	-10.0	-320.0	133.	146.	AG	.0	13.4	
32. G1	10.0	-275.0	130.0	-70.0	238.	30.	AG	.0	9.7	
33. H1	130.0	-70.0	130.0	120.0	190.	360.	AG	.0	9.7	
34. I1	265.0	10.0	60.0	10.0	205.	270.	AG	.0	13.4	
35. J1	265.0	-10.0	50.0	-10.0	215.	270.	AG	.0	13.4	

Receptor Data

RECEPTOR	X	Y	Z
	COORDINATES (M)		
1. R1	-30.0	-350.0	1.8
2. R2	-50.0	-300.0	1.8
3. R3	-75.0	-250.0	1.8
4. R4	-130.0	-200.0	1.8
5. R5	25.0	-350.0	1.8
6. R6	30.0	-300.0	1.8
7. R7	35.0	-250.0	1.8
8. R8	40.0	-200.0	1.8
9. R9	45.0	-150.0	1.8
10. R10	48.0	-100.0	1.8
11. R11	45.0	-65.0	1.8
12. R12	75.0	-65.0	1.8
13. R13	100.0	-70.0	1.8
14. R14	150.0	-80.0	1.8

Receptor Data

RECEPTOR	X	Y	Z
	COORDINATES (M)		
15. R15	150.0	30.0	1.8
16. R16	100.0	50.0	1.8
17. R17	50.0	68.0	1.8
18. R18	25.0	75.0	1.8
19. R19	25.0	100.0	1.8
20. R20	25.0	140.0	1.8
21. R21	-25.0	140.0	1.8
22. R22	-25.0	100.0	1.8
23. R23	-50.0	95.0	1.8
24. R24	-100.0	95.0	1.8
25. R25	-150.0	-50.0	1.8
26. R26	-100.0	-70.0	1.8

27. R27	*	-60.0	-100.0	1.8
28. R28	*	-40.0	-125.0	1.8

Model Results

Remarks : In search of the wind direction corresponding to the maximum concentration, only the first direction, of the directions with the same maximum concentrations, is indicated as the maximum.

* MAXIMUM HOURLY CONCENTRATIONS WITH ANY AMBIENT BACKGROUND CONCENTRATIONS (BKG) ADDED
* (PPM)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
MAX+BKG *	2.5	2.1	2.3	1.5	3.8	2.7	2.2	2.0	1.6	1.4
- BKG *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAX *	2.5	2.1	2.3	1.5	3.8	2.7	2.2	2.0	1.6	1.4
WIND DIR*	40	32	114	114	324	299	202	199	195	207
JULIAN *	4	24	55	55	349	26	37	279	88	291
HOUR *	7	23	3	3	8	22	7	22	23	21

* MAXIMUM HOURLY CONCENTRATIONS WITH ANY AMBIENT BACKGROUND CONCENTRATIONS (BKG) ADDED
* (PPM)

*	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
MAX+BKG *	1.4	1.0	.9	.8	1.6	1.4	1.4	2.2	2.0	1.6
- BKG *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAX *	1.4	1.0	.9	.8	1.6	1.4	1.4	2.2	2.0	1.6
WIND DIR*	202	200	200	211	211	195	200	186	191	188
JULIAN *	37	5	5	14	23	88	5	13	49	47
HOUR *	7	23	23	21	3	23	23	22	21	3

*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
MAX+BKG *	1.5	2.0	1.3	.9	.8	1.1	1.3	1.5

```
- BKG    *      .0      .0      .0      .0      .0      .0      .0      .0
--------*------------------------------------------------------------------
  MAX   *     1.5     2.0     1.3      .9      .8     1.1     1.3     1.5
WIND DIR*     175     170     170     163     153     157     167     160
JULIAN  *       3     123      52       6      45     117       6      14
HOUR    *      21      22       5      22       5      22       5       8
```

THE HIGHEST CONCENTRATION OF 3.80 PPM OCCURRED AT RECEPTOR REC5 .

CAL3QHCR (Dated: 95221)

DATE : 10/17/ 0
PAGE: 5
TIME : 18:15:19

JOB: SR 1 No Project RUN: SR 1

Output Section

NOTES PERTAINING TO THE REPORT

1. THE HIGHEST AVERAGE IN EACH OF THE FIRST TWO COLUMNS OF EACH TABLE BELOW ARE SUFFIXED BY AN ASTERISK (*). FOR PM OUTPUT, THERE IS ONLY ONE COLUMN AND ASTERISK FOR THE ANNUAL AVERAGE/PERIOD OF CONCERN TABLE.

2. THE NUMBERS IN PARENTHESES ARE THE JULIAN DAY AND ENDING HOUR FOR THE PRECEDING AVERAGE.

3. THE NUMBER OF CALM HOURS USED IN PRODUCING EACH AVERAGE ARE PREFIXED BY A C.

PRIMARY AVERAGES.

MAXIMUM 8-HOUR RUNNING NONOVERLAPPING AVERAGE CONCENTRATIONS
IN PARTS PER MILLION (PPM),
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Highest Conc	Highest Ending Day Hr	Highest Calm	Second highest Conc	Second highest Ending Day Hr	Second highest Calm
1	2.29	(44, 8)	C 1	2.27	(32, 5)	C 2
2	1.95	(24,10)	C 2	1.95	(44, 7)	C 2
3	2.11	(70, 7)	C 1	2.10	(287, 8)	C 2
4	1.13	(83, 4)	C 2	1.00	(156, 7)	C 0

5	3.01*	(146, 9)	C 1	2.95*	(258, 3)	C 2
6	2.37	(177, 6)	C 1	2.37	(203, 8)	C 2
7	1.91	(177, 6)	C 1	1.88	(200, 4)	C 2
8	1.45	(239, 2)	C 2	1.38	(104, 5)	C 2
9	1.17	(239, 2)	C 2	1.10	(104, 5)	C 2
10	1.00	(239, 2)	C 2	.94	(328, 6)	C 1
11	.98	(2, 2)	C 2	.97	(203, 8)	C 2
12	.72	(280, 3)	C 2	.72	(146, 8)	C 2
13	.75	(280, 3)	C 2	.73	(308, 2)	C 2
14	.69	(177, 6)	C 1	.67	(258, 3)	C 2
15	1.10	(239, 6)	C 1	.98	(235, 6)	C 3
16	.90	(239, 2)	C 2	.88	(104, 5)	C 2
17	1.07	(239, 2)	C 2	1.00	(104, 5)	C 2
18	1.67	(239, 2)	C 2	1.40	(104, 5)	C 2
19	1.32	(239, 2)	C 2	.97	(162, 4)	C 2
20	.93	(239, 2)	C 2	.68	(162, 4)	C 2
21	1.02	(149, 9)	C 2	.77	(297, 7)	C 2
22	1.42	(149, 9)	C 2	1.09	(132, 9)	C 0
23	.90	(149, 9)	C 2	.87	(266, 3)	C 2
24	.57	(162, 8)	C 2	.57	(266, 3)	C 2

JOB: SR 1 No Project RUN: SR 1

MAXIMUM 8-HOUR RUNNING NONOVERLAPPING AVERAGE CONCENTRATIONS
IN PARTS PER MILLION (PPM),
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Highest Conc	Highest Ending Day Hr	Highest Calm	Second highest Conc	Second highest Ending Day Hr	Second highest Calm
25	.53	(163, 7)	C 2	.52	(360, 8)	C 3
26	.70	(63, 3)	C 2	.65	(292, 8)	C 2
27	.88	(63, 3)	C 2	.87	(149, 9)	C 2
28	1.12	(149, 9)	C 2	1.07	(84, 8)	C 2

FIVE HIGHEST 1-HOUR END-TO-END AVERAGE CONCENTRATIONS IN PARTS PER MILLION
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr	Highest Ending	Second Highest Ending	Third Highest Ending	Fourth Highest Ending	Fifth Highest Ending

No.	Conc	Day Hr	Calm	Conc	Day Hr	Calm	Conc	Day Hr	Calm	Conc	Day Hr	Calm	Conc	Day Hr	Calm
1	2.50	(4, 7)	C 0	2.50	(26, 3)	C 0	2.50	(142, 2)	C 0	2.50	(217, 5)	C 0	2.50	(273, 2)	C 0
2	2.10	(24,23)	C 0	2.10	(32,22)	C 0	2.10	(43, 3)	C 0	2.10	(93, 2)	C 0	2.10	(94, 6)	C 0
3	2.30	(55, 3)	C 0	2.30	(78, 1)	C 0	2.30	(97, 6)	C 0	2.30	(253, 7)	C 0	2.20	(4, 3)	C 0
4	1.50	(55, 3)	C 0	1.50	(57, 7)	C 0	1.50	(78, 1)	C 0	1.50	(111, 5)	C 0	1.50	(113, 2)	C 0
5	3.80*	(349, 8)	C 0	3.70*	(5,24)	C 0	3.70	(14,20)	C 0	3.70	(82, 7)	C 0	3.70	(221, 2)	C 0
6	2.70	(26,22)	C 0	2.70	(115, 5)	C 0	2.70	(155, 7)	C 0	2.70	(159, 2)	C 0	2.70	(238, 6)	C 0
7	2.20	(37, 7)	C 0	2.20	(45,22)	C 0	2.20	(98, 6)	C 0	2.20	(219, 4)	C 0	2.20	(274,22)	C 0
8	2.00	(279,22)	C 0	1.90	(7, 4)	C 0	1.90	(42, 1)	C 0	1.90	(48,20)	C 0	1.90	(63, 4)	C 0
9	1.60	(88,23)	C 0	1.60	(93,22)	C 0	1.60	(144, 6)	C 0	1.60	(194,21)	C 0	1.60	(252, 1)	C 0
10	1.40	(291,21)	C 0	1.40	(327,23)	C 0	1.30	(88,23)	C 0	1.30	(93,22)	C 0	1.30	(98, 6)	C 0
11	1.40	(37, 7)	C 0	1.40	(45,22)	C 0	1.40	(62,19)	C 0	1.40	(98, 6)	C 0	1.40	(104, 5)	C 0
12	1.00	(5,23)	C 0	1.00	(7, 4)	C 0	1.00	(81,24)	C 0	1.00	(88,23)	C 0	1.00	(93,22)	C 0
13	.90	(5,23)	C 0	.90	(14,21)	C 0	.90	(23, 3)	C 0	.90	(34,20)	C 0	.90	(35,21)	C 0
14	.80	(14,21)	C 0	.80	(19, 1)	C 0	.80	(23, 3)	C 0	.80	(37,21)	C 0	.80	(42, 9)	C 0
15	1.60	(23, 3)	C 0	1.60	(107,23)	C 0	1.60	(129,24)	C 0	1.60	(147, 4)	C 0	1.60	(174, 2)	C 0
16	1.40	(88,23)	C 0	1.40	(144, 6)	C 0	1.40	(194,21)	C 0	1.40	(349,19)	C 0	1.30	(5,23)	C 0
17	1.40	(5,23)	C 0	1.40	(7,24)	C 0	1.40	(42, 1)	C 0	1.40	(48,20)	C 0	1.40	(50,22)	C 0
18	2.20	(13,22)	C 0	2.20	(22,19)	C 0	2.20	(48, 2)	C 0	2.20	(49,21)	C 0	2.20	(49,24)	C 0
19	2.00	(49,21)	C 0	2.00	(147,22)	C 0	2.00	(201,21)	C 0	2.00	(236,23)	C 0	2.00	(260,19)	C 0
20	1.60	(47, 3)	C 0	1.60	(49,24)	C 0	1.60	(51,22)	C 0	1.60	(83,22)	C 0	1.60	(95, 4)	C 0
21	1.50	(3,21)	C 0	1.50	(6, 5)	C 0	1.50	(9,23)	C 0	1.50	(16,19)	C 0	1.50	(32, 6)	C 0
22	2.00	(123,22)	C 0	2.00	(183, 4)	C 0	1.90	(40,22)	C 0	1.90	(313,23)	C 0	1.90	(6, 5)	C 0
23	1.30	(52, 5)	C 0	1.30	(113,22)	C 0	1.30	(123,22)	C 0	1.30	(183, 4)	C 0	1.30	(184,23)	C 0
24	.90	(6,22)	C 0	.90	(47, 1)	C 0	.90	(115, 2)	C 0	.90	(119, 5)	C 0	.90	(126, 2)	C 0
25	.80	(45, 5)	C 0	.80	(52, 1)	C 0	.80	(54, 3)	C 0	.80	(55, 8)	C 0	.80	(62,22)	C 0
26	1.10	(117,22)	C 0	1.10	(192, 7)	C 0	1.10	(231,24)	C 0	1.10	(292, 4)	C 0	1.10	(295,21)	C 0
27	1.30	(6, 5)	C 0	1.30	(18,22)	C 0	1.30	(22,21)	C 0	1.30	(36, 5)	C 0	1.30	(39,15)	C 0
28	1.50	(14, 8)	C 0	1.50	(93,23)	C 0	1.50	(144, 5)	C 0	1.50	(145, 4)	C 0	1.50	(145, 9)	C 0

JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr Total Ending Ambient Total Link Link Link Link Link Link Link Link Link Link

No.	Conc	Day Hr	Backgnd	Link	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10
1	2.29	(44, 8)	.00	2.29	.00	.46	.07	.14	.01	.00	.00	.00	.00	.00
				Links 10+	.00	.01	.27	.87	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.17	.00	.00	.00	.00
				Links 30+	.20	.07	.00	.00	.00	.00	.00	.00	.00	.00
2	1.95	(24,10)	.00	1.95	.00	.00	.02	.18	.05	.00	.00	.00	.00	.00
				Links 10+	.05	.15	.25	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.45	.00	.00	.00	.00
				Links 30+	.75	.05	.00	.00	.00	.00	.00	.00	.00	.00
3	2.11	(70, 7)	.00	2.11	.00	.01	.01	.19	.03	.01	.00	.00	.00	.00
				Links 10+	.00	.07	.19	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.56	.00	.00	.00	.00
				Links 30+	.97	.07	.00	.00	.00	.00	.00	.00	.00	.00
4	1.13	(83, 4)	.00	1.13	.00	.07	.00	.13	.02	.00	.00	.00	.00	.00
				Links 10+	.00	.07	.10	.05	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.30	.03	.00	.00	.12
				Links 30+	.25	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	3.01	(146, 9)	.00	3.01	.00	1.74	.01	.01	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.17	.53	.00	.00	.00	.00	.06	.00
				Links 20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
				Links 30+	.29	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	2.37	(177, 6)	.00	2.37	.00	1.20	.11	.00	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.17	.47	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.21	.00	.00	.00	.00
				Links 30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	1.91	(177, 6)	.00	1.91	.00	.07	.11	.46	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.01	.30	.07	.00	.00	.00	.00	.01	.00
				Links 20+	.00	.00	.00	.00	.00	.37	.00	.00	.00	.00
				Links 30+	.26	.24	.00	.00	.00	.00	.00	.00	.00	.00
8	1.45	(239, 2)	.00	1.45	.00	.25	.07	.27	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.15	.28	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00
				Links 30+	.10	.18	.00	.00	.00	.00	.00	.00	.00	.00
9	1.17	(239, 2)	.00	1.17	.00	.17	.02	.32	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.07	.12	.20	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.13	.00	.00	.00	.00
				Links 30+	.10	.05	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
10	1.00	(239, 2)	.00	1.00	.00	.10	.00	.25	.10	.00	.00	.00	.00	.00
				Links 10+	.00	.10	.07	.13	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.12	.00	.00	.00	.00
				Links 30+	.08	.05	.00	.00	.00	.00	.00	.00	.00	.00
11	.98	(2, 2)	.00	.98	.00	.03	.00	.03	.13	.23	.02	.00	.00	.00
				Links 10+	.17	.08	.02	.03	.00	.00	.00	.02	.18	.00
				Links 20+	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00
				Links 30+	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
12	.72	(280, 3)	.00	.72	.00	.02	.00	.05	.10	.07	.02	.00	.00	.00
				Links 10+	.07	.10	.02	.03	.00	.00	.00	.02	.07	.00
				Links 20+	.00	.03	.00	.00	.00	.03	.00	.00	.00	.00
				Links 30+	.03	.02	.02	.02	.02	.00	.00	.00	.00	.00
13	.75	(280, 3)	.00	.67	.00	.03	.00	.05	.05	.05	.02	.02	.00	.00
				Links 10+	.07	.05	.03	.03	.00	.02	.00	.02	.05	.00
				Links 20+	.00	.05	.00	.00	.00	.03	.00	.00	.00	.00
				Links 30+	.03	.02	.02	.02	.02	.00	.00	.00	.00	.00
14	.69	(177, 6)	.00	.69	.00	.01	.00	.10	.04	.01	.00	.00	.00	.00
				Links 10+	.01	.07	.06	.01	.00	.00	.00	.01	.01	.00
				Links 20+	.00	.01	.00	.00	.00	.06	.00	.00	.00	.00
				Links 30+	.06	.19	.01	.00	.00	.00	.00	.00	.00	.00
15	1.10	(239, 6)	.00	1.10	.00	.03	.00	.06	.06	.00	.01	.01	.00	.00
				Links 10+	.01	.07	.03	.03	.00	.00	.07	.01	.03	.00
				Links 20+	.00	.17	.00	.00	.00	.06	.00	.00	.00	.00
				Links 30+	.04	.03	.17	.11	.09	.00	.00	.00	.00	.00
16	.90	(239, 2)	.00	.90	.00	.05	.00	.05	.07	.03	.00	.00	.00	.00
				Links 10+	.02	.05	.02	.08	.00	.00	.07	.03	.00	.00
				Links 20+	.00	.17	.00	.00	.00	.05	.00	.00	.00	.00
				Links 30+	.03	.03	.00	.08	.07	.00	.00	.00	.00	.00
17	1.07	(239, 2)	.00	1.07	.00	.05	.00	.05	.10	.12	.07	.05	.00	.00
				Links 10+	.10	.12	.02	.05	.00	.00	.00	.17	.07	.00
				Links 20+	.00	.02	.00	.00	.00	.05	.00	.00	.00	.00
				Links 30+	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	1.67	(239, 2)	.00	1.67	.00	.05	.00	.05	.08	.15	.15	.42	.02	.00
				Links 10+	.27	.12	.00	.05	.00	.00	.00	.07	.15	.00
				Links 20+	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00
				Links 30+	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
19	1.32	(239, 2)	.00	1.32	.00	.03	.00	.05	.05	.08	.08	.22	.08	.00
				Links 10+	.32	.10	.00	.05	.00	.00	.00	.05	.13	.00
				Links 20+	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
				Links 30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.93	(239, 2)	.00	.93	.00	.02	.00	.03	.05	.05	.05	.08	.15	.02
				Links 10+	.20	.07	.00	.05	.00	.00	.00	.02	.10	.00
				Links 20+	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
				Links 30+	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	1.02	(149, 9)	.00	1.02	.00	.05	.00	.05	.05	.07	.03	.07	.03	.08
				Links 10+	.27	.07	.00	.07	.00	.00	.00	.05	.07	.00
				Links 20+	.00	.02	.00	.00	.00	.02	.00	.00	.00	.00
				Links 30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	1.42	(149, 9)	.00	1.42	.00	.05	.00	.05	.07	.10	.07	.08	.00	.00
				Links 10+	.60	.10	.00	.07	.00	.00	.00	.03	.13	.00
				Links 20+	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
				Links 30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.90	(149, 9)	.00	.90	.00	.05	.00	.05	.08	.07	.03	.00	.00	.00
				Links 10+	.20	.10	.00	.05	.00	.00	.00	.02	.17	.00
				Links 20+	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00
				Links 30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.57	(162, 8)	.00	.57	.00	.02	.00	.00	.03	.05	.03	.02	.00	.00
				Links 10+	.12	.02	.00	.02	.00	.00	.00	.03	.17	.00
				Links 20+	.00	.03	.00	.00	.00	.02	.00	.00	.00	.00
				Links 30+	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.53	(163, 7)	.00	.53	.00	.05	.00	.03	.05	.02	.00	.00	.00	.00
				Links 10+	.02	.07	.05	.07	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.02	.00	.00	.00	.10	.00	.00	.00	.00
				Links 30+	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.70	(63, 3)	.00	.70	.00	.08	.00	.03	.07	.02	.00	.00	.00	.00

			Links	10+	.03	.10	.03	.10	.00	.00	.00	.02	.02	.00
			Links	20+	.00	.02	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.88	(63, 3)	.00	.88	.00	.08	.00	.08	.13	.02	.00	.00	.00	.00
			Links	10+	.00	.23	.05	.10	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.02	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
28	1.12	(149, 9)	.00	1.12	.00	.13	.00	.17	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.20	.12	.18	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	2.27	(32, 5)	.00	2.27	.00	.63	.05	.08	.02	.00	.00	.00	.00	.00
			Links	10+	.00	.02	.17	1.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.12	.00	.00	.00	.00
			Links	30+	.15	.03	.00	.00	.00	.00	.00	.00	.00	.00
2	1.95	(44, 7)	.00	1.95	.00	.00	.03	.28	.05	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.32	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.42	.00	.00	.00	.00
			Links	30+	.70	.05	.00	.00	.00	.00	.00	.00	.00	.00
3	2.10	(287, 8)	.00	2.10	.00	.00	.02	.22	.02	.00	.00	.00	.00	.00

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                                   Links  10+   .00   .08   .17   .00   .00   .00   .00   .00   .00   .00
                                   Links  20+   .00   .02   .00   .00   .00   .58   .00   .00   .00   .00
                                   Links  30+   .93   .07   .00   .00   .00   .00   .00   .00   .00   .00
     4   1.00 (156, 7)   .00   1.00   .00   .05   .00   .09   .00   .00   .00   .00   .00   .00
                                   Links  10+   .00   .01   .10   .00   .00   .00   .00   .00   .00   .00
                                   Links  20+   .00   .00   .00   .00   .00   .35   .00   .00   .00   .06
                                   Links  30+   .34   .00   .00   .00   .00   .00   .00   .00   .00   .00
     5   2.95 (258, 3)   .00   2.95   .00  1.70   .03   .05   .02   .00   .00   .00   .00   .00
                                   Links  10+   .00   .03   .13   .60   .00   .00   .00   .00   .05   .00
                                   Links  20+   .00   .00   .00   .00   .00   .13   .00   .00   .00   .00
                                   Links  30+   .20   .00   .00   .00   .00   .00   .00   .00   .00   .00
     6   2.37 (203, 8)   .00   2.37   .00   .28   .42   .08   .00   .00   .00   .00   .00   .00
                                   Links  10+   .00   .00   .35   .05   .00   .00   .00   .00   .05   .00
                                   Links  20+   .00   .00   .00   .00   .00   .78   .00   .00   .00   .00
                                   Links  30+   .35   .00   .00   .00   .00   .00   .00   .00   .00   .00
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JOB: SR 1 No Project   RUN: SR 1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
7	1.88	(200, 4)	.00	1.88	.00	.10	.08	.47	.03	.00	.00	.00	.00	.00
			Links	10+	.02	.05	.22	.12	.00	.00	.00	.00	.02	.00
			Links	20+	.00	.00	.00	.00	.00	.30	.00	.00	.00	.00
			Links	30+	.22	.27	.00	.00	.00	.00	.00	.00	.00	.00
8	1.38	(104, 5)	.00	1.38	.00	.12	.03	.40	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.05	.17	.15	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.23	.00	.00	.00	.00
			Links	30+	.17	.07	.00	.00	.00	.00	.00	.00	.00	.00
9	1.10	(104, 5)	.00	1.10	.00	.07	.02	.42	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.17	.07	.10	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.15	.00	.00	.00	.00
			Links	30+	.08	.03	.00	.00	.00	.00	.00	.00	.00	.00
10	.94	(328, 6)	.00	.94	.00	.01	.00	.13	.29	.01	.00	.00	.00	.00

			Links	10+	.01	.21	.03	.03	.00	.00	.00	.00	.07	.00
			Links	20*	.00	.00	.00	.00	.00	.07	.00	.00	.00	.00
			Links	30+	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.97	(203, 8)	.00	.97	.00	.00	.00	.00	.23	.23	.00	.00	.00	.00
			Links	10*	.15	.17	.00	.00	.00	.00	.00	.00	.18	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.72	(146, 8)	.00	.72	.00	.00	.00	.02	.10	.08	.05	.05	.00	.00
			Links	10+	.12	.08	.00	.00	.00	.00	.00	.07	.10	.00
			Links	20*	.00	.02	.00	.00	.00	.02	.00	.00	.00	.00
			Links	30+	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.73	(308, 2)	.00	.65	.00	.03	.00	.10	.05	.03	.02	.02	.00	.00
			Links	10+	.03	.08	.05	.03	.00	.00	.00	.02	.03	.00
			Links	20+	.00	.02	.00	.00	.00	.07	.00	.00	.00	.00
			Links	30*	.05	.02	.00	.00	.00	.00	.00	.00	.00	.00
14	.67	(258, 3)	.00	.67	.00	.02	.00	.05	.02	.02	.00	.00	.00	.00
			Links	10+	.03	.03	.03	.02	.00	.00	.00	.03	.02	.00
			Links	20+	.00	.10	.00	.00	.00	.05	.00	.00	.00	.00
			Links	30+	.03	.10	.08	.00	.03	.00	.00	.00	.00	.00
15	.98	(235, 6)	.00	.98	.00	.02	.00	.03	.05	.03	.02	.00	.00	.00
			Links	10+	.03	.05	.00	.02	.00	.00	.07	.03	.05	.00
			Links	20+	.00	.13	.00	.00	.00	.05	.00	.00	.00	.00
			Links	30+	.03	.02	.17	.12	.07	.00	.00	.00	.00	.00

JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
16	.88	(104, 5)	.00	.88	.00	.03	.00	.03	.03	.07	.03	.02	.00	.00
			Links	10+	.10	.07	.03	.03	.00	.00	.03	.12	.08	.00
			Links	20*	.00	.07	.00	.00	.00	.03	.00	.00	.00	.00
			Links	30+	.03	.00	.00	.03	.03	.00	.00	.00	.00	.00
17	1.00	(104, 5)	.00	1.00	.00	.00	.00	.03	.07	.07	.05	.18	.00	.00

		Links	10+	.20	.07	.00	.03	.00	.00	.00	.07	.17	.00
		Links	20+	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
		Links	30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	1.40 (104, 5)	.00	1.40	.00	.00	.00	.00	.03	.07	.08	.37	.07	.00
		Links	10+	.38	.07	.00	.02	.00	.00	.00	.03	.22	.00
		Links	20+	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
		Links	30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.97 (162, 4)	.00	.97	.00	.02	.00	.03	.03	.07	.03	.12	.08	.00
		Links	10+	.22	.07	.00	.03	.00	.00	.00	.03	.10	.00
		Links	20+	.00	.02	.00	.00	.00	.03	.00	.00	.00	.00
		Links	30+	.03	.00	.03	.02	.00	.00	.00	.00	.00	.00
20	.68 (162, 4)	.00	.68	.00	.02	.00	.02	.03	.03	.03	.03	.10	.03
		Links	10+	.10	.03	.00	.03	.00	.00	.00	.02	.10	.00
		Links	20+	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
		Links	30+	.03	.00	.03	.00	.00	.00	.00	.00	.00	.00
21	.77 (297, 7)	.00	.77	.00	.03	.00	.03	.03	.05	.03	.05	.03	.07
		Links	10+	.20	.05	.00	.05	.00	.00	.00	.02	.05	.00
		Links	20+	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
		Links	30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	1.09 (132, 9)	.00	1.09	.00	.00	.00	.01	.01	.08	.08	.18	.01	.04
		Links	10+	.50	.01	.00	.01	.00	.00	.00	.09	.01	.00
		Links	20+	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.87 (266, 3)	.00	.87	.00	.02	.00	.02	.03	.08	.08	.08	.00	.00
		Links	10+	.32	.03	.00	.02	.00	.00	.00	.08	.05	.00
		Links	20+	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.57 (266, 3)	.00	.57	.00	.02	.00	.03	.05	.08	.00	.00	.00	.00
		Links	10+	.12	.05	.00	.02	.00	.00	.00	.02	.13	.00
		Links	20+	.00	.02	.00	.00	.00	.02	.00	.00	.00	.00
		Links	30+	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
25	.52	(360, 8)	.00	.50	.00	.05	.00	.03	.00	.02	.00	.00	.00	.00
				Links 10+	.03	.03	.05	.05	.00	.00	.00	.02	.07	.00
				Links 20+	.00	.02	.00	.00	.00	.07	.00	.00	.00	.00
				Links 30+	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.65	(292, 8)	.00	.65	.00	.05	.00	.05	.08	.03	.00	.00	.00	.00
				Links 10+	.03	.17	.03	.05	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.03	.00	.00	.00	.07	.00	.00	.00	.00
				Links 30+	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.87	(149, 9)	.00	.87	.00	.10	.00	.10	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.08	.08	.17	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.18	.00	.00	.00	.00
				Links 30+	.15	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	1.07	(84, 8)	.00	1.07	.00	.03	.00	.02	.22	.08	.03	.02	.00	.00
				Links 10+	.07	.33	.03	.05	.00	.00	.00	.03	.03	.00
				Links 20+	.00	.03	.00	.00	.00	.05	.00	.00	.00	.00
				Links 30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	2.50	(4, 7)	.00	2.50	.00	.60	.10	.10	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.20	1.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
				Links 30+	.20	.10	.00	.00	.00	.00	.00	.00	.00	.00
2	2.10	(24,23)	.00	2.10	.00	.00	.00	.30	.10	.00	.00	.00	.00	.00
				Links 10+	.00	.10	.30	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.10	.00	.00	.00	.40	.00	.00	.00	.00
				Links 30+	.70	.10	.00	.00	.00	.00	.00	.00	.00	.00
3	2.30	(55, 3)	.00	2.30	.00	.20	.10	.10	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.30	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00
				Links 30+	1.10	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL3QHCR (Dated: 95221)

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JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
4	1.50	(55, 3)	.00	1.50	.00	.10	.00	.10	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.20	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.50	.00	.00	.00	.10
				Links 30+	.50	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	3.80	(349, 8)	.00	3.80	.00	1.90	.10	.00	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.40	.20	.00	.00	.00	.00	.10	.00
				Links 20+	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00
				Links 30+	.60	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	2.70	(26,22)	.00	2.70	.00	.00	.60	.10	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.40	.00	.00	.00	.00	.00	.10	.00
				Links 20+	.00	.00	.00	.00	.00	1.10	.00	.00	.00	.00
				Links 30+	.40	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	2.20	(37, 7)	.00	2.20	.00	.80	.20	.10	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.10	.70	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
				Links 30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	2.00	(279,22)	.00	2.00	.00	.40	.10	.30	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.20	.50	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
				Links 30+	.10	.20	.00	.00	.00	.00	.00	.00	.00	.00
9	1.60	(88,23)	.00	1.60	.00	.30	.10	.30	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.20	.40	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
				Links 30+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
10	1.40	(291,21)	.00	1.40	.00	.10	.00	.40	.10	.00	.00	.00	.00	.00
				Links 10+	.00	.20	.10	.10	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
				Links 30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	1.40	(37, 7)	.00	1.40	.00	.10	.00	.30	.30	.00	.00	.00	.00	.00
				Links 10+	.00	.20	.10	.10	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
				Links 30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	1.00	(5,23)	.00	1.00	.00	.10	.00	.20	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.10	.10	.20	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
				Links 30+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
13	.90	(5,23)	.00	.90	.00	.20	.00	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.10	.20	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
14	.80	(14,21)	.00	.80	.00	.10	.00	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.10	.20	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
15	1.60	(23, 3)	.00	1.60	.00	.10	.00	.10	.10	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.10	.00	.00	.10	.00	.00	.00
			Links	20+	.00	.20	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.10	.20	.10	.10	.00	.00	.00	.00	.00
16	1.40	(88,23)	.00	1.40	.00	.10	.00	.10	.10	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.20	.00	.00	.10	.00	.00	.00
			Links	20+	.00	.20	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.10	.10	.00	.00	.00	.00	.00
17	1.40	(5,23)	.00	1.40	.00	.00	.00	.10	.20	.20	.10	.00	.00	.00
			Links	10+	.10	.20	.00	.10	.00	.00	.00	.20	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	2.20	(13,22)	.00	2.20	.00	.10	.00	.10	.20	.30	.20	.30	.00	.00
			Links	10+	.10	.20	.10	.10	.00	.00	.00	.20	.10	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	2.00	(49,21)	.00	2.00	.00	.10	.00	.10	.10	.20	.10	.30	.10	.00
			Links	10+	.30	.20	.00	.10	.00	.00	.00	.10	.10	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00

20	1.60	(47, 3)	.00	1.60	.00	.10	.00	.10	.10	.10	.10	.10	.10	.00
			Links	10+	.30	.10	.00	.10	.00	.00	.00	.10	.10	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	1.50	(3,21)	.00	1.50	.00	.10	.00	.10	.10	.10	.00	.10	.00	.10
			Links	10+	.40	.10	.00	.10	.00	.00	.00	.00	.10	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL3QHCR (Dated: 95221)

DATE : 10/17/ 0

TIME : 18:15:19

JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
22	2.00	(123,22)	.00	2.00	.00	.10	.00	.10	.10	.10	.10	.10	.00	.00
			Links	10+	.80	.20	.00	.10	.00	.00	.00	.00	.20	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.30	(52, 5)	.00	1.30	.00	.10	.00	.10	.10	.10	.00	.00	.00	.00
			Links	10+	.20	.20	.00	.10	.00	.00	.00	.00	.20	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.90	(6,22)	.00	.90	.00	.10	.00	.10	.10	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.00	.10	.00	.00	.00	.00	.20	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.80	(45, 5)	.00	.80	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.10	.20	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	1.10	(117,22)	.00	1.10	.00	.20	.00	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.20	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
27	1.30	(6, 5)	.00	1.30	.00	.20	.00	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.30	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.30	.00	.00	.00	.00
			Links	30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	1.50	(14, 8)	.00	1.50	.00	.20	.00	.30	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.30	.20	.20	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	2.50	(26, 3)	.00	2.50	.00	.60	.10	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.20	1.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.20	.10	.00	.00	.00	.00	.00	.00	.00	.00
2	2.10	(32,22)	.00	2.10	.00	.00	.00	.30	.10	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.30	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.10	.00	.00	.00	.40	.00	.00	.00	.00
			Links	30+	.70	.10	.00	.00	.00	.00	.00	.00	.00	.00
3	2.30	(78, 1)	.00	2.30	.00	.20	.10	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.30	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00
			Links	30+	1.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	1.50	(57, 7)	.00	1.50	.00	.10	.00	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.20	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.50	.00	.00	.00	.10
			Links	30+	.50	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	3.70	(5,24)	.00	3.70	.00	1.90	.10	.00	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.30	.20	.00	.00	.00	.00	.10	.00
			Links	20+	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00
			Links	30+	.60	.00	.00	.00	.00	.00	.00	.00	.00	.00

6	2.70	(115, 5)	.00	2.70	.00	.00	.60	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.40	.00	.00	.00	.00	.00	.10	.00
			Links	20+	.00	.00	.00	.00	.00	1.10	.00	.00	.00	.00
			Links	30+	.40	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	2.20	(45,22)	.00	2.20	.00	.80	.20	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.10	.70	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	1.90	(7, 4)	.00	1.90	.00	.40	.10	.30	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.10	.50	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.10	.20	.00	.00	.00	.00	.00	.00	.00	.00
9	1.60	(93,22)	.00	1.60	.00	.30	.10	.30	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.20	.40	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00

CAL3QHCR (Dated: 95221)

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JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
10	1.40	(327,23)	.00	1.40	.00	.10	.00	.40	.10	.00	.00	.00	.00	.00
			Links	10+	.00	.20	.10	.10	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	1.40	(45,22)	.00	1.40	.00	.10	.00	.30	.30	.00	.00	.00	.00	.00
			Links	10+	.00	.20	.10	.10	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	1.00	(7, 4)	.00	1.00	.00	.20	.00	.20	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.10	.20	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00

13	.90	(14,21)	.00	.90	.00	.10	.00	.20	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.10	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
14	.80	(19, 1)	.00	.80	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.20	.00
			Links	20+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00
15	1.60	(107,23)	.00	1.60	.00	.10	.00	.10	.10	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.10	.00	.00	.10	.00	.00	.00
			Links	20+	.00	.20	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.10	.20	.10	.10	.00	.00	.00	.00	.00
16	1.40	(144, 6)	.00	1.40	.00	.10	.00	.10	.10	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.20	.00	.00	.10	.00	.00	.00
			Links	20+	.00	.20	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.10	.10	.00	.00	.00	.00	.00
17	1.40	(7,24)	.00	1.40	.00	.10	.00	.10	.20	.10	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.20	.00	.00	.00	.20	.00	.00
			Links	20+	.00	.10	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	2.20	(22,19)	.00	2.20	.00	.10	.00	.10	.20	.30	.20	.20	.00	.00
			Links	10+	.10	.20	.10	.20	.00	.00	.00	.20	.10	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
19	2.00	(147,22)	.00	2.00	.00	.10	.00	.10	.10	.20	.10	.30	.10	.00
			Links	10+	.30	.20	.00	.10	.00	.00	.00	.10	.10	.00
			Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00

20	1.60 (49,24)	.00	1.60	.00	.10	.00	.10	.10	.10	.10	.10	.10	.00
		Links	10+	.30	.10	.00	.10	.00	.00	.00	.10	.10	.00
		Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
		Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	1.50 (6, 5)	.00	1.50	.00	.10	.00	.10	.10	.10	.10	.10	.00	.10
		Links	10+	.40	.10	.00	.10	.00	.00	.00	.10	.10	.00
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	2.00 (183, 4)	.00	2.00	.00	.10	.00	.10	.10	.10	.10	.10	.00	.00
		Links	10+	.80	.20	.00	.10	.00	.00	.00	.00	.20	.00
		Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.30 (113,22)	.00	1.30	.00	.10	.00	.10	.10	.10	.00	.00	.00	.00
		Links	10+	.20	.20	.00	.10	.00	.00	.00	.00	.20	.00
		Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
		Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.90 (47, 1)	.00	.90	.00	.10	.00	.10	.10	.00	.00	.00	.00	.00
		Links	10+	.00	.10	.00	.10	.00	.00	.00	.00	.20	.00
		Links	20+	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
		Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.80 (52, 1)	.00	.80	.00	.10	.00	.10	.00	.00	.00	.00	.00	.00
		Links	10+	.00	.00	.10	.10	.00	.00	.00	.00	.00	.00
		Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
		Links	30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	1.10 (192, 7)	.00	1.10	.00	.20	.00	.10	.00	.00	.00	.00	.00	.00
		Links	10+	.00	.10	.10	.20	.00	.00	.00	.00	.00	.00
		Links	20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
		Links	30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	1.30 (18,22)	.00	1.30	.00	.20	.00	.10	.00	.00	.00	.00	.00	.00
		Links	10+	.00	.10	.10	.30	.00	.00	.00	.00	.00	.00
		Links	20+	.00	.00	.00	.00	.00	.30	.00	.00	.00	.00
		Links	30+	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR 1 No Project RUN: SR 1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
28	1.50	(93,23)	.00	1.50	.00	.20	.00	.30	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.30	.20	.20	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00
				Links 30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL3QHCR (Dated: 95221)

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JOB: SR 1 No Project

RUN: SR 1

CALM DURATION FREQUENCY

Hours of Consecutive Calm Winds	Frequency of Occurrence	(Julian day/hour ending) of Significant Occurrences
1	628	(1, 2)(1,23)(2, 1)(2,21)(2,24)(3, 2)(3, 6)(3,24)(4, 8)(4,11)
		(4,23)(5, 1)(5, 5)(5,10)(5,18)(6, 8)(7, 1)(7,21)(7,23)(8, 1)
		(8,12)(8,22)(9, 1)(10, 1)(10, 3)(10, 5)(10,19)(11,20)(12, 6)(12,11)
		(13,21)(14,12)(15, 2)(15,11)(15,21)(15,24)(16, 4)(17, 1)(17, 7)(17,10)
		(17,21)(18, 2)(18,21)(19, 6)(19,19)(20, 6)(20,19)(20,24)(21, 6)(21,22)
		(22, 1)(22,18)(22,20)(23, 2)(24, 4)(24, 6)(26, 7)(26,19)(27,22)(28, 7)
		(29, 1)(29, 6)(30, 8)(31,24)(32, 4)(32, 7)(33, 8)(33,19)(33,21)(34, 5)
		(35, 3)(35, 8)(35,20)(35,22)(36, 1)(36, 7)(36,24)(37, 5)(38, 3)(39, 3)
		(39, 5)(39, 8)(40,24)(41, 7)(41,23)(42, 5)(43, 1)(43, 8)(43,21)(43,24)
		(44, 2)(44,19)(45, 6)(46,19)(47, 4)(47, 6)(47,11)(47,20)(48, 4)(48,21)
		(48,24)(49, 2)(49, 9)(49,22)(50, 6)(50, 8)(52, 8)(53, 8)(53,23)(54, 2)
		(54, 7)(55, 9)(57, 5)(58, 7)(58,22)(59, 1)(59, 5)(60,19)(60,21)(60,23)
		(61,16)(61,19)(62, 2)(62,10)(62,21)(63, 2)(64, 9)(64,24)(67, 3)(67, 9)
		(67,21)(68, 6)(69, 1)(69, 4)(69, 6)(70, 4)(71,10)(73, 6)(75, 2)(75, 4)
		(75, 6)(75,22)(77,24)(80, 8)(81, 7)(81, 9)(82, 2)(82,24)(83, 3)(83,21)
		(83,24)(84,10)(86,21)(88, 9)(89, 3)(91, 2)(91, 6)(93, 1)(93, 4)(94, 1)
		(94, 3)(94,22)(94,24)(95, 3)(95, 6)(95,10)(96, 1)(96, 3)(97, 4)(97,22)
		(99, 1)(99,24)(101, 4)(102, 1)(102, 3)(102, 6)(104, 6)(105,22)(106, 6)(106,21)
		(107, 1)(107, 6)(109,12)(109,19)(111, 7)(112, 1)(112, 6)(113,24)(114, 3)(114, 6)
		(114,23)(115, 6)(115, 9)(115,23)(116, 4)(116, 7)(117, 8)(117,20)(118,20)(121, 2)
		(121, 5)(123,21)(126,23)(127, 5)(127,22)(128,22)(129, 2)(129, 5)(129, 8)(129,20)
		(129,23)(130, 2)(130,20)(130,23)(131, 2)(***, 4)(***,22)(133, 5)(***, 4)(136,23)
		(***, 1)(***, 3)(138, 5)(***,21)(140,24)(***, 5)(0, 1)(142,22)(***, 2)(144,**)

```
                                     (***,**)(***,**)(145, 3)(  0, 1)(146,**)(***,**)(***,**)(150, 4)(***,21)(151, 1)
                                     (***, 1)(***, 2)(152, 4)(***, 8)(152, 0)(  0, 0)(  0, 7)(153,22)(***,22)(155, 0)
                                     (  0, 0)(***, 7)(160, 5)(***, 7)(160, 0)(  0, 0)(  0,23)(162, 4)(***, 6)(163, 0)
                                     (  0, 0)(***, 5)(165, 5)(***, 9)(168, 0)(***, 0)(***,22)(168,24)(***, 3)(170, 0)
                                     (  0, 0)(  0,24)(171, 5)(  0, 8)(172, 0)( 25, 0)( 29,22)( 29,24)(175, 7)(176, 0)
                                     (176, 0)(177, 5)(177, 7)(177,24)(178, 0)(***, 0)(***, 8)(***, 8)(181, 1)(184, 0)
                                     (***, 0)(***,20)(***,24)(186, 4)(186, 0)(***, 0)( 31,24)( 31,22)(189, 5)(189, 0)
                                     (***, 0)(190, 6)(191, 2)(192,21)(193, 0)(***, 0)(***,23)(***, 4)(195,23)(196, 0)
                                     (***, 0)(***, 2)(197, 5)(198, 9)(198, 0)(***, 0)(***,23)(***, 4)(200,24)(201, 0)
                                     (201, 0)(202, 3)(202, 5)(202, 9)(202, 0)( 29, 0)(***, 7)(***, 3)(205, 3)(205, 0)
                                     (205, 0)(207, 4)(207, 6)(209, 5)(210, 0)( 30, 0)(***, 4)( 35, 8)(211,10)(213, 0)
                                     (213, 0)(214, 5)(214, 7)(214, 9)(215, 0)( 31, 0)(***, 6)( 36,22)(217, 1)(217, 0)
                                     (217, 0)(219, 3)(219,23)(220, 5)(221, 0)( 32, 0)( 37, 8)( 37,24)(223, 6)(223, 0)
                                     (225, 0)(226, 5)(227, 6)(227,23)(228, 0)( 33, 0)( 38, 2)( 38,24)(231, 4)(232, 0)
                                     (233, 0)(234, 7)(234,10)(234,21)(234, 0)( 34, 0)(***, 5)(***, 8)(236,22)(237, 0)
                                     (238, 0)(238, 5)(240,20)(240,23)(241, 1)(***, 5)(***, 8)(***,21)(241,23)(242, 2)
                                     (242, 4)(242, 6)(242, 8)(242,20)(242,24)(***, 6)(***, 9)(***, 2)(244, 4)(244, 6)
                                     (***, 8)(***, 4)(***, 3)(247, 7)(247,24)(***, 7)(***, 9)(***,23)(251, 3)(251, 6)
                                     (***, 2)(***, 4)(***,23)(253, 1)(253, 4)( 36, 8)( 42,24)( 42,22)(255,24)(257, 2)
                                     (257, 4)(257, 9)(257,20)(258, 2)(258, 5)( 37, 4)(***, 7)( 43, 1)(260, 5)(261,12)
                                     (261,22)(262, 7)(264, 6)(265, 2)(265, 7)( 38,20)( 44,22)( 44, 2)(267, 5)(268, 3)
                                     (268, 5)(268, 7)(269, 9)(270,21)(270,23)( 39,10)(***,21)( 45, 8)(273, 6)(273, 8)
                                     (274,19)(274,23)(277,24)(278, 6)(280, 4)( 40, 3)(***, 5)( 47, 7)(281, 9)(283, 7)
                                     (284,24)(286, 6)(286,22)(287, 9)(288, 8)( 41,20)( 48, 1)( 48,20)(289,24)(290, 2)
                                     (290, 4)(290, 9)(290,20)(290,23)(291, 3)( 42,23)( 49, 2)( 49,21)(294,23)(295, 3)
                                     (296, 3)(296, 5)(296,21)(296,23)(297, 1)( 42, 6)(***,20)(***,24)(300, 4)(301, 8)
                                     (304, 2)(305, 6)(305,10)(305,12)(306, 4)( 44,11)( 51,20)( 51, 4)(307,21)(308, 1)
                                     (308, 5)(308,10)(308,20)(309, 2)(309,21)( 44, 4)( 52, 2)( 52, 5)(311, 8)(311,24)
                                     (312, 4)(312, 6)(312, 8)(313, 3)(313, 8)( 45,11)( 52, 1)( 52, 3)(314, 5)(314, 7)
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                                     (327, 9)(327,24)(328, 7)(330, 4)(330, 6)( 47,22)( 56,19)( 56, 2)(334, 6)(334, 9)
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                                     (338,18)(338,22)(339, 0)(339, 8)(339,23)( 49, 2)( 57, 4)( 57, 0)(340, 9)(340,11)
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                                     (***,19)(***, 1)(***, 4)(346, 1)(346, 3)(***, 7)(***,12)( 58,23)(349, 6)(349, 9)
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                                     (360, 3)(360, 5)(360, 7)(360, 9)(360,11)( 52, 8)(***,10)( 60,20)(361,22)(361,24)
                                     (362,11)(362,19)(362,21)(362,24)(363,23)(364,24)(365, 8)(365,17)
 2              133                  (  4,21)(  9, 6)( 10, 9)( 11, 1)( 11, 9)( 11,23)( 12, 4)( 12,23)( 13, 2)( 14, 7)
                                     ( 17, 4)( 18, 8)( 20, 4)( 20, 9)( 22,12)( 25, 1)( 32,21)( 33, 5)( 34, 8)( 39,14)
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                                     (124, 6)(130, 5)(131, 7)(136, 7)(142, 4)(142, 8)(143,23)(148, 3)(151, 8)(153,11)
                                     (157,10)(159,23)(160, 3)(163, 5)(169, 6)(169,23)(172, 7)(173, 1)(174, 4)(174, 9)
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                              (193, 4)(193,23)(194, 7)(196, 5)(198, 1)(206, 6)(214,22)(215, 2)(216, 2)(216, 9)
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                              (315,23)(320, 3)(321, 2)(324, 1)(324, 6)(326, 6)(327, 1)(331, 2)(332,19)(335, 1)
                              (336,24)(338, 7)(342,22)(343, 5)(345, 9)(349, 2)(350, 5)(352,24)(357, 2)(358,13)
                              (362, 4)(362, 7)(364, 3)
        3          34         ( 53, 5)( 55, 7)( 62, 8)( 87, 5)( 90, 6)(117, 1)(120, 6)(125, 3)(126, 6)(137, 7)
                              (145, 7)(154, 3)(155, 3)(167,10)(181, 6)(190, 1)(213,23)(232, 3)(238, 1)(279, 5)
                              (283, 3)(291, 8)(292,10)(303, 7)(307, 8)(313,21)(323, 1)(323, 5)(325, 8)(333,24)
                              (341, 6)(341,24)(359,20)(364,10)
        4          16         (  8, 8)( 13, 7)( 25, 8)( 27, 6)( 61,24)( 65, 8)(124, 2)(161, 2)(233, 3)(240, 6)
                              (272, 3)(288, 6)(289, 8)(294, 4)(333, 5)(336,11)
        5           5         ( 66, 9)( 98, 5)(173, 8)(338, 1)(361, 5)
        6           3         (118, 5)(128, 7)(277, 8)
        7           1         (358, 8)
        8           1         (282, 5)

Program terminated normally
```

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JOB: SR1 Alt. 2 RUN: SR1

===================
General Information
===================

Run start date: 1/ 1/81 Julian: 1
end date: 12/31/81 Julian: 365

A Tier 1 approach was used for input data preparation.

The MODE flag has been set to C for calculating CO averages.

Ambient background concentrations are excluded from the averages below.

Site & Meteorological Constants

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM ATIM = 60.

Met. Sfc. Sta. Id & Yr = 52118 81
Upper Air Sta. Id & Yr = 91919 81

Urban mixing heights were processed.

In 1981, Julian day 1 is a Thursday.

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	LENGTH (M)	BRG (DEG)	TYPE	H (M)	W (M)	NLANES
		LINK COORDINATES (M)										
1. A	*	10.0	-550.0	10.0	-400.0	*	150.	360.	AG	.0	20.6	
2. B	*	10.0	-400.0	10.0	-300.0	*	100.	360.	AG	.0	17.0	
3. C	*	10.0	-300.0	10.0	-275.0	*	25.	360.	AG	.0	17.0	
4. D	*	10.0	-275.0	10.0	-145.0	*	130.	360.	AG	.0	17.0	

5. Dd	* 10.0	-145.0	10.0	-48.0 *	97.	360.	AG	.0	17.0	
6. E	* 10.0	-48.0	10.0	10.0 *	58.	360.	BR	7.0	17.0	
7. F	* 10.0	10.0	10.0	35.0 *	25.	360.	BR	7.0	17.0	
8. G	* 10.0	35.0	10.0	65.0 *	30.	360.	AG	.0	17.0	
9. H	* 10.0	65.0	10.0	200.0 *	135.	360.	AG	.0	17.0	
10. I	* -10.0	200.0	-10.0	85.0 *	115.	180.	AG	.0	17.0	
11. J	* -10.0	85.0	-10.0	-35.0 *	120.	180.	AG	.0	17.0	
12. K	* -10.0	-35.0	-10.0	-215.0 *	180.	180.	AG	.0	17.0	
13. L	* -10.0	-215.0	-10.0	-320.0 *	105.	180.	AG	.0	17.0	
14. M	* -10.0	-320.0	-10.0	-550.0 *	230.	180.	AG	.0	20.6	
15. N	* 500.0	-180.0	265.0	-40.0 *	274.	301.	AG	.0	20.6	

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Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	* X1	LINK COORDINATES (M) Y1	X2	Y2 *	LENGTH (M)	BRG (DEG)	TYPE	H (M)	W (M)	NLANES
16. O	* 265.0	-40.0	150.0	-5.0 *	120.	287.	AG	.0	17.0	
17. P	* 150.0	-5.0	60.0	10.0 *	91.	279.	AG	.0	17.0	
18. Q	* 60.0	10.0	10.0	10.0 *	50.	270.	BR	7.0	17.0	
19. R	* 10.0	10.0	-550.0	10.0 *	560.	270.	AG	.0	17.0	
20. S	* -550.0	-10.0	10.0	-10.0 *	560.	90.	AG	.0	17.0	
21. T	* 10.0	-10.0	50.0	-10.0 *	40.	90.	AG	.0	17.0	
22. U	* 50.0	-10.0	190.0	-30.0 *	141.	98.	AG	.0	17.0	
23. V	* 190.0	-30.0	315.0	-80.0 *	135.	112.	AG	.0	17.0	
24. W	* 315.0	-80.0	435.0	-160.0 *	144.	124.	AG	.0	17.0	
25. X	* 435.0	-160.0	500.0	-200.0 *	76.	122.	AG	.0	17.0	
26. K1	* 250.0	-80.0	435.0	-160.0 *	202.	113.	AG	.0	13.3	
27. L1	* 95.0	-55.0	250.0	-80.0 *	157.	99.	AG	.0	13.3	
28. R1	* -65.0	-40.0	-10.0	-48.0 *	56.	98.	AG	.0	13.3	
29. S1	* 10.0	-48.0	95.0	-55.0 *	85.	95.	AG	.0	13.3	
30. A2	* 10.0	-400.0	35.0	-90.0 *	311.	5.	AG	.0	13.3	
31. B2	* 35.0	-90.0	15.0	-20.0 *	73.	344.	BR	7.0	13.3	
32. C2	* 15.0	-20.0	-45.0	40.0 *	85.	315.	AG	.0	13.3	
33. D2	* -45.0	40.0	-115.0	60.0 *	73.	286.	DP	-3.0	13.3	
34. E2	* -115.0	60.0	-160.0	60.0 *	45.	270.	DP	-7.0	13.3	
35. F2	* -160.0	60.0	-370.0	35.0 *	211.	263.	DP	-7.0	13.3	
36. G2	* -370.0	35.0	-550.0	10.0 *	182.	262.	AG	.0	13.3	

37. H2	*	-195.0	65.0	-370.0	35.0	*	178.	260.	AG	.0	9.7
38. I2	*	-100.0	85.0	-195.0	65.0	*	97.	258.	AG	.0	9.7
39. J2	*	-10.0	85.0	-100.0	85.0	*	90.	270.	AG	.0	9.7
40. K2	*	80.0	45.0	10.0	65.0	*	73.	286.	AG	.0	9.7
41. L2	*	185.0	15.0	80.0	45.0	*	109.	286.	AG	.0	13.3
42. M2	*	310.0	-40.0	185.0	15.0	*	137.	294.	AG	.0	13.3
43. N2	*	500.0	-175.0	310.0	-40.0	*	233.	305.	AG	.0	13.3
44. R2	*	-515.0	-10.0	-305.0	-30.0	*	211.	95.	AG	.0	13.3
45. S2	*	-305.0	-30.0	-145.0	-40.0	*	160.	94.	AG	.0	13.3
46. T2	*	-100.0	-55.0	-65.0	-40.0	*	38.	67.	AG	.0	13.3
47. W2	*	-145.0	-40.0	-100.0	-55.0	*	47.	108.	AG	.0	9.7
48. X2	*	-100.0	-55.0	-50.0	-90.0	*	61.	125.	AG	.0	9.7
49. Y2	*	-50.0	-90.0	-20.0	-145.0	*	63.	151.	AG	.0	9.7
50. Z2	*	-20.0	-145.0	-10.0	-215.0	*	71.	172.	AG	.0	9.7

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Receptor Data

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. R1	*	-30.0	-350.0	1.8
2. R2	*	-50.0	-300.0	1.8
3. R3	*	-75.0	-250.0	1.8
4. R4	*	-130.0	-200.0	1.8
5. R5	*	25.0	-350.0	1.8
6. R6	*	30.0	-300.0	1.8
7. R7	*	35.0	-250.0	1.8
8. R8	*	40.0	-200.0	1.8
9. R9	*	45.0	-150.0	1.8
10. R10	*	48.0	-100.0	1.8
11. R11	*	45.0	-65.0	1.8
12. R12	*	75.0	-65.0	1.8
13. R13	*	100.0	-70.0	1.8
14. R14	*	150.0	-80.0	1.8
15. R15	*	150.0	30.0	1.8
16. R16	*	100.0	50.0	1.8
17. R17	*	50.0	68.0	1.8
18. R18	*	25.0	75.0	1.8

19. R19	*	25.0	100.0	1.8
20. R20	*	25.0	140.0	1.8
21. R21	*	-25.0	140.0	1.8
22. R22	*	-25.0	100.0	1.8
23. R23	*	-50.0	95.0	1.8
24. R24	*	-100.0	95.0	1.8
25. R25	*	-150.0	-50.0	1.8
26. R26	*	-100.0	-70.0	1.8
27. R27	*	-60.0	-100.0	1.8
28. R28	*	-40.0	-125.0	1.8

Model Results

Remarks : In search of the wind direction corresponding
to the maximum concentration, only the first
direction, of the directions with the same maximum
concentrations, is indicated as the maximum.

* MAXIMUM HOURLY CONCENTRATIONS WITH ANY AMBIENT BACKGROUND CONCENTRATIONS (BKG) ADDED
* (PPM)

*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10
MAX+BKG *	.8	.6	.6	.4	1.1	.9	1.0	1.3	1.6	1.5
- BKG *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAX *	.8	.6	.6	.4	1.1	.9	1.0	1.3	1.6	1.5
WIND DIR*	6	8	16	11	353	355	349	339	334	334
JULIAN *	1	4	12	5	9	7	25	5	199	49
HOUR *	9	22	1	20	7	22	9	6	2	4

*	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
MAX+BKG *	1.6	1.3	1.2	.9	1.0	1.2	1.6	2.5	2.3	2.3
- BKG *	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAX *	1.6	1.3	1.2	.9	1.0	1.2	1.6	2.5	2.3	2.3
WIND DIR*	337	328	314	321	254	252	211	197	200	200
JULIAN *	37	15	1	18	22	75	14	42	5	5

```
 HOUR     *     23        1       1      24       4      23      21       1      23      23

          *    REC21   REC22   REC23   REC24   REC25   REC26   REC27   REC28
 ---------*------------------------------------------------------------------
 MAX+BKG  *     2.7     2.4     1.3      .9      .8      .9     1.2     1.3
 - BKG    *      .0      .0      .0      .0      .0      .0      .0      .0
 ---------*------------------------------------------------------------------
   MAX    *     2.7     2.4     1.3      .9      .8      .9     1.2     1.3
 WIND DIR*    153      32     122     134      61      42      19      16
 JULIAN   *     45       4       9       1       3      40      14       9
 HOUR     *      5       3       8       8       5      23       2      10

 THE HIGHEST CONCENTRATION OF  2.70 PPM OCCURRED AT RECEPTOR REC21.
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Output Section

NOTES PERTAINING TO THE REPORT

1. THE HIGHEST AVERAGE IN EACH OF THE FIRST TWO COLUMNS OF EACH TABLE BELOW ARE SUFFIXED BY AN ASTERISK (*). FOR PM OUTPUT, THERE IS ONLY ONE COLUMN AND ASTERISK FOR THE ANNUAL AVERAGE/PERIOD OF CONCERN TABLE.

2. THE NUMBERS IN PARENTHESES ARE THE JULIAN DAY AND ENDING HOUR FOR THE PRECEDING AVERAGE.

3. THE NUMBER OF CALM HOURS USED IN PRODUCING EACH AVERAGE ARE PREFIXED BY A C.

PRIMARY AVERAGES.

MAXIMUM 8-HOUR RUNNING NONOVERLAPPING AVERAGE CONCENTRATIONS
IN PARTS PER MILLION (PPM),
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

```
                        Highest             Second highest
  Receptor               Ending                 Ending
   Number        Conc    Day Hr   Calm    Conc    Day Hr   Calm
```

1	.45	(292, 5) C 2	.42	(306, 3) C 2
2	.40	(24,10) C 2	.35	(44, 7) C 2
3	.38	(44, 7) C 2	.35	(32, 4) C 2
4	.37	(24,10) C 2	.35	(44, 7) C 2
5	.63	(200, 6) C 2	.60	(248, 7) C 2
6	.62	(248, 7) C 2	.62	(333, 1) C 3
7	.67	(248, 7) C 2	.63	(333, 1) C 3
8	.80	(248, 7) C 2	.78	(197, 7) C 2
9	1.15	(238, 9) C 2	1.08	(352, 3) C 0
10	1.10	(258, 6) C 2	1.10	(197, 7) C 2
11	1.25	(258, 6) C 2	1.22	(88, 4) C 0
12	.96	(146, 9) C 1	.95	(258, 8) C 2
13	.90	(238, 9) C 2	.85	(352, 3) C 0
14	.60	(238, 9) C 2	.57	(195, 8) C 1
15	.76	(177, 5) C 1	.73	(228, 7) C 2
16	.95	(228, 7) C 2	.90	(177, 7) C 2
17	1.30	(177, 5) C 1	1.30	(239, 6) C 1
18	1.97	(239, 2) C 2	1.95	(258, 3) C 2
19	1.97	(146, 9) C 1	1.95	(200, 5) C 2
20	2.11	(177, 6) C 1	2.05	(228, 7) C 2
21	2.27*	(350, 8) C 2	2.18*	(292, 8) C 2
22	2.23	(44, 8) C 1	2.17	(136, 6) C 2
23	1.15	(289, 5) C 2	1.13	(94, 7) C 2
24	.72	(350, 7) C 2	.70	(324, 4) C 2

MAXIMUM 8-HOUR RUNNING NONOVERLAPPING AVERAGE CONCENTRATIONS
IN PARTS PER MILLION (PPM),
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Highest Conc	Highest Ending Day Hr Calm	Second highest Conc	Second highest Ending Day Hr Calm
25	.63	(337, 7) C 2	.63	(44, 9) C 1
26	.74	(44, 8) C 1	.70	(26, 7) C 1
27	.93	(44, 8) C 1	.87	(24,10) C 2
28	1.05	(24,10) C 2	.90	(44, 6) C 2

FIVE HIGHEST 1-HOUR END-TO-END AVERAGE CONCENTRATIONS IN PARTS PER MILLION
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr	Highest			Second Highest			Third Highest			Fourth Highest			Fifth Highest		
No.	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm
1	.80	(1, 9)	C 0	.80	(4,22)	C 0	.80	(5, 4)	C 0	.80	(6, 6)	C 0	.80	(7, 2)	C 0
2	.60	(4,22)	C 0	.60	(5,20)	C 0	.60	(8, 2)	C 0	.60	(13, 3)	C 0	.60	(14, 2)	C 0
3	.60	(12, 1)	C 0	.60	(14, 2)	C 0	.60	(16, 2)	C 0	.60	(32, 2)	C 0	.60	(44, 5)	C 0
4	.40	(5,20)	C 0	.40	(6, 2)	C 0	.40	(7, 8)	C 0	.40	(9, 2)	C 0	.40	(9,10)	C 0
5	1.10	(9, 7)	C 0	1.10	(26, 8)	C 0	1.10	(40, 6)	C 0	1.10	(48, 5)	C 0	1.10	(52, 4)	C 0
6	.90	(7,22)	C 0	.90	(9, 7)	C 0	.90	(11, 6)	C 0	.90	(18, 1)	C 0	.90	(25, 2)	C 0
7	1.00	(25, 9)	C 0	1.00	(66, 3)	C 0	1.00	(67, 5)	C 0	1.00	(178, 1)	C 0	1.00	(182, 7)	C 0
8	1.30	(5, 6)	C 0	1.30	(6,19)	C 0	1.30	(9,20)	C 0	1.30	(50, 2)	C 0	1.30	(86, 2)	C 0
9	1.60	(199, 2)	C 0	1.60	(218, 7)	C 0	1.50	(37,23)	C 0	1.50	(49, 4)	C 0	1.50	(51,24)	C 0
10	1.50	(49, 4)	C 0	1.50	(51,24)	C 0	1.50	(68,22)	C 0	1.50	(77, 3)	C 0	1.50	(148,23)	C 0
11	1.60	(37,23)	C 0	1.60	(129, 7)	C 0	1.60	(167,22)	C 0	1.60	(195, 1)	C 0	1.60	(238, 2)	C 0
12	1.30	(15, 1)	C 0	1.30	(27, 1)	C 0	1.30	(308, 7)	C 0	1.30	(342, 4)	C 0	1.30	(348, 3)	C 0
13	1.20	(1, 1)	C 0	1.20	(1,24)	C 0	1.20	(8,20)	C 0	1.20	(61,20)	C 0	1.20	(81, 4)	C 0
14	.90	(18,24)	C 0	.90	(21, 7)	C 0	.90	(26,20)	C 0	.90	(73,22)	C 0	.90	(77, 4)	C 0
15	1.00	(22, 4)	C 0	1.00	(82,20)	C 0	1.00	(101,23)	C 0	1.00	(102,23)	C 0	1.00	(104, 2)	C 0
16	1.20	(75,23)	C 0	1.20	(101,23)	C 0	1.20	(184,22)	C 0	1.20	(205, 1)	C 0	1.20	(216,23)	C 0
17	1.60	(14,21)	C 0	1.60	(23, 3)	C 0	1.60	(35,21)	C 0	1.60	(55, 2)	C 0	1.60	(73,24)	C 0
18	2.50	(42, 1)	C 0	2.50	(48, 2)	C 0	2.50	(48,20)	C 0	2.50	(49,21)	C 0	2.50	(54,23)	C 0
19	2.30	(5,23)	C 0	2.30	(98, 6)	C 0	2.30	(219, 4)	C 0	2.30	(279,22)	C 0	2.20	(1,20)	C 0
20	2.30	(5,23)	C 0	2.30	(14,21)	C 0	2.30	(23, 3)	C 0	2.30	(34,21)	C 0	2.30	(51,19)	C 0
21	2.70*	(45, 5)	C 0	2.70*	(149, 3)	C 0	2.70	(293,23)	C 0	2.70	(365, 2)	C 0	2.60	(52, 1)	C 0
22	2.40	(4, 3)	C 0	2.40	(5,22)	C 0	2.40	(16, 6)	C 0	2.40	(24,23)	C 0	2.40	(32,22)	C 0
23	1.30	(9, 8)	C 0	1.30	(13,23)	C 0	1.30	(46,21)	C 0	1.30	(61, 3)	C 0	1.30	(114, 2)	C 0
24	.90	(1, 8)	C 0	.90	(3,22)	C 0	.90	(5, 8)	C 0	.90	(13, 9)	C 0	.90	(13,24)	C 0
25	.80	(3, 5)	C 0	.80	(4, 7)	C 0	.80	(8, 3)	C 0	.80	(10, 2)	C 0	.80	(12,12)	C 0
26	.90	(40,23)	C 0	.90	(44, 4)	C 0	.90	(53, 9)	C 0	.90	(67, 4)	C 0	.90	(84, 6)	C 0
27	1.20	(14, 2)	C 0	1.20	(69, 3)	C 0	1.20	(71, 6)	C 0	1.20	(84, 1)	C 0	1.20	(84, 7)	C 0
28	1.30	(9,10)	C 0	1.30	(12, 1)	C 0	1.30	(12,24)	C 0	1.30	(16, 2)	C 0	1.30	(24, 8)	C 0

CAL3QHCR (Dated: 95221)

DATE : 10/17/ 0
PAGE: 7
TIME : 14:53:44

JOB: SR1 Alt. 2 RUN: SR1

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	.45	(292, 5)	.00	.45	.07	.05	.00	.02	.02	.02	.00	.00	.02	.02
				Links 10+	.00	.02	.03	.20	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.40	(24,10)	.00	.40	.00	.00	.00	.05	.10	.05	.00	.00	.05	.05
				Links 10+	.00	.05	.05	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.38	(44, 7)	.00	.38	.00	.00	.00	.05	.15	.05	.00	.00	.02	.02
				Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.37	(24,10)	.00	.37	.00	.00	.00	.00	.10	.03	.00	.00	.05	.05
				Links 10+	.00	.03	.00	.00	.00	.00	.00	.00	.05	.05
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.63	(200, 6)	.00	.63	.00	.25	.03	.03	.05	.02	.00	.00	.02	.02
				Links 10+	.00	.02	.03	.07	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.62	(248, 7)	.00	.62	.00	.03	.03	.15	.07	.03	.00	.00	.03	.03
				Links 10+	.00	.07	.05	.02	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.67	(248, 7)	.00	.67	.00	.00	.02	.15	.13	.03	.00	.00	.03	.03
				Links 10+	.00	.08	.02	.00	.00	.00	.00	.00	.03	.03
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL3QHCR (Dated: 95221)

TIME : 14:53:44

JOB: SR1 Alt. 2 RUN: SR1

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
8	.80	(248, 7)	.00	.80	.00	.00	.00	.08	.38	.03	.00	.00	.03	.03
				Links 10+	.00	.05	.02	.00	.00	.00	.00	.00	.03	.03
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	1.15	(238, 9)	.00	1.15	.00	.00	.00	.00	.70	.03	.00	.00	.02	.02
				Links 10+	.02	.08	.00	.00	.00	.00	.00	.00	.08	.08
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.03	.00	.08
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	1.10	(258, 6)	.00	1.10	.00	.00	.00	.02	.53	.10	.02	.02	.03	.03
				Links 10+	.03	.07	.00	.00	.00	.00	.00	.00	.07	.07
				Links 20+	.02	.00	.00	.00	.00	.00	.00	.03	.02	.05
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	1.25	(258, 6)	.00	1.25	.00	.00	.00	.00	.42	.25	.03	.02	.05	.03
				Links 10+	.05	.05	.00	.00	.00	.00	.00	.02	.07	.12
				Links 20+	.05	.00	.00	.00	.00	.00	.00	.05	.05	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.96	(146, 9)	.00	.96	.00	.00	.00	.00	.16	.16	.06	.04	.04	.06
				Links 10+	.06	.03	.00	.00	.00	.00	.00	.04	.06	.04
				Links 20+	.06	.01	.00	.00	.00	.00	.00	.01	.13	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.90	(238, 9)	.00	.83	.00	.00	.00	.00	.00	.15	.05	.05	.07	.08
				Links 10+	.05	.00	.00	.00	.00	.00	.02	.02	.05	.03
				Links 20+	.07	.08	.00	.00	.00	.00	.00	.00	.10	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.60	(238, 9)	.00	.60	.00	.00	.00	.00	.00	.03	.05	.05	.07	.07
				Links 10+	.00	.00	.00	.00	.00	.00	.05	.00	.03	.02
				Links 20+	.00	.13	.00	.00	.00	.00	.10	.00	.00	.00

Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR1 Alt. 2 RUN: SR1

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
15	.76	(177, 5)	.00	.76	.00	.00	.00	.00	.10	.06	.03	.00	.03	.03
				Links 10+	.00	.00	.00	.00	.00	.00	.14	.03	.03	.04
				Links 20+	.04	.11	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
				Links 40+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.95	(228, 7)	.00	.95	.00	.00	.00	.00	.03	.08	.08	.08	.03	.02
				Links 10+	.03	.02	.00	.00	.00	.00	.02	.03	.10	.10
				Links 20+	.05	.02	.00	.00	.00	.00	.00	.03	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15
				Links 40+	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	1.30	(177, 5)	.00	1.30	.00	.00	.00	.00	.00	.04	.13	.33	.16	.06
				Links 10+	.09	.00	.00	.00	.00	.00	.00	.00	.13	.09
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.26
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	1.97	(239, 2)	.00	1.97	.00	.00	.00	.00	.13	.22	.20	.62	.13	.00
				Links 10+	.10	.03	.00	.00	.00	.00	.00	.03	.08	.07
				Links 20+	.05	.00	.00	.00	.00	.00	.00	.03	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	1.97	(146, 9)	.00	1.97	.00	.00	.00	.00	.00	.00	.00	.01	1.21	.64
				Links 10+	.03	.00	.00	.00	.00	.00	.00	.00	.03	.03
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	2.11	(177, 6)	.00	2.11	.00	.00	.00	.00	.00	.00	.00	.00	1.23	.74

			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.09	.06
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	2.27	(350, 8)	.00	2.27	.00	.00	.00	.00	.00	.03	.03	.07	.63	1.40
			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
22	2.23	(44, 8)	.00	2.23	.00	.00	.00	.00	.00	.00	.00	.00	.64	1.59
			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.15	(289, 5)	.00	1.15	.00	.00	.00	.00	.03	.02	.00	.02	.38	.55
			Links	10+	.03	.02	.00	.00	.00	.00	.00	.00	.02	.02
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.03	.02
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.72	(350, 7)	.00	.72	.00	.00	.00	.00	.05	.03	.02	.05	.15	.17
			Links	10+	.03	.00	.00	.00	.00	.00	.00	.00	.03	.02
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.12	.03
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.63	(337, 7)	.00	.60	.00	.00	.00	.00	.02	.03	.03	.05	.07	.05
			Links	10+	.03	.00	.00	.00	.00	.00	.00	.00	.10	.18
			Links	20+	.00	.02	.00	.00	.00	.00	.00	.02	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.74	(44, 8)	.00	.74	.00	.00	.00	.00	.00	.07	.04	.04	.13	.11
			Links	10+	.06	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.93	(44, 8)	.00	.93	.00	.00	.00	.00	.11	.20	.06	.06	.09	.04
			Links	10+	.06	.06	.00	.00	.00	.00	.00	.00	.04	.06
			Links	20+	.01	.03	.00	.00	.00	.00	.00	.11	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	1.05	(24,10)	.00	1.05	.00	.00	.00	.00	.33	.12	.05	.05	.10	.05
			Links	10+	.05	.10	.00	.00	.00	.00	.00	.00	.05	.05
			Links	20+	.00	.05	.00	.00	.00	.00	.00	.05	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR1 Alt. 2 RUN: SR1

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	.42	(306, 3)	.00	.42	.03	.07	.00	.02	.03	.02	.00	.00	.02	.02
			Links	10+	.00	.02	.02	.18	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.35	(44, 7)	.00	.35	.00	.00	.00	.10	.08	.02	.00	.00	.00	.00
			Links	10+	.00	.05	.10	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.35	(32, 4)	.00	.35	.00	.00	.00	.05	.10	.03	.00	.00	.03	.03
			Links	10+	.00	.05	.03	.00	.00	.00	.00	.00	.00	.02
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

4	.35 (44, 7)	.00	.35	.00	.00	.00	.00	.10	.05	.00	.00	.05	.05
		Links	10+	.00	.03	.00	.00	.00	.00	.00	.00	.02	.05
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.60 (248, 7)	.00	.60	.00	.23	.03	.03	.03	.00	.00	.00	.02	.02
		Links	10+	.00	.03	.08	.02	.00	.00	.00	.00	.00	.00
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.62 (333, 1)	.00	.62	.00	.00	.05	.13	.12	.05	.00	.00	.05	.05
		Links	10+	.00	.05	.03	.00	.00	.00	.00	.00	.00	.00
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.63 (333, 1)	.00	.63	.00	.00	.00	.10	.17	.05	.00	.00	.05	.05
		Links	10+	.00	.07	.02	.00	.00	.00	.00	.00	.02	.03
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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JOB: SR1 Alt. 2 RUN: SR1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
8	.78	(197, 7)	.00	.78	.00	.00	.00	.12	.27	.05	.00	.00	.02	.03
				Links 10+	.00	.08	.00	.00	.00	.00	.00	.00	.07	.07
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	1.08	(352, 3)	.00	1.07	.00	.00	.00	.03	.57	.05	.01	.01	.03	.03
				Links 10+	.01	.09	.00	.00	.00	.00	.00	.00	.06	.06
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.04	.00	.09
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	1.10	(197, 7)	.00	1.10	.00	.00	.00	.00	.37	.22	.03	.03	.05	.07
				Links 10+	.05	.03	.00	.00	.00	.00	.00	.00	.07	.05
				Links 20+	.05	.02	.00	.00	.00	.00	.00	.02	.02	.02
				Links 30+	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	1.22	(88, 4)	.00	1.23	.00	.00	.00	.00	.59	.13	.00	.00	.00	.00
				Links 10+	.01	.08	.00	.00	.00	.00	.00	.00	.10	.15
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.14	.04	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.95	(258, 8)	.00	.95	.00	.00	.00	.00	.20	.12	.03	.05	.07	.07
				Links 10+	.03	.03	.00	.00	.00	.00	.00	.03	.05	.07
				Links 20+	.03	.02	.00	.00	.00	.00	.00	.03	.10	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.85	(352, 3)	.00	.80	.00	.00	.00	.00	.08	.09	.05	.05	.08	.06
				Links 10+	.03	.00	.00	.00	.00	.00	.03	.01	.04	.04

				Links 20+	.05	.09	.00	.00	.00	.00	.01	.03	.08	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.57	(195, 8)	.00	.57	.00	.00	.00	.00	.00	.06	.01	.03	.06	.06
				Links 10+	.00	.00	.00	.00	.01	.03	.03	.00	.01	.01
				Links 20+	.00	.13	.03	.00	.00	.00	.10	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
15	.73	(228, 7)	.00	.73	.00	.00	.00	.00	.10	.08	.03	.03	.02	.00
				Links 10+	.00	.00	.00	.00	.00	.00	.13	.02	.05	.05
				Links 20+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
				Links 40+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.90	(177, 7)	.00	.90	.00	.00	.00	.00	.08	.13	.03	.03	.05	.05
				Links 10+	.03	.00	.00	.00	.00	.00	.05	.05	.07	.07
				Links 20+	.05	.03	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08
				Links 40+	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	1.30	(239, 6)	.00	1.30	.00	.00	.00	.00	.06	.14	.17	.17	.06	.01
				Links 10+	.09	.01	.00	.00	.00	.00	.00	.04	.09	.07
				Links 20+	.04	.01	.00	.00	.00	.00	.00	.06	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	1.95	(258, 3)	.00	1.95	.00	.00	.00	.00	.00	.00	.02	.33	.93	.35
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.08	.05
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

19	1.95	(200, 5)	.00	1.95		.00	.00	.00	.00	.00	.02	.02	.07	1.18	.47
				Links	10+	.05	.00	.00	.00	.00	.00	.00	.00	.05	.05
				Links	20+	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
				Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
				Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	2.05	(228, 7)	.00	2.05		.00	.00	.00	.00	.00	.00	.00	.00	1.17	.75
				Links	10+	.02	.00	.00	.00	.00	.00	.00	.00	.07	.05
				Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	2.18	(292, 8)	.00	2.18		.00	.00	.00	.00	.02	.03	.03	.07	.62	1.37
				Links	10+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
				Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link		Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
22	2.17	(136, 6)	.00	2.17		.00	.00	.00	.00	.00	.00	.00	.00	.67	1.50
				Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.13	(94, 7)	.00	1.13		.00	.00	.00	.00	.00	.00	.00	.00	.42	.72
				Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.70	(324, 4)	.00	.70		.00	.00	.00	.00	.03	.03	.02	.00	.20	.23
				Links	10+	.02	.00	.00	.00	.00	.00	.00	.00	.03	.03
				Links	20+	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.08	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.63	(44, 9)	.00	.63	.00	.00	.00	.00	.00	.01	.01	.03	.10	.11
			Links	10+	.03	.00	.00	.00	.00	.00	.00	.00	.13	.20
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.70	(26, 7)	.00	.70	.00	.00	.00	.00	.07	.13	.04	.01	.04	.04
			Links	10+	.04	.01	.00	.00	.00	.00	.00	.00	.06	.06
			Links	20+	.00	.04	.00	.00	.00	.00	.00	.14	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.87	(24,10)	.00	.87	.00	.00	.00	.00	.12	.10	.00	.05	.10	.10
			Links	10+	.05	.05	.00	.00	.00	.00	.00	.00	.05	.05
			Links	20+	.03	.03	.00	.00	.00	.00	.00	.13	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.90	(44, 6)	.00	.90	.00	.00	.00	.00	.43	.10	.03	.03	.03	.02
			Links	10+	.03	.10	.00	.00	.00	.00	.00	.00	.00	.02
			Links	20+	.00	.07	.00	.00	.00	.00	.00	.03	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	.80	(1, 9)	.00	.80	.00	.00	.00	.10	.20	.10	.00	.00	.10	.10
			Links	10+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.60	(4,22)	.00	.60	.00	.00	.00	.00	.20	.10	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.60	(12, 1)	.00	.60	.00	.00	.00	.00	.20	.10	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.40	(5,20)	.00	.40	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	1.10	(9, 7)	.00	1.10	.00	.10	.10	.10	.20	.10	.00	.00	.10	.10
			Links	10+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.90	(7,22)	.00	.90	.00	.00	.00	.20	.20	.10	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	1.00	(25, 9)	.00	1.00	.00	.00	.00	.10	.40	.10	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
8	1.30	(5, 6)	.00	1.30	.00	.00	.00	.10	.60	.10	.00	.00	.00	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.10	.10

			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	1.60	(199, 2)	.00	1.60	.00	.00	.00	.00	.70	.20	.00	.00	.00	.10
			Links	10+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.10
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	1.50	(49, 4)	.00	1.50	.00	.00	.00	.00	.20	.40	.10	.10	.10	.10
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	1.60	(37,23)	.00	1.60	.00	.00	.00	.00	.00	.40	.20	.10	.20	.20
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.00
			Links	20+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	1.30	(15, 1)	.00	1.30	.00	.00	.00	.00	.00	.10	.10	.10	.20	.20
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.00	.00
			Links	20+	.10	.10	.00	.00	.00	.00	.00	.00	.20	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	1.20	(1, 1)	.00	1.20	.00	.00	.00	.00	.00	.20	.10	.10	.10	.10
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.00
			Links	20+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.90	(18,24)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
			Links	10+	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00
			Links	20+	.00	.20	.00	.00	.00	.00	.10	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)

EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
15	1.00	(22, 4)	.00	1.00	.00	.00	.00	.00	.00	.20	.10	.00	.00	.00
				Links 10+	.00	.00	.00	.00	.00	.00	.10	.10	.10	.10
				Links 20+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	1.20	(75,23)	.00	1.20	.00	.00	.00	.00	.00	.10	.10	.10	.00	.00
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.10	.20	.20
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20
				Links 40+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	1.60	(14,21)	.00	1.60	.00	.00	.00	.00	.10	.30	.20	.10	.00	.00
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.10
				Links 20+	.10	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.30
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	2.50	(42, 1)	.00	2.50	.00	.00	.00	.00	.20	.30	.30	.80	.10	.00
				Links 10+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.30
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	2.30	(5,23)	.00	2.30	.00	.00	.00	.00	.10	.20	.20	.50	.80	.00
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	2.30	(5,23)	.00	2.30	.00	.00	.00	.00	.10	.10	.10	.20	1.30	.20
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	2.70	(45, 5)	.00	2.70	.00	.00	.00	.00	.10	.10	.10	.20	.50	1.50
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR1 Alt. 2 RUN: SR1

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
22	2.40	(4, 3)	.00	2.40	.00	.00	.00	.00	.00	.00	.00	.00	.70	1.70
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.30	(9, 8)	.00	1.30	.00	.00	.00	.00	.00	.00	.10	.30	.20	.10
				Links 10+	.10	.00	.00	.00	.00	.00	.10	.00	.00	.00
				Links 20+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.20	.10
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.90	(1, 8)	.00	.90	.00	.00	.00	.00	.10	.20	.10	.00	.00	.00
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.20	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.80	(3, 5)	.00	.80	.00	.00	.00	.00	.00	.10	.10	.10	.10	.00
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.20
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.90	(40,23)	.00	.90	.00	.00	.00	.00	.00	.10	.10	.10	.10	.10
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	1.20	(14, 2)	.00	1.20	.00	.00	.00	.00	.00	.10	.10	.10	.20	.20
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	1.30	(9,10)	.00	1.30	.00	.00	.00	.00	.10	.20	.10	.10	.20	.10
				Links 10+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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JOB: SR1 Alt. 2 RUN: SR1

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	.80	(4,22)	.00	.80	.00	.00	.00	.10	.20	.10	.00	.00	.10	.10
				Links 10+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.60	(5,20)	.00	.60	.00	.00	.00	.00	.20	.10	.00	.00	.10	.10
				Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.60	(14, 2)	.00	.60	.00	.00	.00	.00	.20	.10	.00	.00	.10	.10
				Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.40	(6, 2)	.00	.40	.00	.00	.00	.00	.00	.10	.00	.00	.10	.10
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	1.10	(26, 8)	.00	1.10	.00	.10	.10	.10	.20	.10	.00	.00	.10	.10
				Links 10+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.90	(9, 7)	.00	.90	.00	.00	.00	.20	.20	.10	.00	.00	.10	.10
				Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	1.00	(66, 3)	.00	1.00	.00	.00	.00	.20	.30	.10	.00	.00	.10	.10

Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
8	1.30	(6,19)	.00	1.30	.00	.00	.00	.10	.60	.10	.00	.00	.10	.10
				Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	1.60	(218, 7)	.00	1.60	.00	.00	.00	.00	.70	.20	.00	.00	.00	.10
				Links 10+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.10
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	1.50	(51,24)	.00	1.50	.00	.00	.00	.00	.20	.40	.10	.10	.10	.10
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	1.60	(129, 7)	.00	1.60	.00	.00	.00	.00	.60	.20	.00	.00	.00	.00
				Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.20	.20
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.20	.10	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	1.30	(27, 1)	.00	1.30	.00	.00	.00	.00	.00	.10	.10	.10	.20	.20
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 20+	.10	.10	.00	.00	.00	.00	.00	.00	.20	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	1.20	(1,24)	.00	1.20	.00	.00	.00	.00	.00	.20	.10	.10	.10	.10
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.00
			Links	20+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.90	(21, 7)	.00	.90	.00	.00	.00	.00	.00	.10	.10	.10	.10	.10
			Links	10+	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00
			Links	20+	.00	.20	.00	.00	.00	.00	.10	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
15	1.00	(82,20)	.00	1.00	.00	.00	.00	.00	.00	.20	.10	.00	.00	.00
			Links	10+	.00	.00	.00	.00	.00	.00	.10	.10	.10	.10
			Links	20+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	1.20	(101,23)	.00	1.20	.00	.00	.00	.00	.00	.10	.10	.10	.00	.00
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.20	.20
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20
			Links	40+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	1.60	(23, 3)	.00	1.60	.00	.00	.00	.00	.10	.30	.20	.10	.00	.00
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.10
			Links	20+	.10	.00	.00	.00	.00	.00	.00	.10	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.30
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	2.50	(48, 2)	.00	2.50	.00	.00	.00	.00	.30	.40	.30	.60	.00	.00
			Links	10+	.10	.10	.00	.00	.00	.00	.00	.10	.10	.10

			Links	20+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.30
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	2.30	(98, 6)	.00	2.30	.00	.00	.00	.00	.10	.10	.10	.50	.90	.00
			Links	10+	.20	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	2.30	(14,21)	.00	2.30	.00	.00	.00	.00	.00	.00	.00	.10	1.40	.50
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	2.70	(149, 3)	.00	2.70	.00	.00	.00	.00	.00	.10	.10	.20	.50	1.50
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR1 Alt. 2 RUN: SR1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
22	2.40	(5,22)	.00	2.40	.00	.00	.00	.00	.00	.00	.00	.00	.70	1.70
			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.30	(13,23)	.00	1.30	.00	.00	.00	.00	.00	.00	.10	.30	.20	.10
			Links	10+	.10	.00	.00	.00	.00	.00	.10	.00	.00	.00
			Links	20+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.20	.10
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

24	.90 (3,22)	.00	.90	.00	.00	.00	.00	.10	.20	.10	.00	.00	.00
		Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.20	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.80 (4, 7)	.00	.80	.00	.00	.00	.00	.00	.00	.00	.00	.20	.20
		Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.20	.20
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.90 (44, 4)	.00	.90	.00	.00	.00	.00	.00	.10	.10	.10	.10	.10
		Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	1.20 (69, 3)	.00	1.20	.00	.00	.00	.00	.00	.10	.10	.10	.20	.20
		Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	1.30 (12, 1)	.00	1.30	.00	.00	.00	.00	.10	.20	.10	.10	.20	.10
		Links	10+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.10
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CALM DURATION FREQUENCY

Hours of Consecutive | Frequency of

Calm Winds	Occurrence	(Julian day/hour ending) of Significant Occurrences									
1	628	(1, 2)	(1,23)	(2, 1)	(2,21)	(2,24)	(3, 2)	(3, 6)	(3,24)	(4, 8)	(4,11)
		(4,23)	(5, 1)	(5, 5)	(5,10)	(5,18)	(6, 8)	(7, 1)	(7,21)	(7,23)	(8, 1)
		(8,12)	(8,22)	(9, 1)	(10, 1)	(10, 3)	(10, 5)	(10,19)	(11,20)	(12, 6)	(12,11)
		(13,21)	(14,12)	(15, 2)	(15,11)	(15,21)	(15,24)	(16, 4)	(17, 1)	(17, 7)	(17,10)
		(17,21)	(18, 2)	(18,21)	(19, 6)	(19,19)	(20, 6)	(20,19)	(20,24)	(21, 6)	(21,22)
		(22, 1)	(22,18)	(22,20)	(23, 2)	(24, 4)	(24, 6)	(26, 7)	(26,19)	(27,22)	(28, 7)
		(29, 1)	(29, 6)	(30, 8)	(31,24)	(32, 4)	(32, 7)	(33, 8)	(33,19)	(33,21)	(34, 5)
		(35, 3)	(35, 8)	(35,20)	(35,22)	(36, 1)	(36, 7)	(36,24)	(37, 5)	(38, 3)	(39, 3)
		(39, 5)	(39, 8)	(40,24)	(41, 7)	(41,23)	(42, 5)	(43, 1)	(43, 8)	(43,21)	(43,24)
		(44, 2)	(44,19)	(45, 6)	(46,19)	(47, 4)	(47, 6)	(47,11)	(47,20)	(48, 4)	(48,21)
		(48,24)	(49, 2)	(49, 9)	(49,22)	(50, 6)	(50, 8)	(52, 8)	(53, 8)	(53,23)	(54, 2)
		(54, 7)	(55, 9)	(57, 5)	(58, 7)	(58,22)	(59, 1)	(59, 5)	(60,19)	(60,21)	(60,23)
		(61,16)	(61,19)	(62, 2)	(62,10)	(62,21)	(63, 2)	(64, 9)	(64,24)	(67, 3)	(67, 9)
		(67,21)	(68, 6)	(69, 1)	(69, 4)	(69, 6)	(70, 4)	(71,10)	(73, 6)	(75, 2)	(75, 4)
		(75, 6)	(75,22)	(77,24)	(80, 8)	(81, 7)	(81, 9)	(82, 2)	(82,24)	(83, 3)	(83,21)
		(83,24)	(84,10)	(86,21)	(88, 9)	(89, 3)	(91, 2)	(91, 6)	(93, 1)	(93, 4)	(94, 1)
		(94, 3)	(94,22)	(94,24)	(95, 3)	(95, 6)	(95,10)	(96, 1)	(96, 3)	(97, 4)	(97,22)
		(99, 1)	(99,24)	(101, 4)	(102, 1)	(102, 3)	(102, 6)	(104, 6)	(105,22)	(106, 6)	(106,21)
		(107, 1)	(107, 6)	(109,12)	(109,19)	(111, 7)	(112, 1)	(112, 6)	(113,24)	(114, 3)	(114, 6)
		(114,23)	(115, 6)	(115, 9)	(115,23)	(116, 4)	(116, 7)	(117, 8)	(117,20)	(118,20)	(121, 2)
		(121, 5)	(123,21)	(126,23)	(127, 5)	(127,22)	(128,22)	(129, 2)	(129, 5)	(129, 8)	(129,20)
		(129,23)	(130, 2)	(130,20)	(130,23)	(131, 2)	(***, 4)	(0,22)	(133, 5)	(0, 4)	(136,23)
		(***, 1)	(0, 3)	(138, 5)	(0,21)	(140,24)	(0, 5)	(0, 1)	(142,22)	(0, 2)	(144,**)
		(***,**)	(***,**)	(145, 3)	(0, 1)	(146,94)	(***,**)	(***,**)	(150, 4)	(0,21)	(151, 1)
		(***, 1)	(0, 2)	(152, 4)	(0, 8)	(152, 0)	(0, 0)	(0, 7)	(153,22)	(***,22)	(155, 0)
		(0, 0)	(***, 7)	(160, 5)	(***, 7)	(160, 0)	(0, 0)	(0,23)	(162, 4)	(***, 6)	(163, 0)
		(0, 0)	(***, 5)	(165, 5)	(***, 9)	(168, 0)	(0, 0)	(***,22)	(168,24)	(0, 3)	(170,**)
		(0, 0)	(0,24)	(171, 5)	(0, 8)	(172, 0)	(***, 0)	(29,22)	(29,24)	(175, 7)	(176, 0)
		(176, 0)	(177, 5)	(177, 7)	(177,24)	(178, 0)	(***, 0)	(30, 8)	(30, 8)	(181, 1)	(184, 0)
		(185, 0)	(185,20)	(185,24)	(186, 4)	(186, 0)	(31, 0)	(31,24)	(31,22)	(189, 5)	(189, 0)
		(190, 0)	(190, 6)	(191, 2)	(192,21)	(193, 0)	(***, 0)	(32,23)	(32, 4)	(195,23)	(196, 0)
		(***,**)	(197, 2)	(197, 5)	(198, 9)	(198, 0)	(***, 0)	(33,23)	(***, 4)	(200,24)	(201, 0)
		(***, 0)	(202, 3)	(202, 5)	(202, 9)	(202, 0)	(***, 0)	(***, 7)	(***, 3)	(205, 3)	(205, 0)
		(***, 0)	(***, 4)	(***, 6)	(209, 5)	(210, 0)	(35, 0)	(***, 4)	(***, 8)	(211,10)	(213, 0)
		(213, 0)	(***, 5)	(***, 7)	(214, 9)	(215, 0)	(36, 0)	(***, 6)	(***,22)	(217, 1)	(217, 0)
		(217, 0)	(***, 3)	(***,23)	(220, 5)	(221, 0)	(***, 0)	(***, 8)	(***,24)	(223, 6)	(223, 0)
		(***, 0)	(***, 5)	(***, 6)	(227,23)	(228, 0)	(***, 0)	(***, 2)	(***,24)	(231, 4)	(232, 0)
		(***, 0)	(***, 7)	(234,10)	(234,21)	(234, 0)	(39, 0)	(***, 5)	(***, 8)	(236,22)	(237, 0)
		(238, 0)	(***, 5)	(***,20)	(240,23)	(241, 1)	(***, 5)	(40, 8)	(40,21)	(241,23)	(242, 2)
		(***, 4)	(242, 6)	(242, 8)	(242,20)	(242,24)	(***, 6)	(40, 9)	(41, 2)	(244, 4)	(244, 6)
		(***, 8)	(245, 4)	(246, 3)	(247, 7)	(247,24)	(***, 7)	(42, 9)	(42,23)	(251, 3)	(251, 6)
		(252, 2)	(252, 4)	(252,23)	(253, 1)	(253, 4)	(42, 8)	(42,24)	(42,22)	(255,24)	(257, 2)
		(257, 4)	(257, 9)	(257,20)	(258, 2)	(258, 5)	(43, 4)	(43, 7)	(43, 1)	(260, 5)	(261,12)
		(261,22)	(262, 7)	(264, 6)	(265, 2)	(265, 7)	(44,20)	(***,22)	(44, 2)	(267, 5)	(268, 3)
		(268, 5)	(268, 7)	(269, 9)	(270,21)	(270,23)	(45,10)	(***,21)	(45, 8)	(273, 6)	(273, 8)

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                          (274,19)(***,23)(277,24)(278, 6)(280, 4)( 47, 3)(***, 5)(***, 7)(281, 9)(283, 7)
                          (284,24)(***, 6)(***,22)(287, 9)(288, 8)( 48,20)(***, 1)(***,20)(289,24)(290, 2)
                          (290, 4)(290, 9)(***,20)(290,23)(291, 3)( 48,23)(***, 2)( 49,21)(294,23)(295, 3)
                          (296, 3)(***, 5)(296,21)(296,23)(297, 1)( 50, 6)(***,20)(***,24)(300, 4)(301, 8)
                          (304, 2)(***, 6)(305,10)(305,12)(306, 4)( 51,11)( 51,20)( 51, 4)(307,21)(308, 1)
                          (308, 5)(308,10)(308,20)(309, 2)(309,21)( 52, 4)( 52, 2)( 52, 5)(311, 8)(311,24)
                          (312, 4)(312, 6)(312, 8)(313, 3)(313, 8)( 52,11)( 52, 1)( 52, 3)(314, 5)(314, 7)
                          (314,21)(315, 6)(315, 9)(316, 9)(318, 2)( 53, 5)( 53, 7)( 53,23)(319, 3)(320, 7)
                          (321, 8)(322,20)(323, 9)(323,18)(325, 4)( 54,20)( 54,10)( 54,19)(326,22)(327, 3)
                          (327, 9)(327,24)(328, 7)(330, 4)(330, 6)( 55,22)( 56,19)(***, 2)(334, 6)(334, 9)
                          (335, 5)(335, 8)(335,18)(336, 1)(336, 4)( 56,18)(***,20)( 56, 5)(337, 8)(338, 3)
                          (338,18)(***, 0)(339, 0)(339, 8)(339,23)( 57, 2)( 57, 4)( 57, 0)(340, 9)(340,11)
                          (340,20)(341,13)(341,20)(342, 2)(343, 8)( 57,11)( 57,20)( 57,22)(344, 3)(344, 6)
                          (344,19)(345, 1)(345, 4)(346, 1)(346, 3)( 58, 7)( 58,12)( 58,23)(349, 6)(349, 9)
                          (349,18)(350, 9)(350,22)(351, 6)(352, 6)( 59,20)( 59, 6)( 59, 9)(353,23)(354, 6)
                          (354,20)(356, 4)(357, 5)(357, 7)(357,23)( 60,21)( 60, 3)( 60, 6)(359,11)(359,13)
                          (360, 3)(360, 5)(360, 7)(360, 9)(360,11)( 60, 8)( 60,10)( 60,20)(361,22)(361,24)
                          (362,11)(362,19)(362,21)(362,24)(363,23)( 61,24)( 61, 8)( 61,17)
     2           133      (  4,21)(  9, 6)( 10, 9)( 11, 1)( 11, 9)( 11,23)( 12, 4)( 12,23)( 13, 2)( 14, 7)
                          ( 17, 4)( 18, 8)( 20, 4)( 20, 9)( 22,12)( 25, 1)( 32,21)( 33, 5)( 34, 8)( 39,14)
                          ( 41, 4)( 42, 3)( 52,22)( 53, 1)( 66, 2)( 66,24)( 67, 7)( 68, 3)( 68,10)( 69, 9)
                          ( 74, 5)( 80, 1)( 84, 5)( 89, 6)( 99, 4)( 99, 8)(100, 3)(102,22)(104, 4)(106, 3)
                          (109, 6)(110, 2)(113, 9)(114, 9)(117, 6)(118,23)(120,24)(121, 9)(122, 7)(123, 7)
                          (124, 6)(130, 5)(131, 7)(136, 7)(142, 4)(142, 8)(143,23)(148, 3)(151, 8)(153,11)
                          (157,10)(159,23)(160, 3)(163, 5)(169, 6)(169,23)(172, 7)(173, 1)(174, 4)(174, 9)
                          (193, 4)(193,23)(194, 7)(196, 5)(198, 1)(206, 6)(214,22)(215, 2)(216, 2)(216, 9)
                          (217,24)(219, 1)(221, 6)(222, 6)(229, 4)(231,23)(238,23)(239,24)(245,24)(252, 7)
                          (254, 3)(256,23)(262,23)(266, 8)(267, 8)(271, 5)(278, 4)(278,23)(280, 1)(285, 3)
                          (285, 7)(287, 4)(298,22)(299, 6)(302, 2)(305,24)(306, 9)(309, 8)(312,24)(315, 4)
                          (315,23)(320, 3)(321, 2)(324, 1)(324, 6)(326, 6)(327, 1)(331, 2)(332,19)(335, 1)
                          (336,24)(338, 7)(342,22)(343, 5)(345, 9)(349, 2)(350, 5)(352,24)(357, 2)(358,13)
                          (362, 4)(362, 7)(364, 3)
     3            34      ( 53, 5)( 55, 7)( 62, 8)( 87, 5)( 90, 6)(117, 1)(120, 6)(125, 3)(126, 6)(137, 7)
                          (145, 7)(154, 3)(155, 3)(167,10)(181, 6)(190, 1)(213,23)(232, 3)(238, 1)(279, 5)
                          (283, 3)(291, 8)(292,10)(303, 7)(307, 8)(313,21)(323, 1)(323, 5)(325, 8)(333,24)
                          (341, 6)(341,24)(359,20)(364,10)
     4            16      (  8, 8)( 13, 7)( 25, 8)( 27, 6)( 61,24)( 65, 8)(124, 2)(161, 2)(233, 3)(240, 6)
                          (272, 3)(288, 6)(289, 8)(294, 4)(333, 5)(336,11)
     5             5      ( 66, 9)( 98, 5)(173, 8)(338, 1)(361, 5)
     6             3      (118, 5)(128, 7)(277, 8)
     7             1      (358, 8)
     8             1      (282, 5)

Program terminated normally
```

CAL3QHCR (Dated: 95221)

DATE : 10/17/ 0
PAGE: 1
TIME : 15:57: 8

JOB: SR1 Alt. 3 RUN: SR1

===================
General Information
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Run start date: 1/ 1/81 Julian: 1
end date: 12/31/81 Julian: 365

A Tier 1 approach was used for input data preparation.

The MODE flag has been set to C for calculating CO averages.

Ambient background concentrations are excluded from the averages below.

Site & Meteorological Constants

VS = .0 CM/S VD = .0 CM/S Z0 = 175. CM ATIM = 60.

Met. Sfc. Sta. Id & Yr = 52118 81
Upper Air Sta. Id & Yr = 91919 81

Urban mixing heights were processed.

In 1981, Julian day 1 is a Thursday.

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	LENGTH (M)	BRG (DEG)	TYPE	H (M)	W (M)	NLANES
		LINK COORDINATES (M)										
1. A	*	10.0	-550.0	10.0	-400.0	*	150.	360.	AG	.0	20.6	
2. B	*	10.0	-400.0	10.0	-300.0	*	100.	360.	AG	.0	17.0	
3. C	*	10.0	-300.0	10.0	-275.0	*	25.	360.	AG	.0	17.0	
4. D	*	10.0	-275.0	10.0	-145.0	*	130.	360.	AG	.0	17.0	
5. Dd	*	10.0	-145.0	10.0	-48.0	*	97.	360.	AG	.0	17.0	

6. E	*	10.0	-48.0	10.0	10.0 *	58.	360.	BR	7.0	17.0
7. F	*	10.0	10.0	10.0	35.0 *	25.	360.	BR	7.0	17.0
8. G	*	10.0	35.0	10.0	65.0 *	30.	360.	AG	.0	17.0
9. H	*	10.0	65.0	10.0	200.0 *	135.	360.	AG	.0	17.0
10. I	*	-10.0	200.0	-10.0	85.0 *	115.	180.	AG	.0	17.0
11. J	*	-10.0	85.0	-10.0	-35.0 *	120.	180.	AG	.0	17.0
12. K	*	-10.0	-35.0	-10.0	-215.0 *	180.	180.	AG	.0	17.0
13. L	*	-10.0	-215.0	-10.0	-320.0 *	105.	180.	AG	.0	17.0
14. M	*	-10.0	-320.0	-10.0	-550.0 *	230.	180.	AG	.0	20.6
15. N	*	500.0	-180.0	265.0	-40.0 *	274.	301.	AG	.0	20.6

JOB: SR1 Alt. 3 RUN: SR1

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2 *	LENGTH (M)	BRG (DEG)	TYPE	H (M)	W (M)	NLANES
16. O	*	265.0	-40.0	150.0	-5.0 *	120.	287.	AG	.0	17.0	
17. P	*	150.0	-5.0	60.0	10.0 *	91.	279.	AG	.0	17.0	
18. Q	*	60.0	10.0	10.0	10.0 *	50.	270.	BR	7.0	17.0	
19. R	*	10.0	10.0	-550.0	10.0 *	560.	270.	AG	.0	17.0	
20. S	*	-550.0	-10.0	10.0	-10.0 *	560.	90.	AG	.0	17.0	
21. T	*	10.0	-10.0	50.0	-10.0 *	40.	90.	AG	.0	17.0	
22. U	*	50.0	-10.0	190.0	-30.0 *	141.	98.	AG	.0	17.0	
23. V	*	190.0	-30.0	315.0	-80.0 *	135.	112.	AG	.0	17.0	
24. W	*	315.0	-80.0	435.0	-160.0 *	144.	124.	AG	.0	17.0	
25. X	*	435.0	-160.0	500.0	-200.0 *	76.	122.	AG	.0	17.0	
26. K1	*	250.0	-80.0	435.0	-160.0 *	202.	113.	AG	.0	13.3	
27. L1	*	95.0	-55.0	250.0	-80.0 *	157.	99.	AG	.0	13.3	
28. M1	*	40.0	-55.0	95.0	-55.0 *	55.	90.	AG	.0	9.7	
29. N1	*	20.0	-75.0	40.0	-55.0 *	28.	45.	AG	.0	9.7	
30. O1	*	10.0	-145.0	20.0	-75.0 *	71.	8.	AG	.0	9.7	
31. P1	*	42.0	-42.0	95.0	-55.0 *	55.	104.	AG	.0	13.3	
32. Q1	*	-10.0	-10.0	42.0	-42.0 *	61.	122.	AG	.0	13.3	
33. A2	*	10.0	-400.0	35.0	-90.0 *	311.	5.	AG	.0	13.3	
34. B2	*	35.0	-90.0	15.0	-20.0 *	73.	344.	BR	7.0	13.3	
35. C2	*	15.0	-20.0	-45.0	40.0 *	85.	315.	AG	.0	13.3	
36. D2	*	-45.0	40.0	-115.0	60.0 *	73.	286.	DP	-3.0	13.3	
37. E2	*	-115.0	60.0	-160.0	60.0 *	45.	270.	DP	-7.0	13.3	

38.	F2	*	-160.0	60.0	-370.0	35.0	*	211.	263.	DP	-7.0	13.3
39.	G2	*	-370.0	35.0	-550.0	10.0	*	182.	262.	AG	.0	13.3
40.	H2	*	-195.0	65.0	-370.0	35.0	*	178.	260.	AG	.0	9.7
41.	I2	*	-100.0	85.0	-195.0	65.0	*	97.	258.	AG	.0	9.7
42.	J2	*	-10.0	85.0	-100.0	85.0	*	90.	270.	AG	.0	9.7
43.	K2	*	80.0	45.0	10.0	65.0	*	73.	286.	AG	.0	9.7
44.	L2	*	185.0	15.0	80.0	45.0	*	109.	286.	AG	.0	13.3
45.	M2	*	310.0	-40.0	185.0	15.0	*	137.	294.	AG	.0	13.3
46.	N2	*	500.0	-175.0	310.0	-40.0	*	233.	305.	AG	.0	13.3
47.	O2	*	80.0	45.0	45.0	40.0	*	35.	262.	AG	.0	13.3
48.	P2	*	45.0	40.0	15.0	5.0	*	46.	221.	DP	-8.0	13.3
49.	Q2	*	15.0	5.0	-10.0	-35.0	*	47.	212.	DP	-5.0	13.3
50.	R2	*	-515.0	-10.0	-305.0	-30.0	*	211.	95.	AG	.0	13.3
51.	S2	*	-305.0	-30.0	-145.0	-40.0	*	160.	94.	AG	.0	13.3
52.	T2	*	-100.0	-55.0	-65.0	-40.0	*	38.	67.	DP	-1.0	13.3
53.	U2	*	-65.0	-40.0	-25.0	-25.0	*	43.	69.	DP	-3.0	13.3
54.	V2	*	-25.0	-25.0	10.0	25.0	*	61.	35.	DP	-7.0	13.3
55.	W2	*	-145.0	-40.0	-100.0	-55.0	*	47.	108.	AG	.0	9.7
56.	X2	*	-100.0	-55.0	-50.0	-90.0	*	61.	125.	AG	.0	9.7

JOB: SR1 Alt. 3 RUN: SR1

Link Data Constants - (Variable data in *.LNK file)

LINK DESCRIPTION	X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	H (M)	W (M)	NLANES
57. Y2	-50.0	-90.0	-20.0	-145.0	63.	151.	AG	.0	9.7	
58. Z2	-20.0	-145.0	-10.0	-215.0	71.	172.	AG	.0	9.7	

Receptor Data

RECEPTOR	X (M)	Y (M)	Z (M)
1. R1	-30.0	-350.0	1.8
2. R2	-50.0	-300.0	1.8
3. R3	-75.0	-250.0	1.8
4. R4	-130.0	-200.0	1.8
5. R5	25.0	-350.0	1.8
6. R6	30.0	-300.0	1.8
7. R7	35.0	-250.0	1.8
8. R8	40.0	-200.0	1.8
9. R9	45.0	-150.0	1.8
10. R10	48.0	-100.0	1.8
11. R11	45.0	-65.0	1.8
12. R12	75.0	-65.0	1.8
13. R13	100.0	-70.0	1.8
14. R14	150.0	-80.0	1.8
15. R15	150.0	30.0	1.8
16. R16	100.0	50.0	1.8
17. R17	50.0	68.0	1.8
18. R18	25.0	75.0	1.8
19. R19	25.0	100.0	1.8
20. R20	25.0	140.0	1.8
21. R21	-25.0	140.0	1.8
22. R22	-25.0	100.0	1.8

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     23. R23                  *       -50.0       95.0        1.8
     24. R24                  *      -100.0       95.0        1.8
     25. R25                  *      -150.0      -50.0        1.8
     26. R26                  *      -100.0      -70.0        1.8
     27. R27                  *       -60.0     -100.0        1.8
     28. R28                  *       -40.0     -125.0        1.8
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Model Results

Remarks : In search of the wind direction corresponding
to the maximum concentration, only the first
direction, of the directions with the same maximum
concentrations, is indicated as the maximum.

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          * MAXIMUM HOURLY CONCENTRATIONS WITH ANY AMBIENT BACKGROUND CONCENTRATIONS (BKG) ADDED
          *         (PPM)
          *    REC1     REC2     REC3     REC4     REC5     REC6     REC7     REC8     REC9     REC10
 ---------*------------------------------------------------------------------------------------------
 MAX+BKG  *      .5       .3       .3       .4       .8       .6       .7       .7       .7       .9
 - BKG    *      .0       .0       .0       .0       .0       .0       .0       .0       .0       .0
 ---------*------------------------------------------------------------------------------------------
   MAX    *      .5       .3       .3       .4       .8       .6       .7       .7       .7       .9
 WIND DIR*       6        6       16       11      353      355      307      339      339      334
 JULIAN   *      1        1        9        5        9        7        4        5        5       49
 HOUR     *      9        9       10       20        7       22       13        6        6        4

          *    REC11    REC12    REC13    REC14    REC15    REC16    REC17    REC18    REC19    REC20
 ---------*------------------------------------------------------------------------------------------
 MAX+BKG  *     1.0      1.0       .9       .9       .7       .9      1.3      2.3      2.2      2.3
 - BKG    *      .0       .0       .0       .0       .0       .0       .0       .0       .0       .0
 ---------*------------------------------------------------------------------------------------------
   MAX    *     1.0      1.0       .9       .9       .7       .9      1.3      2.3      2.2      2.3
 WIND DIR*     337      328      314      321      265      252      315      331      325      211
 JULIAN   *     37       15        1       18        1       75        4        1        1       14
 HOUR     *     23        1        1       24        3       23       17        5       20       21

          *    REC21    REC22    REC23    REC24    REC25    REC26    REC27    REC28
 ---------*------------------------------------------------------------------------
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MAX+BKG *	2.4	2.4	1.3	.7	.8	.8	.8	.9
- BKG *	.0	.0	.0	.0	.0	.0	.0	.0
MAX *	2.4	2.4	1.3	.7	.8	.8	.8	.9
WIND DIR*	139	32	48	79	40	32	16	11
JULIAN *	1	4	10	2	4	4	9	5
HOUR *	6	3	7	7	7	3	10	20

THE HIGHEST CONCENTRATION OF 2.40 PPM OCCURRED AT RECEPTOR REC22.

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Output Section
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NOTES PERTAINING TO THE REPORT

1. THE HIGHEST AVERAGE IN EACH OF THE FIRST TWO COLUMNS OF EACH TABLE BELOW ARE SUFFIXED BY AN ASTERISK (*). FOR PM OUTPUT, THERE IS ONLY ONE COLUMN AND ASTERISK FOR THE ANNUAL AVERAGE/PERIOD OF CONCERN TABLE.

2. THE NUMBERS IN PARENTHESES ARE THE JULIAN DAY AND ENDING HOUR FOR THE PRECEDING AVERAGE.

3. THE NUMBER OF CALM HOURS USED IN PRODUCING EACH AVERAGE ARE PREFIXED BY A C.

PRIMARY AVERAGES.

MAXIMUM 8-HOUR RUNNING NONOVERLAPPING AVERAGE CONCENTRATIONS
IN PARTS PER MILLION (PPM),
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Highest Conc	Highest Ending Day Hr	Highest Calm	Second highest Conc	Second highest Ending Day Hr	Second highest Calm
1	.42	(292, 5)	C 2	.37	(296, 4)	C 1
2	.25	(44, 7)	C 2	.25	(24,10)	C 2
3	.22	(306, 7)	C 2	.22	(32, 4)	C 2

4	.27	(336, 5)	C 2	.23	(199, 5)	C 2
5	.57	(200, 5)	C 2	.57	(258, 3)	C 2
6	.52	(248, 7)	C 2	.47	(171, 6)	C 2
7	.53	(248, 7)	C 2	.53	(258, 3)	C 2
8	.53	(238, 9)	C 2	.52	(203, 8)	C 2
9	.50	(197, 7)	C 2	.50	(258, 6)	C 2
10	.60	(248, 7)	C 2	.55	(197, 7)	C 2
11	.68	(248, 7)	C 2	.61	(295, 8)	C 1
12	.67	(248, 7)	C 2	.63	(197, 7)	C 2
13	.67	(280, 8)	C 2	.65	(339, 9)	C 2
14	.55	(280, 8)	C 2	.53	(339, 9)	C 2
15	.56	(177, 5)	C 1	.53	(162, 7)	C 2
16	.65	(203, 8)	C 2	.63	(263, 5)	C 2
17	1.00	(171, 7)	C 2	1.00	(146, 9)	C 1
18	1.90	(248, 7)	C 2	1.90	(146, 9)	C 1
19	1.97	(146, 9)	C 1	1.92	(263, 5)	C 2
20	2.11	(177, 6)	C 1	2.05	(228, 7)	C 2
21	2.15	(350, 8)	C 2	2.08	(292, 8)	C 2
22	2.23*	(44, 8)	C 1	2.17*	(136, 6)	C 2
23	1.13	(94, 7)	C 2	1.10	(287, 8)	C 2
24	.63	(35, 6)	C 1	.63	(70, 9)	C 1

JOB: SR1 Alt. 3 RUN: SR1

MAXIMUM 8-HOUR RUNNING NONOVERLAPPING AVERAGE CONCENTRATIONS
IN PARTS PER MILLION (PPM),
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Receptor Number	Conc	Highest Ending Day Hr	Calm	Conc	Second highest Ending Day Hr	Calm
25	.61	(44, 8)	C 1	.53	(337, 7)	C 2
26	.54	(44, 8)	C 1	.49	(143, 6)	C 1
27	.53	(24,10)	C 2	.50	(336, 5)	C 2
28	.55	(24,10)	C 2	.46	(57, 5)	C 1

FIVE HIGHEST 1-HOUR END-TO-END AVERAGE CONCENTRATIONS IN PARTS PER MILLION
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Highest Second Highest Third Highest Fourth Highest Fifth Highest

Rcptr No.	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm	Conc	Ending Day Hr	Calm
1	.50	(1, 9)	C 0	.50	(4,22)	C 0	.50	(5, 4)	C 0	.50	(5,20)	C 0	.50	(6, 6)	C 0
2	.30	(1, 9)	C 0	.30	(4,22)	C 0	.30	(5, 4)	C 0	.30	(5,20)	C 0	.30	(6, 1)	C 0
3	.30	(9,10)	C 0	.30	(12, 1)	C 0	.30	(14, 2)	C 0	.30	(16, 2)	C 0	.30	(18, 4)	C 0
4	.40	(5,20)	C 0	.40	(9,10)	C 0	.40	(9,24)	C 0	.40	(12, 1)	C 0	.40	(12,24)	C 0
5	.80	(9, 7)	C 0	.80	(18, 1)	C 0	.80	(25, 2)	C 0	.80	(25, 9)	C 0	.80	(26, 8)	C 0
6	.60	(7,22)	C 0	.60	(9, 7)	C 0	.60	(11, 6)	C 0	.60	(16, 8)	C 0	.60	(18, 1)	C 0
7	.70	(4,13)	C 0	.70	(5, 3)	C 0	.70	(22, 8)	C 0	.70	(46, 5)	C 0	.70	(51,18)	C 0
8	.70	(5, 6)	C 0	.70	(6,19)	C 0	.70	(9,20)	C 0	.70	(50, 2)	C 0	.70	(86, 2)	C 0
9	.70	(5, 6)	C 0	.70	(6, 7)	C 0	.70	(6,19)	C 0	.70	(8,21)	C 0	.70	(9,20)	C 0
10	.90	(49, 4)	C 0	.90	(51,24)	C 0	.90	(68,22)	C 0	.90	(77, 3)	C 0	.90	(148,23)	C 0
11	1.00	(37,23)	C 0	1.00	(57,23)	C 0	1.00	(66, 3)	C 0	1.00	(100, 1)	C 0	1.00	(178, 1)	C 0
12	1.00	(15, 1)	C 0	1.00	(27, 1)	C 0	1.00	(308, 7)	C 0	1.00	(342, 4)	C 0	1.00	(348, 3)	C 0
13	.90	(1, 1)	C 0	.90	(1,24)	C 0	.90	(8,20)	C 0	.90	(61,20)	C 0	.90	(81, 4)	C 0
14	.90	(18,24)	C 0	.90	(121,24)	C 0	.90	(123, 5)	C 0	.90	(146, 4)	C 0	.90	(149,24)	C 0
15	.70	(1, 3)	C 0	.70	(9, 4)	C 0	.70	(14,24)	C 0	.70	(22, 4)	C 0	.70	(22, 7)	C 0
16	.90	(75,23)	C 0	.90	(101,23)	C 0	.90	(181,23)	C 0	.90	(184, 4)	C 0	.90	(184,22)	C 0
17	1.30	(4,17)	C 0	1.30	(57,22)	C 0	1.30	(69,20)	C 0	1.30	(171, 6)	C 0	1.30	(184, 5)	C 0
18	2.30	(1, 5)	C 0	2.30	(1,20)	C 0	2.30	(2, 5)	C 0	2.30	(5, 2)	C 0	2.30	(5,24)	C 0
19	2.20	(1,20)	C 0	2.20	(2, 5)	C 0	2.20	(5, 2)	C 0	2.20	(5,24)	C 0	2.20	(14,20)	C 0
20	2.30	(14,21)	C 0	2.30	(23, 3)	C 0	2.30	(34,21)	C 0	2.30	(51,19)	C 0	2.30	(97, 3)	C 0
21	2.40	(1, 6)	C 0	2.40	(4,24)	C 0	2.40	(5, 8)	C 0	2.40	(7, 3)	C 0	2.40	(28, 5)	C 0
22	2.40*	(4, 3)	C 0	2.40*	(5,22)	C 0	2.40	(16, 6)	C 0	2.40	(24,23)	C 0	2.40	(32,22)	C 0
23	1.30	(10, 7)	C 0	1.30	(24, 9)	C 0	1.30	(31,22)	C 0	1.30	(36, 3)	C 0	1.30	(46, 7)	C 0
24	.70	(2, 7)	C 0	.70	(3, 5)	C 0	.70	(3,23)	C 0	.70	(4, 1)	C 0	.70	(4, 4)	C 0
25	.80	(4, 7)	C 0	.80	(8, 3)	C 0	.80	(10, 2)	C 0	.80	(26, 3)	C 0	.80	(35, 7)	C 0
26	.80	(4, 3)	C 0	.80	(5,22)	C 0	.80	(16, 6)	C 0	.80	(24,23)	C 0	.80	(32,22)	C 0
27	.80	(9,10)	C 0	.80	(12, 1)	C 0	.80	(12,24)	C 0	.80	(14, 2)	C 0	.80	(16, 2)	C 0
28	.90	(5,20)	C 0	.90	(26,24)	C 0	.90	(158, 4)	C 0	.90	(159, 6)	C 0	.90	(166, 5)	C 0

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	.42	(292, 5)	.00	.42	.07	.05	.00	.02	.00	.00	.00	.00	.02	.02
			Links	10+	.00	.02	.03	.20	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.25	(44, 7)	.00	.25	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.05	.10	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.22	(306, 7)	.00	.22	.00	.00	.00	.07	.00	.00	.00	.00	.03	.03
			Links	10+	.00	.05	.03	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.27	(336, 5)	.00	.27	.00	.00	.00	.02	.00	.00	.00	.00	.05	.05
			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.07	.08
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.57	(200, 5)	.00	.57	.02	.28	.02	.02	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.03	.10	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.52	(248, 7)	.00	.52	.00	.03	.03	.15	.00	.00	.00	.00	.03	.03
			Links	10+	.00	.07	.05	.02	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
7	.53	(248, 7)	.00	.53	.00	.00	.02	.15	.03	.00	.00	.00	.03	.03
			Links	10+	.00	.08	.02	.00	.00	.00	.00	.00	.03	.03
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.53	(238, 9)	.00	.53	.00	.00	.00	.15	.02	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.08	.08
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.50	(197, 7)	.00	.50	.00	.00	.00	.02	.08	.00	.00	.00	.03	.05
			Links	10+	.03	.07	.00	.00	.00	.00	.00	.00	.07	.07
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.60	(248, 7)	.00	.60	.00	.00	.00	.00	.03	.05	.00	.07	.10	.10
			Links	10+	.05	.02	.00	.00	.00	.00	.00	.02	.03	.03
			Links	20+	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.02	.03	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.68	(248, 7)	.00	.68	.00	.00	.00	.00	.03	.05	.00	.07	.13	.13
			Links	10+	.05	.02	.00	.00	.00	.00	.00	.03	.03	.03
			Links	20+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.67	(248, 7)	.00	.67	.00	.00	.00	.00	.02	.00	.00	.05	.15	.12
			Links	10+	.02	.02	.00	.00	.00	.00	.03	.05	.00	.00
			Links	20+	.05	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR1 Alt. 3 RUN: SR1

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
13	.67	(280, 8)	.00	.60	.00	.00	.00	.00	.00	.00	.00	.05	.10	.10
			Links	10+	.02	.00	.00	.00	.00	.02	.05	.02	.02	.00
			Links	20+	.02	.17	.00	.00	.00	.00	.03	.00	.00	.00
			Links	30+	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.55	(280, 8)	.00	.55	.00	.00	.00	.00	.00	.00	.00	.02	.10	.07
			Links	10+	.00	.00	.00	.00	.00	.02	.08	.00	.00	.00
			Links	20+	.00	.15	.02	.00	.00	.00	.10	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.56	(177, 5)	.00	.56	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
			Links	10+	.00	.00	.00	.00	.00	.00	.14	.03	.03	.04
			Links	20+	.04	.11	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.65	(203, 8)	.00	.65	.00	.00	.00	.00	.00	.00	.00	.05	.22	.22
			Links	10+	.03	.00	.00	.00	.00	.00	.00	.02	.03	.03
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.03	.02	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	1.00	(171, 7)	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.10	.47	.28
			Links	10+	.03	.00	.00	.00	.00	.00	.00	.00	.05	.03
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

				Links 40+	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	1.90	(248, 7)	.00	1.90	.00	.00	.00	.00	.00	.00	.00	.13	1.17	.50
				Links 10+	.03	.00	.00	.00	.00	.00	.00	.00	.03	.02
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR1 Alt. 3 RUN: SR1

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
19	1.97	(146, 9)	.00	1.97	.00	.00	.00	.00	.00	.00	.00	.01	1.21	.64
				Links 10+	.03	.00	.00	.00	.00	.00	.00	.00	.03	.03
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	2.11	(177, 6)	.00	2.11	.00	.00	.00	.00	.00	.00	.00	.00	1.23	.74
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.09	.06
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	2.15	(350, 8)	.00	2.15	.00	.00	.00	.00	.00	.00	.00	.07	.63	1.40
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	2.23	(44, 8)	.00	2.23	.00	.00	.00	.00	.00	.00	.00	.00	.64	1.59
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.13	(94, 7)	.00	1.13	.00	.00	.00	.00	.00	.00	.00	.00	.42	.72
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.63	(35, 6)	.00	.63	.00	.00	.00	.00	.00	.00	.00	.01	.26	.31
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
25	.61	(44, 8)	.00	.61	.00	.00	.00	.00	.00	.00	.00	.03	.11	.13
				Links 10+	.01	.00	.00	.00	.00	.00	.00	.00	.13	.20
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.54	(44, 8)	.00	.54	.00	.00	.00	.00	.00	.00	.00	.04	.13	.11
				Links 10+	.06	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

27	.53	(24,10)	.00	.53	.00	.00	.00	.00	.02	.00	.00	.05	.10	.10
			Links	10+	.05	.05	.00	.00	.00	.00	.00	.00	.05	.05
			Links	20+	.03	.03	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.55	(24,10)	.00	.55	.00	.00	.00	.00	.05	.00	.00	.05	.10	.05
			Links	10+	.05	.10	.00	.00	.00	.00	.00	.00	.05	.05
			Links	20+	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	.37	(296, 4)	.00	.37	.04	.07	.00	.01	.00	.00	.00	.00	.01	.01
			Links	10+	.00	.01	.01	.19	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
2	.25	(24,10)	.00	.25	.00	.00	.00	.05	.00	.00	.00	.00	.05	.05
			Links	10+	.00	.05	.05	.00	.00	.00	.00	.00	.00	.00

		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.22 (32, 4)	.00	.22	.00	.00	.00	.05	.00	.00	.00	.00	.03	.03
		Links	10+	.00	.05	.03	.00	.00	.00	.00	.00	.00	.02
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.23 (199, 5)	.00	.23	.00	.00	.00	.00	.00	.00	.00	.00	.02	.05
		Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.08	.08
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.57 (258, 3)	.00	.57	.00	.28	.02	.02	.00	.00	.00	.00	.00	.00
		Links	10+	.00	.02	.05	.08	.00	.00	.00	.00	.00	.00
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.47 (171, 6)	.00	.47	.00	.05	.12	.07	.00	.00	.00	.00	.02	.02
		Links	10+	.00	.02	.08	.00	.00	.00	.00	.00	.00	.00
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.53 (258, 3)	.00	.53	.00	.00	.03	.17	.02	.00	.00	.00	.02	.02
		Links	10+	.00	.05	.07	.00	.00	.00	.00	.00	.03	.03
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS

IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
8	.52	(203, 8)	.00	.52	.00	.00	.00	.18	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.08	.02	.00	.00	.00	.00	.00	.07	.07
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.50	(258, 6)	.00	.50	.00	.00	.00	.07	.12	.00	.00	.02	.02	.02
			Links	10+	.02	.08	.00	.00	.00	.00	.00	.00	.03	.03
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.55	(197, 7)	.00	.55	.00	.00	.00	.00	.05	.05	.00	.03	.05	.07
			Links	10+	.05	.03	.00	.00	.00	.00	.00	.00	.07	.05
			Links	20+	.05	.02	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.02	.02	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.61	(295, 8)	.00	.61	.00	.00	.00	.00	.01	.04	.00	.06	.11	.10
			Links	10+	.06	.01	.00	.00	.00	.00	.00	.04	.06	.06
			Links	20+	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.63	(197, 7)	.00	.63	.00	.00	.00	.00	.02	.02	.00	.05	.10	.08
			Links	10+	.03	.02	.00	.00	.00	.00	.02	.05	.03	.02
			Links	20+	.07	.07	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.65	(339, 9)	.00	.58	.00	.00	.00	.00	.00	.00	.00	.05	.08	.08
			Links	10+	.03	.00	.00	.00	.00	.02	.02	.03	.02	.00
			Links	20+	.05	.13	.00	.00	.00	.00	.03	.00	.00	.00
			Links	30+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

TIME : 16:10:21

JOB: SR1 Alt. 3 RUN: SR1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
14	.53	(339, 9)	.00	.53	.00	.00	.00	.00	.00	.00	.00	.03	.08	.08
				Links 10+	.00	.00	.00	.00	.00	.02	.05	.00	.00	.00
				Links 20+	.00	.13	.03	.00	.00	.00	.10	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.53	(162, 7)	.00	.53	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.00	.00	.00	.03	.13	.05	.00	.00	.00
				Links 20+	.00	.08	.10	.03	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.63	(263, 5)	.00	.63	.00	.00	.00	.00	.00	.00	.00	.08	.10	.07
				Links 10+	.05	.00	.00	.00	.00	.00	.02	.03	.08	.07
				Links 20+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.05	.05	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	1.00	(146, 9)	.00	1.00	.00	.00	.00	.00	.00	.00	.01	.09	.46	.31
				Links 10+	.03	.00	.00	.00	.00	.00	.00	.00	.04	.03
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	1.90	(146, 9)	.00	1.90	.00	.00	.00	.00	.00	.00	.00	.14	1.10	.51
				Links 10+	.06	.00	.00	.00	.00	.00	.00	.00	.03	.03
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.01	.01	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	1.92	(263, 5)	.00	1.92	.00	.00	.00	.00	.00	.00	.00	.02	1.18	.53
				Links 10+	.03	.00	.00	.00	.00	.00	.00	.00	.07	.05
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Links	40+	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL3QHCR (Dated: 95221)

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JOB: SR1 Alt. 3 RUN: SR1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
20	2.05	(228, 7)	.00	2.05	.00	.00	.00	.00	.00	.00	.00	.00	1.17	.75
			Links	10+	.02	.00	.00	.00	.00	.00	.00	.00	.07	.05
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	2.08	(292, 8)	.00	2.08	.00	.00	.00	.00	.00	.00	.00	.07	.62	1.37
			Links	10+	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	2.17	(136, 6)	.00	2.17	.00	.00	.00	.00	.00	.00	.00	.00	.67	1.50
			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.10	(287, 8)	.00	1.10	.00	.00	.00	.00	.00	.00	.00	.00	.43	.63
			Links	10+	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.63	(70, 9)	.00	.63	.00	.00	.00	.00	.00	.00	.00	.01	.26	.29

			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.53	(337, 7)	.00	.50	.00	.00	.00	.00	.00	.00	.00	.05	.07	.05
			Links	10+	.03	.00	.00	.00	.00	.00	.00	.00	.10	.18
			Links	20+	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 8-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
26	.49	(143, 6)	.00	.49	.00	.00	.00	.00	.00	.00	.00	.04	.10	.09
			Links	10+	.04	.00	.00	.00	.00	.00	.00	.00	.10	.11
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.50	(336, 5)	.00	.50	.00	.00	.00	.00	.02	.00	.00	.05	.10	.10
			Links	10+	.05	.02	.00	.00	.00	.00	.00	.00	.08	.08
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.46	(57, 5)	.00	.46	.00	.00	.00	.00	.00	.00	.00	.03	.09	.09
			Links	10+	.06	.03	.00	.00	.00	.00	.00	.00	.09	.09
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

Links 50+ .00 .00 .00 .00 .00 .00 .00 .00 .00 .00

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	.50	(1, 9)	.00	.50	.00	.00	.00	.10	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.30	(1, 9)	.00	.30	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

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DATE : 10/17/ 0
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JOB: SR1 Alt. 3 RUN: SR1

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
3	.30	(9,10)	.00	.30	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.40	(5,20)	.00	.40	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10

				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.80	(9, 7)	.00	.80	.00	.10	.10	.10	.00	.00	.00	.00	.10	.10
				Links 10+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.60	(7,22)	.00	.60	.00	.00	.00	.20	.00	.00	.00	.00	.10	.10
				Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.70	(4,13)	.00	.70	.00	.00	.00	.20	.00	.00	.00	.00	.00	.00
				Links 10+	.00	.10	.10	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.70	(5, 6)	.00	.70	.00	.00	.00	.10	.10	.00	.00	.00	.00	.10
				Links 10+	.00	.10	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10

9	.70 (5, 6)	.00	.70	.00	.00	.00	.00	.10	.00	.00	.00	.10	.10
		Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
		Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.90 (49, 4)	.00	.90	.00	.00	.00	.00	.00	.10	.00	.10	.10	.10
		Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
		Links	20+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	1.00 (37,23)	.00	1.00	.00	.00	.00	.00	.00	.10	.00	.10	.20	.20
		Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.00
		Links	20+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	1.00 (15, 1)	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
		Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.00	.00
		Links	20+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.90 (1, 1)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.10	.10
		Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.00
		Links	20+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
		Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.90 (18,24)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
		Links	10+	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00
		Links	20+	.00	.20	.00	.00	.00	.00	.10	.00	.00	.00
		Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
15	.70	(1, 3)	.00	.70	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 10+	.00	.00	.00	.00	.00	.00	.10	.10	.20	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.90	(75,23)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.10	.20	.20
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.10	.10	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	1.30	(4,17)	.00	1.30	.00	.00	.00	.00	.00	.00	.00	.00	.70	.60
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	2.30	(1, 5)	.00	2.30	.00	.00	.00	.00	.00	.00	.00	.00	1.50	.80
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	2.20	(1,20)	.00	2.20	.00	.00	.00	.00	.00	.00	.00	.00	1.40	.80
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	2.30	(14,21)	.00	2.30	.00	.00	.00	.00	.00	.00	.00	.10	1.40	.50
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE : 10/17/ 0
PAGE: 20
TIME : 16:10:21

JOB: SR1 Alt. 3 RUN: SR1

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
21	2.40	(1, 6)	.00	2.40	.00	.00	.00	.00	.00	.00	.00	.10	.70	1.50
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	2.40	(4, 3)	.00	2.40	.00	.00	.00	.00	.00	.00	.00	.00	.70	1.70
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.30	(10, 7)	.00	1.30	.00	.00	.00	.00	.00	.00	.00	.00	.50	.80
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.70	(2, 7)	.00	.70	.00	.00	.00	.00	.00	.00	.00	.00	.30	.40
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.80	(4, 7)	.00	.80	.00	.00	.00	.00	.00	.00	.00	.00	.20	.20
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.20	.20
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

26	.80 (4, 3)	.00	.80	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
			Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

MAXIMUM 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
27	.80	(9,10)	.00	.80	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.90	(5,20)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
				Links 10+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
1	.50	(4,22)	.00	.50	.00	.00	.00	.10	.00	.00	.00	.00	.10	.10
				Links 10+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00

			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.30	(4,22)	.00	.30	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.30	(12, 1)	.00	.30	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
4	.40	(9,10)	.00	.40	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.80	(18, 1)	.00	.80	.00	.10	.10	.10	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.10	.10	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

6	.60	(9, 7)	.00	.60	.00	.00	.00	.20	.00	.00	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.70	(5, 3)	.00	.70	.00	.00	.00	.20	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.10	.10	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.70	(6,19)	.00	.70	.00	.00	.00	.10	.10	.00	.00	.00	.10	.10
			Links	10+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.70	(6, 7)	.00	.70	.00	.00	.00	.00	.10	.00	.00	.00	.10	.10
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR1 Alt. 3 RUN: SR1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
10	.90	(51,24)	.00	.90	.00	.00	.00	.00	.00	.10	.00	.10	.10	.10
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00

			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	1.00	(57,23)	.00	1.00	.00	.00	.00	.00	.00	.10	.00	.10	.20	.20
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.00
			Links	20+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	1.00	(27, 1)	.00	1.00	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.00	.00
			Links	20+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.90	(1,24)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.10	.10
			Links	10+	.10	.00	.00	.00	.00	.00	.00	.10	.10	.00
			Links	20+	.10	.10	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.90	(121,24)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
			Links	10+	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00
			Links	20+	.00	.20	.00	.00	.00	.00	.10	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.70	(9, 4)	.00	.70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	10+	.00	.00	.00	.00	.10	.20	.00	.00	.00	.00
			Links	20+	.00	.00	.20	.10	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
16	.90	(101,23)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.10	.20	.20
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.10	.10	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	1.30	(57,22)	.00	1.30	.00	.00	.00	.00	.00	.00	.00	.00	.70	.60
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	2.30	(1,20)	.00	2.30	.00	.00	.00	.00	.00	.00	.00	.00	1.40	.90
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	2.20	(2, 5)	.00	2.20	.00	.00	.00	.00	.00	.00	.00	.00	1.40	.80
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	2.30	(23, 3)	.00	2.30	.00	.00	.00	.00	.00	.00	.00	.10	1.40	.50
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	2.40	(4,24)	.00	2.40	.00	.00	.00	.00	.00	.00	.00	.10	.70	1.50
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

JOB: SR1 Alt. 3 RUN: SR1

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
22	2.40	(5,22)	.00	2.40	.00	.00	.00	.00	.00	.00	.00	.00	.70	1.70
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	1.30	(24, 9)	.00	1.30	.00	.00	.00	.00	.00	.00	.00	.00	.50	.80
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.70	(3, 5)	.00	.70	.00	.00	.00	.00	.00	.00	.00	.00	.30	.40
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.80	(8, 3)	.00	.80	.00	.00	.00	.00	.00	.00	.00	.00	.20	.20
				Links 10+	.00	.00	.00	.00	.00	.00	.00	.00	.20	.20
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.80	(5,22)	.00	.80	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.80	(12, 1)	.00	.80	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
				Links 10+	.10	.00	.00	.00	.00	.00	.00	.00	.10	.10
				Links 20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
				Links 40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

LINK CONTRIBUTION TABLES

SECOND HIGHEST 1-HOUR AVERAGED LINK CONTRIBUTIONS
IN PARTS PER MILLION (PPM)
EXCLUDING AMBIENT BACKGROUND CONCENTRATIONS.

Rcptr No.	Total Conc	Ending Day Hr	Ambient Backgnd	Total Link	Link +1	Link +2	Link +3	Link +4	Link +5	Link +6	Link +7	Link +8	Link +9	Link +10
28	.90	(26,24)	.00	.90	.00	.00	.00	.00	.00	.00	.00	.10	.20	.20
			Links	10+	.10	.10	.00	.00	.00	.00	.00	.00	.10	.10
			Links	20+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	30+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	40+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
			Links	50+	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CALM DURATION FREQUENCY

Hours of Consecutive Calm Winds	Frequency of Occurrence	(Julian day/hour ending) of Significant Occurrences
1	628	(1, 2)(1,23)(2, 1)(2,21)(2,24)(3, 2)(3, 6)(3,24)(4, 8)(4,11)
		(4,23)(5, 1)(5, 5)(5,10)(5,18)(6, 8)(7, 1)(7,21)(7,23)(8, 1)
		(8,12)(8,22)(9, 1)(10, 1)(10, 3)(10, 5)(10,19)(11,20)(12, 6)(12,11)
		(13,21)(14,12)(15, 2)(15,11)(15,21)(15,24)(16, 4)(17, 1)(17, 7)(17,10)
		(17,21)(18, 2)(18,21)(19, 6)(19,19)(20, 6)(20,19)(20,24)(21, 6)(21,22)

(22, 1)	(22,18)	(22,20)	(23, 2)	(24, 4)	(24, 6)	(26, 7)	(26,19)	(27,22)	(28, 7)
(29, 1)	(29, 6)	(30, 8)	(31,24)	(32, 4)	(32, 7)	(33, 8)	(33,19)	(33,21)	(34, 5)
(35, 3)	(35, 8)	(35,20)	(35,22)	(36, 1)	(36, 7)	(36,24)	(37, 5)	(38, 3)	(39, 3)
(39, 5)	(39, 8)	(40,24)	(41, 7)	(41,23)	(42, 5)	(43, 1)	(43, 8)	(43,21)	(43,24)
(44, 2)	(44,19)	(45, 6)	(46,19)	(47, 4)	(47, 6)	(47,11)	(47,20)	(48, 4)	(48,21)
(48,24)	(49, 2)	(49, 9)	(49,22)	(50, 6)	(50, 8)	(52, 8)	(53, 8)	(53,23)	(54, 2)
(54, 7)	(55, 9)	(57, 5)	(58, 7)	(58,22)	(59, 1)	(59, 5)	(60,19)	(60,21)	(60,23)
(61,16)	(61,19)	(62, 2)	(62,10)	(62,21)	(63, 2)	(64, 9)	(64,24)	(67, 3)	(67, 9)
(67,21)	(68, 6)	(69, 1)	(69, 4)	(69, 6)	(70, 4)	(71,10)	(73, 6)	(75, 2)	(75, 4)
(75, 6)	(75,22)	(77,24)	(80, 8)	(81, 7)	(81, 9)	(82, 2)	(82,24)	(83, 3)	(83,21)
(83,24)	(84,10)	(86,21)	(88, 9)	(89, 3)	(91, 2)	(91, 6)	(93, 1)	(93, 4)	(94, 1)
(94, 3)	(94,22)	(94,24)	(95, 3)	(95, 6)	(95,10)	(96, 1)	(96, 3)	(97, 4)	(97,22)
(99, 1)	(99,24)	(101, 4)	(102, 1)	(102, 3)	(102, 6)	(104, 6)	(105,22)	(106, 6)	(106,21)
(107, 1)	(107, 6)	(109,12)	(109,19)	(111, 7)	(112, 1)	(112, 6)	(113,24)	(114, 3)	(114, 6)
(114,23)	(115, 6)	(115, 9)	(115,23)	(116, 4)	(116, 7)	(117, 8)	(117,20)	(118,20)	(121, 2)
(121, 5)	(123,21)	(126,23)	(127, 5)	(127,22)	(128,22)	(129, 2)	(129, 5)	(129, 8)	(129,20)
(129,23)	(130, 2)	(130,20)	(130,23)	(131, 2)	(***, 4)	(0,22)	(133, 5)	(0, 4)	(136,23)
(***, 1)	(0, 3)	(138, 5)	(0,21)	(140,24)	(0, 5)	(0, 1)	(142,22)	(0, 2)	(144,**)
(***,**)	(***,**)	(145, 3)	(0, 1)	(146, 9)	(***,**)	(0,75)	(150, 4)	(0,21)	(151, 1)
(***, 1)	(0, 1)	(152, 4)	(0, 8)	(152, 0)	(0, 0)	(0, 0)	(153,22)	(0,22)	(155, 0)
(0, 0)	(***, 0)	(160, 5)	(0, 7)	(160, 0)	(0, 0)	(0, 0)	(162, 4)	(0, 6)	(163, 0)
(0, 0)	(***, 0)	(165, 5)	(***, 9)	(168, 0)	(0, 0)	(***, 0)	(168,24)	(0, 3)	(170, 0)
(0, 0)	(0, 0)	(171, 5)	(0, 8)	(172, 0)	(***, 0)	(29, 0)	(25,24)	(175, 7)	(176, 0)
(176, 0)	(177, 0)	(177, 7)	(177,24)	(178, 0)	(***, 0)	(30, 0)	(26, 8)	(181, 1)	(184, 0)
(185, 0)	(185, 0)	(185,24)	(186, 4)	(186, 0)	(31, 0)	(31, 0)	(27,22)	(189, 5)	(189, 0)
(190, 0)	(190, 0)	(191, 2)	(192,21)	(193, 0)	(***, 0)	(32, 0)	(28, 4)	(195,23)	(196, 0)
(***, 0)	(197, 0)	(197, 5)	(198, 9)	(198, 0)	(33, 0)	(33, 0)	(29, 4)	(200,24)	(201, 0)
(201, 0)	(202, 0)	(202, 5)	(202, 9)	(202, 0)	(34, 0)	(34, 0)	(29, 3)	(205, 3)	(205, 0)
(205, 0)	(207, 0)	(207, 6)	(209, 5)	(210, 0)	(35, 0)	(35, 0)	(30, 8)	(211,10)	(213, 0)
(213, 0)	(214, 0)	(214, 7)	(214, 9)	(215, 0)	(36, 0)	(***, 0)	(***,22)	(217, 1)	(217, 0)
(217, 0)	(***, 0)	(219,23)	(220, 5)	(221, 0)	(***, 0)	(***, 0)	(***,24)	(223, 6)	(223, 0)
(***, 0)	(***, 0)	(***, 6)	(227,23)	(228, 0)	(***, 0)	(***, 0)	(***,24)	(231, 4)	(232, 0)
(***, 0)	(***, 0)	(***,10)	(234,21)	(234, 0)	(39, 0)	(***, 0)	(***, 8)	(236,22)	(237, 0)
(238, 0)	(***, 0)	(240,20)	(240,23)	(241, 1)	(***, 5)	(40, 8)	(34,21)	(241,23)	(242, 2)
(***, 4)	(242, 6)	(242, 8)	(242,20)	(242,24)	(***, 6)	(40, 9)	(35, 2)	(244, 4)	(244, 6)
(***, 8)	(245, 4)	(246, 3)	(247, 7)	(247,24)	(***, 7)	(42, 9)	(36,23)	(251, 3)	(251, 6)
(252, 2)	(252, 4)	(252,23)	(253, 1)	(253, 4)	(42, 8)	(42,24)	(36,22)	(255,24)	(257, 2)
(257, 4)	(257, 9)	(257,20)	(258, 2)	(258, 5)	(43, 4)	(***, 7)	(37, 1)	(260, 5)	(261,12)
(261,22)	(262, 7)	(264, 6)	(265, 2)	(265, 7)	(44,20)	(***,22)	(38, 2)	(267, 5)	(268, 3)
(268, 5)	(268, 7)	(269, 9)	(270,21)	(270,23)	(45,10)	(***,21)	(39, 8)	(273, 6)	(273, 8)
(274,19)	(***,23)	(277,24)	(278, 6)	(280, 4)	(47, 3)	(***, 5)	(***, 7)	(281, 9)	(283, 7)
(284,24)	(***, 6)	(***,22)	(287, 9)	(288, 8)	(48,20)	(48, 1)	(***,20)	(289,24)	(290, 2)
(290, 4)	(290, 9)	(***,20)	(290,23)	(291, 3)	(48,23)	(***, 2)	(42,21)	(294,23)	(295, 3)
(296, 3)	(***, 5)	(296,21)	(296,23)	(297, 1)	(50, 6)	(***,20)	(43,24)	(300, 4)	(301, 8)
(304, 2)	(***, 6)	(305,10)	(305,12)	(306, 4)	(51,11)	(51,20)	(44, 4)	(307,21)	(308, 1)
(308, 5)	(308,10)	(308,20)	(309, 2)	(309,21)	(52, 4)	(52, 2)	(44, 5)	(311, 8)	(311,24)
(312, 4)	(312, 6)	(312, 8)	(313, 3)	(313, 8)	(52,11)	(52, 1)	(45, 3)	(314, 5)	(314, 7)

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                                  (314,21)(315, 6)(315, 9)(316, 9)(318, 2)( 53, 5)( 53, 7)( 45,23)(319, 3)(320, 7)
                                  (321, 8)(322,20)(323, 9)(323,18)(325, 4)( 54,20)(***,10)( 47,19)(326,22)(327, 3)
                                  (327, 9)(327,24)(328, 7)(330, 4)(330, 6)( 55,22)( 56,19)( 48, 2)(334, 6)(334, 9)
                                  (335, 5)(335, 8)(335,18)(336, 1)(336, 4)( 56,18)( 56,20)( 48, 5)(337, 0)(338, 3)
                                  (338,18)(338, 0)(339, 4)(339, 8)(339,23)( 57, 2)( 57, 4)( 49, 6)(340, 9)(340,11)
                                  (340,20)(341,13)(341,20)(342, 2)(343, 8)( 57,11)(***,20)( 49,22)(344, 3)(344, 6)
                                  (344,19)(***, 1)(345, 4)(346, 1)(346, 3)( 58, 7)( 58,12)( 50,23)(349, 6)(349, 9)
                                  (349,18)(350, 9)(350,22)(351, 6)(352, 6)( 59,20)( 59, 6)( 50, 9)(353,23)(354, 6)
                                  (354,20)(356, 4)(357, 5)(357, 7)(357,23)( 60,21)( 60, 3)( 51, 6)(359,11)(359,13)
                                  (360, 3)(360, 5)(360, 7)(360, 9)(360,11)( 60, 8)( 60,10)( 52,20)(361,22)(361,24)
                                  (362,11)(362,19)(362,21)(362,24)(363,23)( 61,24)( 61, 8)( 52,17)
       2            133           (  4,21)(  9, 6)( 10, 9)( 11, 1)( 11, 9)( 11,23)( 12, 4)( 12,23)( 13, 2)( 14, 7)
                                  ( 17, 4)( 18, 8)( 20, 4)( 20, 9)( 22,12)( 25, 1)( 32,21)( 33, 5)( 34, 8)( 39,14)
                                  ( 41, 4)( 42, 3)( 52,22)( 53, 1)( 66, 2)( 66,24)( 67, 7)( 68, 3)( 68,10)( 69, 9)
                                  ( 74, 5)( 80, 1)( 84, 5)( 89, 6)( 99, 4)( 99, 8)(100, 3)(102,22)(104, 4)(106, 3)
                                  (109, 6)(110, 2)(113, 9)(114, 9)(117, 6)(118,23)(120,24)(121, 9)(122, 7)(123, 7)
                                  (124, 6)(130, 5)(131, 7)(136, 7)(142, 4)(142, 8)(143,23)(148, 3)(151, 8)(153,11)
                                  (157,10)(159,23)(160, 3)(163, 5)(169, 6)(169,23)(172, 7)(173, 1)(174, 4)(174, 9)
                                  (193, 4)(193,23)(194, 7)(196, 5)(198, 1)(206, 6)(214,22)(215, 2)(216, 2)(216, 9)
                                  (217,24)(219, 1)(221, 6)(222, 6)(229, 4)(231,23)(238,23)(239,24)(245,24)(252, 7)
                                  (254, 3)(256,23)(262,23)(266, 8)(267, 8)(271, 5)(278, 4)(278,23)(280, 1)(285, 3)
                                  (285, 7)(287, 4)(298,22)(299, 6)(302, 2)(305,24)(306, 9)(309, 8)(312,24)(315, 4)
                                  (315,23)(320, 3)(321, 2)(324, 1)(324, 6)(326, 6)(327, 1)(331, 2)(332,19)(335, 1)
                                  (336,24)(338, 7)(342,22)(343, 5)(345, 9)(349, 2)(350, 5)(352,24)(357, 2)(358,13)
                                  (362, 4)(362, 7)(364, 3)
       3             34           ( 53, 5)( 55, 7)( 62, 8)( 87, 5)( 90, 6)(117, 1)(120, 6)(125, 3)(126, 6)(137, 7)
                                  (145, 7)(154, 3)(155, 3)(167,10)(181, 6)(190, 1)(213,23)(232, 3)(238, 1)(279, 5)
                                  (283, 3)(291, 8)(292,10)(303, 7)(307, 8)(313,21)(323, 1)(323, 5)(325, 8)(333,24)
                                  (341, 6)(341,24)(359,20)(364,10)
       4             16           (  8, 8)( 13, 7)( 25, 8)( 27, 6)( 61,24)( 65, 8)(124, 2)(161, 2)(233, 3)(240, 6)
                                  (272, 3)(288, 6)(289, 8)(294, 4)(333, 5)(336,11)
       5              5           ( 66, 9)( 98, 5)(173, 8)(338, 1)(361, 5)
       6              3           (118, 5)(128, 7)(277, 8)
       7              1           (358, 8)
       8              1           (282, 5)

Program terminated normally
```

Attachment 2

Noise Analysis Technical Data

LAX Expressway and State Route 1 Improvements

List of Noise Study Personnel

The noise assessment field measurement and analysis team included Mr. Rob Greene, INCE, Bd.Cert.; Mr. Michael Greene, INCE, Bd.Cert., Ms. Rachel Pirie, INCE; Mr. David Lew, P.E.; and Ms. Patti Tiberi, E.I.T.

List of Noise Study Field Equipment

Brüel & Kjær Sound Level Meter Precision Integrating Type 2231, Serial Number 1413404
Brüel and Kjær Type 4231 Reference Transfer Sound Level Calibrator, Serial Number 1850301
Brüel and Kjær Type UZ0001 Barometer
Metrosonics dB 308, Community Noise Analyzer, Serial Number 2434
Metrosonics dB 308, Community Noise Analyzer, Serial Number 2881
Metrosonics CL 304, Acoustical Calibrator (Secondary), Serial Number 2551
Kustom Electronics HR-8 Speed Radar Gun, Serial Number N-5645
KEI 35 MPH K-Band Calibrator, Serial Number 1099
CMM Model 880 Digital Hygrometer/Thermometer, Serial Number 8821784
Sims Digital Anemometer Model DIC, Serial Number 95022
Sportline Hand-held Traffic Counters

The Metrosonics noise analyzers were calibrated prior to each measurement with a Metrosonics CL 304 Acoustical Calibrator. The Brüel and Kjær Type 2231 SLM's laboratory calibration was verified in the field using a Brüel and Kjær Type 4231 Sound Pressure Calibrator. The accuracy of the calibrator is maintained through a program established by the manufacturer and traceable to the National Institute of Standards and Technology.

REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 2
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.:	SW-3
Noise Barrier Location:	
Barrier Length (m):	800
Barrier Height (m):	4.27
Cost of Noise Barrier ($151/m2):	$516,000
Project Cost without Abatement (C_p):	$760,000,000
Number of Benefited Residences:	32

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD29					
Existing Noise Level (in dBA)	73					n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77					77
Future Noise Level with Abatement (in dBA)	67					n/a
Noise Increase due to Project (in dBA)	4					4
Noise Reduction by Abatement (in dBA)	10					10

BASE ALLOWANCE

Base Allowance per Benefited Residence: $15,000

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: $6,000

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 4

"Build" vs Existing Noise Levels Allowance per Benefited Residence: $2,000

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 10

Achievable Noise Reduction Allowance per Benefited Residence: $4,000

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: YES

Predate 1978 Allowance per Benefited Residence: $10,000

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r): $37,000

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: $0

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_m): $37,000

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: $16,125

NOISE ABATEMENT CONCLUSION: REASONABLE

Analyzed by: P. Smittipatana   Checked by: Last Revision: 10/17/00

N:\reasonableness analysis\405expressway\[ALT2_B.xls]SW3   Print Date: 10/17/00

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Fax: 714.667.7147
Offices Worldwide

FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: ST-1
DATE: 10/3/00
MEASUREMENT TIME START: 11:15
PROJECT: LAX
MEASUREMENT TIME END: 11:25
BY: MG, RP, RG
PAGE # ___ OF ___

WEATHER CONDITIONS: Clear, mild, breezy
TEMP: 73 °F HUMIDITY: 58 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 0-2 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY to 5

EXACT LOCATION: SE CORNER, LINCOLN & LA TIJERA, AT ENTRANCE TO REC. CENTER & CHILD CARE CENTER. MIC IS ≈ 44' FM. CURB, ≈ 18' FM. ENTRANCE (WESTCHESTER REC. CENTER) E. LINCOLN,
TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 93.9 dBA SPL POST-TEST 93.9 dBA SPL
METER SETTINGS: A-WEIGHTED / SLOW FRONTAL RANDOM / ANSI OTHER:

11:15–11:25: L_{EQ} 66.2, L_{MAX} 75.9, L_{MIN} 53.7, L_{90} 57.1, L_{50} 64.7, L_{10} 69.9, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER

COMMENTS:

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER:
FOR TRAFFIC, ROADWAY TYPE: LINCOLN BLVD. 6-LANE

TRAFFIC COUNT DATA: 10 -MINUTE COUNT

	NB / EB	SB / WB	SPEEDS NB / EB / SB / WB		#2 COUNT: NB / EB	SB / WB
AUTOS:	157	136	≈ 43	MPH		
MEDIUM TRUCKS:	3	2		MPH		
BUSES:	2	0		MPH		
MOTORCYCLES:	0	2		MPH		
HEAVY TRUCKS:	0	0		MPH		

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER: 2-3 A/C EVENTS

PHOTOS: ___ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:

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FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: ST-2
MEASUREMENT TIME START: 11:45
MEASUREMENT TIME END: 11:55
BY: MG, AP, RG

DATE: 11/5/00
PROJECT: LAX
PAGE # ___ OF ___

WEATHER CONDITIONS: Clear, mild breezy
TEMP: 76 °F HUMIDITY: 48 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 4-7 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: RAYFORD DR., ACROSS FM. 9110 RAYFORD DR.

TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 93.9 dBA SPL POST-TEST 93.9 dBA SPL
METER SETTINGS: A-WEIGHTED SLOW FRONTAL RANDOM ANSI OTHER:

11:45-11:55: L_{EQ} 65.9, L_{MAX} 81.6, L_{MIN} 45.3, L_{90} 47.9, L_{50} 56.4, L_{10} 68.4, OTHER
: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER
: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER
: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER

COMMENTS:

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER:
FOR TRAFFIC, ROADWAY TYPE:

TRAFFIC COUNT DATA: ___-MINUTE COUNT NB / EB / SB / WB		SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB
AUTOS:	/	MPH	/
MEDIUM TRUCKS:	/	MPH	/
BUSES:	/	MPH	/
MOTORCYCLES:	/	MPH	/
HEAVY TRUCKS:	/	MPH	/

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER:

PHOTOS: ___ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:

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FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: ST-3
MEASUREMENT TIME START: 12:15
MEASUREMENT TIME END: 12:25
BY: Rachel Pirie

DATE: 10/5/00
PROJECT: LAX
SR1
PAGE # ___ OF ___

WEATHER CONDITIONS: SUNNY
TEMP: 76 °F HUMIDITY: 48 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 4-7 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: Emerson Adult Center 7am - 9pm
88th St / Emerson

TERRAIN: HARD / SOFT / FLAT / OTHER: ___

CALIBRATION: PRE-TEST 93.9 dBA SPL POST-TEST 93.9 dBA SPL
METER SETTINGS: A-WEIGHTED / SLOW / FRONTAL / RANDOM / ANSI / OTHER: ___

12:15-12:25	L_{EQ} 64.0	L_{MAX} 77.6	L_{MIN} 53.3	L_{90} 55.4	L_{50} 59.9	L_{10} 66.9	OTHER
	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER

COMMENTS: ___

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER: ___
FOR TRAFFIC, ROADWAY TYPE: School traffic

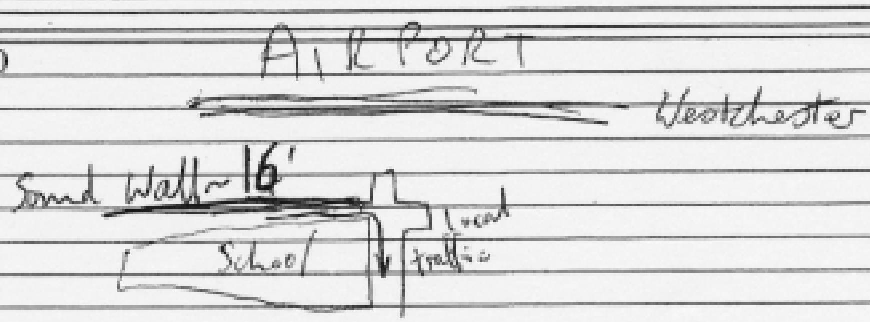
TRAFFIC COUNT DATA: ___-MINUTE COUNT

	NB / EB / SB / WB	SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB
AUTOS:	/	MPH	/
MEDIUM TRUCKS:	/	MPH	/
BUSES:	/	MPH	/
MOTORCYCLES:	/	MPH	/
HEAVY TRUCKS:	/	MPH	/

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER: ___

PHOTOS: ___ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:



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FIELD NOISE MEASUREMENT DATA

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SITE IDENTIFICATION: ST-4
MEASUREMENT TIME START: 12:50
MEASUREMENT TIME END: 13:00
BY: Rachel Pire

DATE: 10/5/00
PROJECT: LAX SR1
PAGE # ___ OF ___

WEATHER CONDITIONS: SUNNY
TEMP: 76 °F HUMIDITY: 48 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 3-6 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: Intersection of Kittyhawk Av / Fleetwing Av
Outside 8853 Kittyhawk Av

TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 93.9 dBA SPL POST-TEST 93.9 dBA SPL
METER SETTINGS: A-WEIGHTED / SLOW / FRONTAL / RANDOM / ANSI / OTHER:

12:50-1300: L_{EQ} 64.7, L_{MAX} 76.2, L_{MIN} 51.9, L_{90} 54.4, L_{50} 57.9, L_{10} 69.4, OTHER ____
____: L_{EQ} ____, L_{MAX} ____, L_{MIN} ____, L_{90} ____, L_{50} ____, L_{10} ____, OTHER ____
____: L_{EQ} ____, L_{MAX} ____, L_{MIN} ____, L_{90} ____, L_{50} ____, L_{10} ____, OTHER ____
____: L_{EQ} ____, L_{MAX} ____, L_{MIN} ____, L_{90} ____, L_{50} ____, L_{10} ____, OTHER ____

COMMENTS:

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER: A few local cars <10
FOR TRAFFIC, ROADWAY TYPE:

TRAFFIC COUNT DATA: ___-MINUTE COUNT NB / EB / SB / WB		SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB
AUTOS:	/	MPH	/
MEDIUM TRUCKS:	/	MPH	/
BUSES:	/	MPH	/
MOTORCYCLES:	/	MPH	/
HEAVY TRUCKS:	/	MPH	/

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER: Distant children playing

PHOTOS: ____ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:

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FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: ST-5
MEASUREMENT TIME START: 14:30
MEASUREMENT TIME END: 14:35
BY: MC, AO, RP.
DATE: 10/5/00
PROJECT: LAX EIR/EIS
PAGE # ___ OF ___

WEATHER CONDITIONS: Scattered Clouds, Mild, breezy
TEMP: 75 °F HUMIDITY: 49 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 3-7 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: Parking Lot / Rec. Area of St. Jerome School / Chicanna. Facing 405, separated by a parking area (depressed) & corrugated metal soundwall.
TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 93.9 dBA SPL POST-TEST 93.9 dBA SPL
METER SETTINGS: A-WEIGHTED SLOW FRONTAL RANDOM ANSI OTHER:

* 14:30-14:35	L_{EQ} 59.7	L_{MAX} 64.7	L_{MIN} 57.0	L_{90} 57.9	L_{50} 59.4	L_{10} 61.4	OTHER
	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER

COMMENTS:

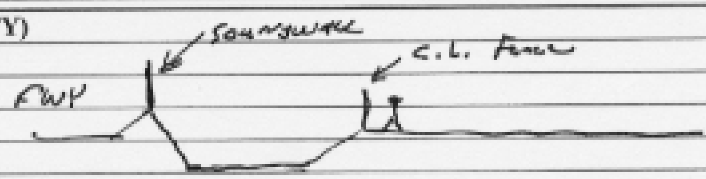
SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER:
FOR TRAFFIC, ROADWAY TYPE:

TRAFFIC COUNT DATA: ___-MINUTE COUNT NB / EB / SB / WB		SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB
AUTOS:	/	MPH	/
MEDIUM TRUCKS:	/	MPH	/
BUSES:	/	MPH	/
MOTORCYCLES:	/	MPH	/
HEAVY TRUCKS:	/	MPH	/

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER:

PHOTOS: ___ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:



* 5-MIN.S ONLY.
ACCIDENT SEVERAL MIN.S IN.

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FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: ST-6
MEASUREMENT TIME START: 14:55
MEASUREMENT TIME END: 15.05
BY: MG, RG, RP

DATE: 10/5/00
PROJECT: LAX EIR/EIS
PAGE # ___ OF ___

WEATHER CONDITIONS: SCATTERED CLOUDS, BREEZY, MILD.
TEMP: 75 °F HUMIDITY: 69 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 3-5 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: ASHWOOD PARK, NEAR SWING SET, 8' E. OF C.L. FENCE FACING FWY, N. OF RESTROOMS
PARK + RESI'S ELEVATED W/ RESPECT TO I-405 R/W (≈ 20')
TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 93.9 dBA SPL POST-TEST 93.9 dBA SPL
METER SETTINGS: A-WEIGHTED SLOW FRONTAL RANDOM ANSI OTHER:

14:55–15:05:	L_{EQ} 73.0	L_{MAX} 80.2	L_{MIN} 67.9	L_{90} 71.9	L_{50} 73.4	L_{10} 74.9	OTHER
:	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
:	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
:	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER

COMMENTS:

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER:
FOR TRAFFIC, ROADWAY TYPE:

TRAFFIC COUNT DATA: ___-MINUTE COUNT	NB / EB	SB / WB	SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB	SB / WB
AUTOS:	1930	~~1453~~ 1447	55/65 MPH		
MEDIUM TRUCKS:	17	27	MPH		
BUSES:			MPH		
MOTORCYCLES:	3	6	MPH		
HEAVY TRUCKS:	27	29	MPH		

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): ~~DISTANT~~ AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER:

PHOTOS: ___ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:

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FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: ST-7
MEASUREMENT TIME START: 15:42
MEASUREMENT TIME END: 15:52
BY: MG, RG, RP

DATE: 10/05/00
PROJECT: LAX EIR/EIS
PAGE # ___ OF ___

WEATHER CONDITIONS: ~~CLEAR~~, PTLY CLOUDY, BREEZY, MILD
TEMP: 78 °F HUMIDITY: 45 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 0-2 MPH DIR: N / NE / E / SE / S / SW / W / NW 3-5 MODERATE / GUSTY

EXACT LOCATION: 7320 PIPER, BEHIND ≈8' SOUNDWALL, ADJ. TO RESI. NEIGHBORHOOD, SB SIDE OF 405. SITE 13 ≈ 20-25' ABOVE 405

TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 93.9 dBA SPL POST-TEST 93.9 dBA SPL

METER SETTINGS: A-WEIGHTED SLOW FRONTAL RANDOM ANSI OTHER:

1542-1552: L_{EQ} 59.9 ~~54.4~~, L_{MAX} 62.5, L_{MIN} 54.9, L_{90} 57.4, L_{50} 59.4, L_{10} 60.9, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER

COMMENTS:

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER:
FOR TRAFFIC, ROADWAY TYPE:

TRAFFIC COUNT DATA: ___-MINUTE COUNT

	NB / EB / SB / WB	SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB
AUTOS:	1008 / 1521	35-40 / 45 MPH	/
MEDIUM TRUCKS:	16 / 26	MPH	/
BUSES:	/	MPH	/
MOTORCYCLES:	2 /	MPH	/
HEAVY TRUCKS:	14 / 21	MPH	/

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER:

PHOTOS: ___ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:
MEAS'TS INSIDE S/W @ T.O.S. WERE 76.3 (2-MIN. LEQ)

MEASFORM2.xls

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FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: ST-8
MEASUREMENT TIME START: 14:55
MEASUREMENT TIME END: 15:05
BY: PP, MG

DATE: 10/6/00
PROJECT: LAX EIR/EIS 405 expressway
PAGE # ___ OF ___

WEATHER CONDITIONS: Overcast
TEMP: ~~80~~ 70 F HUMIDITY: 68 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 0 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: Centinela Adobe by LT-1

TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 94.0 dBA SPL POST-TEST 94.0 dBA SPL
METER SETTINGS: A-WEIGHTED / SLOW / FRONTAL / RANDOM / ANSI / OTHER:

Time	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
14:55-15:05	75.7	79.8	71.2	74.4	75.4	76.9	

COMMENTS:

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER:
FOR TRAFFIC, ROADWAY TYPE: I405

TRAFFIC COUNT DATA: ___-MINUTE COUNT

	NB / EB	SB / WB	SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB	SB / WB
AUTOS:	1004	1,642	~~2~~30 / 60 MPH		
MEDIUM TRUCKS:	13	24	MPH		
BUSES:	2		MPH		
MOTORCYCLES:	5		MPH		
HEAVY TRUCKS:	14	~~24~~ 21	MPH		

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER:

PHOTOS: ____ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:

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FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: ST-9
MEASUREMENT TIME START: 15:40
MEASUREMENT TIME END: 15:50
BY: AP, MG

DATE: 10/6/00
PROJECT: LAX EIS/EIR
PAGE # ___ OF ___ SE1

WEATHER CONDITIONS: Overcast - light drizzle
TEMP: 70 °F HUMIDITY: 80 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 3-4 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: 6645 88th St. ~ halfway between Emerson + McConnell

TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 94.0 dBA SPL POST-TEST 94.0 dBA SPL
METER SETTINGS: A-WEIGHTED SLOW FRONTAL RANDOM ANSI OTHER:

15:40-1550: L_{EQ} 61.3, L_{MAX} 74.7, L_{MIN} 46.1, L_{90} 49.4, L_{50} 54.4, L_{10} 65.4, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER
___: L_{EQ} ___, L_{MAX} ___, L_{MIN} ___, L_{90} ___, L_{50} ___, L_{10} ___, OTHER

COMMENTS:

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER: 6 local cars
FOR TRAFFIC, ROADWAY TYPE:

TRAFFIC COUNT DATA: ___-MINUTE COUNT

	NB / EB / SB / WB	SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB
AUTOS:	/	MPH	/
MEDIUM TRUCKS:	/	MPH	/
BUSES:	/	MPH	/
MOTORCYCLES:	/	MPH	/
HEAVY TRUCKS:	/	MPH	/

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER:

PHOTOS: ___ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:

7' berm + 10' wall

URS Greiner Woodward Clyde
A Division of URS Corporation

2020 East First Street, Suite 400
Santa Ana, CA 92705
Tel: 714.835.6886
Fax: 714.667.7147
Offices Worldwide

FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: LT-1 DATE: 10/4/00
MEASUREMENT TIME START: 16:00 10/4/00 PROJECT: LAX
MEASUREMENT TIME END: 15:00 10/6/00 405 Expressway
BY: Rachel Pirie PAGE # ___ OF ___

WEATHER CONDITIONS: CALM OVERCAST
TEMP: 68 °F HUMIDITY: 58 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 0 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: On R/W fence @ ~~Centinela~~ & Adobe Midfield Av. Centinela

TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 102.1 dBA SPL POST-TEST 102.1 dBA SPL
METER SETTINGS: A-WEIGHTED SLOW FRONTAL RANDOM ANSI OTHER:

	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
	77.0						

COMMENTS:
WCC-1

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER:
FOR ~~TRAFFIC~~, ROADWAY TYPE: I 405

TRAFFIC COUNT DATA: ___-MINUTE COUNT

	NB / EB / SB / WB	SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB
AUTOS:	/	MPH	/
MEDIUM TRUCKS:	/	MPH	/
BUSES:	/	MPH	/
MOTORCYCLES:	/	MPH	/
HEAVY TRUCKS:	/	MPH	/

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER:

PHOTOS: ___ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:

Pickup 3pm Friday

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Fax: 714.667.7147
Offices Worldwide

FIELD NOISE MEASUREMENT DATA

SITE IDENTIFICATION: LT-2
MEASUREMENT TIME START: 17:00 10/4
MEASUREMENT TIME END: 14:15 10/6/00
BY: Rachel Pine

DATE: 10/4/00
PROJECT: LAX
SRI
PAGE # ___ OF ___

WEATHER CONDITIONS: Overcast
TEMP: 68 °F HUMIDITY: 58 % R.H. WIND: CALM / LIGHT / VARIABLE / STEADY
WINDSPEED 1-2 MPH DIR: N / NE / E / SE / S / SW / W / NW MODERATE / GUSTY

EXACT LOCATION: Lincoln Blvd S. of intersection w/ La Tijera Blvd.

TERRAIN: HARD / SOFT / FLAT / OTHER:

CALIBRATION: PRE-TEST 102.0 dBA SPL POST-TEST 102.0 dBA SPL
METER SETTINGS: A-WEIGHTED / SLOW / FRONTAL / RANDOM / ANSI OTHER:

____:	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
____:	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
____:	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER
____:	L_{EQ}	L_{MAX}	L_{MIN}	L_{90}	L_{50}	L_{10}	OTHER

COMMENTS:
WCC-2 Picked up 1420 10/6/00
shut down due to low battery

SOURCE INFO: TRAFFIC / AIRCRAFT / RAIL / INDUSTRIAL / OTHER:
FOR TRAFFIC, ROADWAY TYPE: Lincoln

TRAFFIC COUNT DATA: ___-MINUTE COUNT NB / EB / SB / WB		SPEEDS NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB	
AUTOS:	/	MPH	/	
MEDIUM TRUCKS:	/	MPH	/	
BUSES:	/	MPH	/	
MOTORCYCLES:	/	MPH	/	
HEAVY TRUCKS:	/	MPH	/	

SPEED ESTIMATED BY: RADAR / DRIVING

OTHER NOISE SOURCES (AMBIENT): DISTANT AIRCRAFT OVERHEAD / LEAVES RUSTLING / DOGS BARKING
CHILDREN PLAYING / DIST. TRAFFIC / DIST. LANDSCAPING NOISE
OTHER:

PHOTOS: ____ (NO.S AND QUANTITY)
OTHER COMMENTS / SKETCH:
Adjacent to "First Flight" Child Development Center

File Name.........bin1
Test Location.....Centinela Adobe
Employee Name.....Rachel Pirie
Employee Number...30520
Department........Noise and Vibration
Comment Field 1...WCC-1
Comment Field 2...I405 traffic noise - LAX
Numeric Code #1...   #2...   #3...   #4...   #5...

METROSONICS db-308 SN 2434 V2.3
REPORT PRINTED 10/09/00 AT 09:38:15

EXCHANGE RATE..... 3dB   FILTER.....A WGHT
DOSE CRITERION.... 94dB   RESPONSE...SLOW
PRE-TEST CALIBRATION TIME.... 7/27/00 AT 11:58:14
PRE-TEST CALIBRATION RANGE... 42.5dB TO 138.5dB
Calibrator Type & Serial #...______________________________

Calibrator Calibration Date..______________________________

-- OVERALL STATISTICS REPORT --

TEST BEGAN....10/04/00 AT 16:00:19
TEST LENGTH...   1 DAYS 18:31:30

Lav.............. 77.0dB
SEL..............128.7dB
Lmax............. 94.2dB ON 10/05/00 AT 11:19:32
Lpk................UNDER
TIME OVER 115dB.. 0 DAYS 0:00:00.00

8 HR DOSE (42dB CUTOFF)........ 10.55%
8 HR DOSE (42dB CUTOFF)........ 10.55%

-- TABULAR TIME HISTORY REPORT --

OF PERIODS: 44   MODE: CONTINUOUS
PERIOD LENGTH: 1:00:00
TIME HISTORY CUTOFF: NONE
Ln(1): 50.0% Ln(2): 90.0%

DATE: 10/04/00

INT	TIME	Lav	Lmx	Lpk	L1	L2
1	16:00:19	77.5	84.1	UNR	77	75
2	17:00:19	78.5	83.7	UNR	78	77
3	18:00:19	78.1	82.3	UNR	78	76
4	19:00:19	78.4	83.4	UNR	78	77
5	20:00:19	78.4	83.5	UNR	78	76
6	21:00:19	78.1	82.4	UNR	77	75
7	22:00:19	77.8	84.5	UNR	77	75
8	23:00:19	76.5	82.8	UNR	76	73
9	0:00:19	75	83.5	UNR	74	70
10	1:00:19	73.5	83.8	UNR	72	67
11	2:00:19	72.5	81.7	UNR	71	65
12	3:00:19	72.6	82.3	UNR	70	63
13	4:00:19	75.2	83.8	UNR	74	68
14	5:00:19	78.7	83.9	UNR	78	75
15	6:00:19	78.2	84.5	UNR	77	75
16	7:00:19	77.9	81.9	UNR	77	76
17	8:00:19	77.9	83.4	UNR	77	75
18	9:00:19	78	82.9	UNR	77	75
19	10:00:19	78.4	85.4	UNR	78	76
20	11:00:19	78.5	94.2	UNR	78	75
21	12:00:19	78.6	88.3	UNR	78	76
22	13:00:19	78.2	84.1	UNR	77	76
23	14:00:19	77.5	83.3	UNR	77	75
24	15:00:19	76.8	83.3	UNR	76	75
25	16:00:19	77.1	84.2	UNR	76	74
26	17:00:19	76.6	84.6	UNR	76	74
27	18:00:19	76.4	82.5	UNR	76	74
28	19:00:19	76.7	82.5	UNR	76	74
29	20:00:19	78.5	84.3	UNR	78	76
30	21:00:19	78.4	83.8	UNR	78	76
31	22:00:19	78	84	UNR	77	75
32	23:00:19	77	84.4	UNR	76	73
33	0:00:19	76	83.4	UNR	75	72
34	1:00:19	74.4	83.1	UNR	73	69
35	2:00:19	73.4	85.7	UNR	72	66
36	3:00:19	72.8	83.5	UNR	70	64
37	4:00:19	75.3	84.5	UNR	74	69
38	5:00:19	78.1	84.6	UNR	77	74
39	6:00:19	76.9	82.5	UNR	76	74
40	7:00:19	74.8	81.2	UNR	74	70

41	8:00:19	73.5	79.8	UNR	73	69
42	9:00:19	76	83.4	UNR	75	74
43	10:00:19	76.4	82	UNR	76	74

DATE: 10/06/00

INT	TIME	Lav	Lmx	Lpk	L1	L2
44	15:08:35	69.9	71.5	UNR	69	69

-- AMPLITUDE DISTRIBUTION REPORT --

TOTAL SAMPLES = 1224722

dB	SAMPLES		% OF TOTAL
47	11	.	0
48	30	.	0
49	13	.	0
50	36	.	0
51	53	.	0
52	78	.	0.01
53	141	.	0.01
54	190	.	0.02
55	277	.	0.02
56	406	.	0.03
57	464	.	0.04
58	643	.	0.05
59	902	.	0.07
60	1182	.	0.1
61	1400	+	0.11
62	2023	+	0.17
63	2895	+	0.24
64	3669	+	0.3
65	5662	+	0.46
66	6692	*	0.55
67	9820	*	0.8
68	14863	*	1.21
69	20329	**	1.66
70	29175	**	2.38
71	32624	***	2.66
72	41417	***	3.38
73	55513	*****	4.53

74	84087	*******	6.87
75	124296	*********	10.15
76	188192	*********	15.37
77	230465	*********	18.82
78	198555	*********	16.21
79	111064	*********	9.07
80	42793	***	3.49
81	11062	*	0.9
82	2886	+	0.24
83	610	.	0.05
84	137	.	0.01
85	23	.	0
86	6	.	0
87	7	.	0
88	5	.	0
89	2	.	0
90	6	.	0
91	5	.	0
92	5	.	0
93	5	.	0
94	3	.	0

Ln(0.0) = 94dB
Ln(10.0) = 79dB
Ln(50.0) = 76dB
Ln(99.9) = 56dB

	NO CUTOFF	42.0dB CUTOFF	42.0dB CUTOFF
Leq	76.6dB	76.6dB	76.6dB
Ldod	76.4dB	76.4dB	76.4dB
Losha	76.3dB	76.3dB	76.3dB
Leq(6)	76.2dB	76.2dB	76.2dB

File Name.........bin2
Test Location.....Lincoln Blvd
Employee Name.....Rachel Pirie
Employee Number...30520
Department........Noise and Vibration
Comment Field 1...WCC-2
Comment Field 2...SR-1 improvements - LAX
Numeric Code #1... #2... #3... #4... #5...

METROSONICS db-308 SN 2881 V2.3
REPORT PRINTED 10/09/00 AT 09:41:49

EXCHANGE RATE..... 3dB FILTER.....A WGHT
DOSE CRITERION.... 90dB RESPONSE...SLOW
PRE-TEST CALIBRATION TIME....10/04/00 AT 16:23:38
PRE-TEST CALIBRATION RANGE... 42.8dB TO 138.8dB
Calibrator Type & Serial #...________________________________

Calibrator Calibration Date..________________________________

-- OVERALL STATISTICS REPORT --

TEST BEGAN....10/04/00 AT 17:00:19
TEST LENGTH... 1 DAYS 21:05:37

Lav.............. 67.7dB
SEL...............119.6dB
Lmax............. 93.5dB ON 10/05/00 AT 14:00:58
Lpk................UNDER
TIME OVER 115dB.. 0 DAYS 0:00:00.00

8 HR DOSE (42dB CUTOFF)........ 3.25%
8 HR DOSE (42dB CUTOFF)........ 3.25%

-- TABULAR TIME HISTORY REPORT --

OF PERIODS: 181 MODE: CONTINUOUS
PERIOD LENGTH: 0:15:00
TIME HISTORY CUTOFF: NONE
Ln(1): 50.0% Ln(2): 90.0%

DATE: 10/04/00

INT	TIME	Lav	Lmx	Lpk	L1	L2
1	17:00:19	69.9	87.5	UNR	68	59
2	17:15:19	71	81.4	UNR	70	60
3	17:30:19	69.7	76	UNR	69	60
4	17:45:19	70.5	81	UNR	69	59
5	18:00:19	70.9	83.2	UNR	69	60
6	18:15:19	70.6	83.1	UNR	69	60
7	18:30:19	70	76.9	UNR	69	59
8	18:45:19	69.6	77.4	UNR	68	59
9	19:00:19	69.2	81.9	UNR	67	59
10	19:15:19	69.5	80.2	UNR	68	59
11	19:30:19	69	78.3	UNR	67	59
12	19:45:19	68	76.8	UNR	64	55
13	20:00:19	68.2	81.7	UNR	65	56
14	20:15:19	68.2	80.7	UNR	65	55
15	20:30:19	68.9	82.1	UNR	66	57
16	20:45:19	68.6	78.4	UNR	66	56
17	21:00:19	67	76.2	UNR	63	55
18	21:15:19	67.1	78.2	UNR	64	55
19	21:30:19	67.3	84.3	UNR	63	56
20	21:45:19	66.6	84.6	UNR	62	56
21	22:00:19	65.8	76.3	UNR	62	56
22	22:15:19	65.3	74.8	UNR	61	56
23	22:30:19	65.7	75.8	UNR	62	55
24	22:45:19	65.8	77.7	UNR	61	53
25	23:00:19	66.2	81.1	UNR	61	52
26	23:15:19	64.8	76.2	UNR	60	52
27	23:30:19	64.1	75.7	UNR	58	51
28	23:45:19	63.3	75.4	UNR	58	52
29	0:00:19	63.6	76.1	UNR	58	50
30	0:15:19	62.7	76.7	UNR	56	49
31	0:30:19	66.6	82.7	UNR	60	53
32	0:45:19	67.2	86.8	UNR	60	49
33	1:00:19	60.8	74.7	UNR	54	48
34	1:15:19	60.7	77.3	UNR	53	48
35	1:30:19	61.1	72.6	UNR	54	49
36	1:45:19	60.6	76.3	UNR	53	48
37	2:00:19	61.6	78.2	UNR	52	46
38	2:15:19	60.7	75.7	UNR	53	46
39	2:30:19	60.3	76.6	UNR	48	43
40	2:45:19	57.4	76.8	UNR	44	43

41	3:00:19	60.7	82.8 UNR	46	43
42	3:15:19	55.8	73.3 UNR	44	43
43	3:30:19	57	75.6 UNR	44	42
44	3:45:19	55.8	77.3 UNR	43	42
45	4:00:19	60.1	79.3 UNR	45	42
46	4:15:19	59.9	77.7 UNR	46	43
47	4:30:19	60.7	76.8 UNR	50	44
48	4:45:19	63.2	78.5 UNR	53	45
49	5:00:19	63.3	78.2 UNR	52	44
50	5:15:19	64.9	76.4 UNR	57	45
51	5:30:19	65.9	78.9 UNR	60	49
52	5:45:19	67.6	77.5 UNR	63	52
53	6:00:19	68	81.4 UNR	63	50
54	6:15:19	68.3	79.2 UNR	64	53
55	6:30:19	68.8	79.5 UNR	65	56
56	6:45:19	69.7	78.5 UNR	67	57
57	7:00:19	71	83.5 UNR	69	57
58	7:15:19	70.5	83.4 UNR	69	60
59	7:30:19	70.5	78.2 UNR	69	59
60	7:45:19	69.1	77.6 UNR	67	58
61	8:00:19	69.9	84.2 UNR	66	58
62	8:15:19	69.7	81.5 UNR	67	58
63	8:30:19	70.3	79.5 UNR	68	59
64	8:45:19	69.9	81.4 UNR	68	61
65	9:00:19	69.6	80.4 UNR	67	59
66	9:15:19	69.6	79 UNR	67	59
67	9:30:19	69.8	85.5 UNR	67	58
68	9:45:19	69.2	81.1 UNR	66	57
69	10:00:19	68.9	77.9 UNR	66	57
70	10:15:19	69.7	77.9 UNR	66	57
71	10:30:19	69.6	80.6 UNR	66	58
72	10:45:19	69.8	82.7 UNR	67	59
73	11:00:19	68.6	77.4 UNR	66	59
74	11:15:19	69.2	81 UNR	67	59
75	11:30:19	68.2	80.4 UNR	66	58
76	11:45:19	67.8	80.7 UNR	66	57
77	12:00:19	68.7	82.6 UNR	66	58
78	12:15:19	68.2	81.3 UNR	66	58
79	12:30:19	67.6	77.4 UNR	65	58
80	12:45:19	68.1	83.9 UNR	66	59
81	13:00:19	67.7	79 UNR	65	58
82	13:15:19	68.4	82.7 UNR	66	59
83	13:30:19	68.1	78.2 UNR	66	59

84	13:45:19	67.7	76.2	UNR	66	58
85	14:00:19	71.2	93.5	UNR	65	58
86	14:15:19	69.1	81.9	UNR	67	60
87	14:30:19	68.9	78.9	UNR	67	61
88	14:45:19	69	78.5	UNR	67	60
89	15:00:19	68.6	77	UNR	67	60
90	15:15:19	68.6	78.9	UNR	66	59
91	15:30:19	67.9	78.5	UNR	66	58
92	15:45:19	68.8	78.1	UNR	67	59
93	16:00:19	68.8	77.8	UNR	67	59
94	16:15:19	69.4	80.6	UNR	68	59
95	16:30:19	68.4	78.8	UNR	67	58
96	16:45:19	69.4	85.9	UNR	68	58
97	17:00:19	69.5	81.5	UNR	68	59
98	17:15:19	69.8	87.4	UNR	68	58
99	17:30:19	68.9	79	UNR	68	59
100	17:45:19	68.6	76	UNR	68	59
101	18:00:19	68.8	76.6	UNR	67	60
102	18:15:19	69.8	81.9	UNR	68	60
103	18:30:19	68.7	76.9	UNR	67	59
104	18:45:19	68.2	77.9	UNR	67	57
105	19:00:19	69.2	83.3	UNR	67	59
106	19:15:19	68.4	76.8	UNR	67	58
107	19:30:19	68.1	80.7	UNR	66	58
108	19:45:19	67.6	77.5	UNR	65	57
109	20:00:19	66.8	79.3	UNR	64	57
110	20:15:19	67.9	80.6	UNR	66	58
111	20:30:19	67.8	83.2	UNR	65	56
112	20:45:19	66.8	75.9	UNR	64	56
113	21:00:19	66.2	81.1	UNR	63	55
114	21:15:19	67.9	89	UNR	64	54
115	21:30:19	65.6	78.7	UNR	61	53
116	21:45:19	65.6	81	UNR	63	56
117	22:00:19	64.9	76.3	UNR	61	54
118	22:15:19	65.5	75.5	UNR	62	56
119	22:30:19	65	75.4	UNR	61	53
120	22:45:19	64.5	78.2	UNR	60	51
121	23:00:19	63.7	75.2	UNR	58	51
122	23:15:19	62.5	74.7	UNR	58	51
123	23:30:19	64	78.5	UNR	59	51
124	23:45:19	63.3	75	UNR	59	49
125	0:00:19	62.3	74.3	UNR	56	48
126	0:15:19	62.5	83.1	UNR	55	48

127	0:30:19	60.8	75.5 UNR	53	45
128	0:45:19	59.3	72.3 UNR	52	45
129	1:00:19	60.6	76 UNR	54	46
130	1:15:19	59.7	75.4 UNR	52	44
131	1:30:19	60.7	76.6 UNR	52	46
132	1:45:19	59.2	75 UNR	51	44
133	2:00:19	57.6	71 UNR	49	43
134	2:15:19	57.6	76.7 UNR	45	42
135	2:30:19	56.6	73.9 UNR	45	42
136	2:45:19	56.6	73.4 UNR	45	42
137	3:00:19	58.6	79.3 UNR	46	42
138	3:15:19	56.5	73.1 UNR	43	42
139	3:30:19	57.3	76.4 UNR	45	42
140	3:45:19	56.6	75 UNR	42	42
141	4:00:19	56.2	75.7 UNR	43	42
142	4:15:19	59.8	76.6 UNR	46	42
143	4:30:19	59	78.7 UNR	46	42
144	4:45:19	60.7	75.2 UNR	52	43
145	5:00:19	61.4	78.2 UNR	53	45
146	5:15:19	63.5	77.7 UNR	57	46
147	5:30:19	63.5	76.2 UNR	58	46
148	5:45:19	65.5	78.6 UNR	61	51
149	6:00:19	65.5	79.4 UNR	60	47
150	6:15:19	66.2	75.2 UNR	63	52
151	6:30:19	66.7	80.2 UNR	63	54
152	6:45:19	67.2	75.6 UNR	65	57
153	7:00:19	69.2	78.3 UNR	68	58
154	7:15:19	69.8	77.5 UNR	69	59
155	7:30:19	69.9	83.1 UNR	69	59
156	7:45:19	71.7	93.1 UNR	69	60
157	8:00:19	68.6	77.2 UNR	67	58
158	8:15:19	68.8	76.9 UNR	67	59
159	8:30:19	69.6	77.3 UNR	69	60
160	8:45:19	69.3	80.5 UNR	68	60
161	9:00:19	69.1	76.7 UNR	66	57
162	9:15:19	69.2	77.6 UNR	68	59
163	9:30:19	70.3	86.3 UNR	69	60
164	9:45:19	69.8	83.3 UNR	68	59
165	10:00:19	69.3	77.7 UNR	68	59
166	10:15:19	69.8	78.1 UNR	69	58
167	10:30:19	69.9	78.1 UNR	68	59
168	10:45:19	69.7	81.1 UNR	68	60
169	11:00:19	70.9	83.1 UNR	69	62

170	11:15:19	70.8	86.1 UNR	68	59
171	11:30:19	69.2	79.2 UNR	67	59
172	11:45:19	69.5	80.6 UNR	68	60
173	12:00:19	69.2	77.1 UNR	68	59
174	12:15:19	70	84 UNR	68	59
175	12:30:19	69.2	83.9 UNR	68	59
176	12:45:19	69.7	87 UNR	66	59
177	13:00:19	68.9	84.4 UNR	67	59
178	13:15:19	69.4	81.5 UNR	67	59
179	13:30:19	68.5	77.9 UNR	67	59
180	13:45:19	69.6	80.6 UNR	68	60
181	14:00:19	69.6	79.4 UNR	68	61

-- AMPLITUDE DISTRIBUTION REPORT --

TOTAL SAMPLES = 1298697

dB	SAMPLES	% OF TOTAL
42	32098 **	2.47
43	24233 **	1.87
44	18664 *	1.44
45	16219 *	1.25
46	14505 *	1.12
47	14866 *	1.14
48	15765 *	1.21
49	17486 *	1.35
50	17787 *	1.37
51	19024 *	1.46
52	19914 **	1.53
53	21922 **	1.69
54	22829 **	1.76
55	25994 **	2
56	32563 ***	2.51
57	44173 ***	3.4
58	44407 ***	3.42
59	51275 ****	3.95
60	56892 ****	4.38
61	55384 ****	4.26
62	50610 ****	3.9
63	51564 ****	3.97
64	53093 ****	4.09

65	53321	****	4.11
66	49634	****	3.82
67	59764	*****	4.6
68	71861	******	5.53
69	79851	******	6.15
70	77513	******	5.97
71	65136	*****	5.02
72	48053	****	3.7
73	34426	***	2.65
74	16918	*	1.3
75	10172	*	0.78
76	5005	+	0.39
77	2441	+	0.19
78	1168	.	0.09
79	631	.	0.05
80	532	.	0.04
81	387	.	0.03
82	265	.	0.02
83	124	.	0.01
84	57	.	0
85	56	.	0
86	37	.	0
87	18	.	0
88	15	.	0
89	14	.	0
90	9	.	0
91	6	.	0
92	9	.	0
93	7	.	0

Ln(0.0) = 93dB
Ln(10.0) = 71dB
Ln(50.0) = 63dB
Ln(99.9) = 42dB

	NO CUTOFF	42.0dB CUTOFF	42.0dB CUTOFF
Leq	67.2dB	67.2dB	67.2dB
Ldod	66.3dB	66.3dB	66.3dB
Losha	65.6dB	65.6dB	65.6dB
Leq(6)	65.1dB	65.1dB	65.1dB

* * * * * * * LEQV2 * * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: SR-1 Alt-2 Cut#1
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2
1. Auto Volume	3850	3139
2. Medium Truck Volume	91	74
3. Heavy Truck Volume	20	16
4. Vehicle Speed	45	45
5. Dist. to CTR. Near Lane	245	268
6. Roadway Angle, Left	-90	-90
7. Roadway Angle, Right	90	90
8. Drop-Off Rate	4.50	4.50
9. Number of lanes	3	3
10. Grade Correction	0	0
11. Dist. to Shoulder/Cut	200	200
12. Height of Shoulder/Cut	15.50	15.50
13. Distance to Barrier	0	0
14. Barrier Type	0	0
15. Height of Barrier	0	0
16. Barrier Angle, Left	0	0
17. Barrier Angle, Right	0	0
18. Height of Observer	17	17

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 42 DBA (APPROX. L10 44 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: SR-1 Alt-2 Cut#1
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2
NO BARRIER		
Cut/Fill Atten. Auto	-18.85	-17.28
Cut/Fill Atten. Med. Trks	-18.58	-16.96
Cut/Fill Atten. Hvy. Trks	-17.75	-16.13
Leq Auto	36.37	36.67
Leq Med. Trucks	31.38	31.71
Leq Heavy Trucks	32.97	33.24
ELEMENT TOTALS	38.86	39.16

* * * * * * * LEQV2 * * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: SR-1 Alt-2 Cut#2
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2
1. Auto Volume	3366	3212
2. Medium Truck Volume	80	76
3. Heavy Truck Volume	17	17
4. Vehicle Speed	55	55
5. Dist. to CTR. Near Lane	295	315
6. Roadway Angle, Left	-90	-90
7. Roadway Angle, Right	90	90
8. Drop-Off Rate	4.50	4.50
9. Number of lanes	3	3
10. Grade Correction	0	0
11. Dist. to Shoulder/Cut	235	235
12. Height of Shoulder/Cut	5	5
13. Distance to Barrier	0	0
14. Barrier Type	0	0
15. Height of Barrier	0	0
16. Barrier Angle, Left	0	0
17. Barrier Angle, Right	0	0
18. Height of Observer	7.50	7.50

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 51 DBA (APPROX. L10 52 DBA)

WARNING: ANSWERS MAY NOT BE VALID FOR:
DISTANCES OVER 1000 FT (300 M)
WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: SR-1 Alt-2 Cut#2
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2
NO BARRIER		
Cut/Fill Atten. Auto	-10.88	-10.09
Cut/Fill Atten. Med. Trks	-10.23	-9.55
Cut/Fill Atten. Hvy. Trks	-8.74	-8.43
Leq Auto	45.47	45.78
Leq Med. Trucks	39.73	39.91
Leq Heavy Trucks	40.09	40.11
ELEMENT TOTALS	47.39	47.62

```
                * * * * * *  LEQV2 * * * * * *

             San Fransisco Highway Traffic Noise
                     Prediction Program
              Model Version 2.5  February 1985
              (Calif. Vehicle Emissions Added)

                   Based on FHWA-RD-77-108


Title: Sepulveda Alt 2 Cut#3
Date: 10-18-2000
                                 ELEMENT NUMBER
INPUT DATA ( Meters & KPH )        1       2
-----------------------------------------------
 1. Auto Volume                 3065    3065
 2. Medium Truck Volume           73      73
 3. Heavy Truck Volume            16      16
 4. Vehicle Speed                 80      80
 5. Dist. to CTR. Near Lane      185     200
 6. Roadway Angle, Left          -90     -90
 7. Roadway Angle, Right          90      90
 8. Drop-Off Rate               4.50    4.50
 9. Number of lanes                3       3
10. Grade Correction               0       0
11. Dist. to Shoulder/Cut         10      10
12. Height of Shoulder/Cut         0       0
13. Distance to Barrier            0       0
14. Barrier Type                   0       0
15. Height of Barrier              0       0
16. Barrier Angle, Left            0       0
17. Barrier Angle, Right           0       0
18. Height of Observer             2       2
-----------------------------------------------

OUTPUT DATA  (Based on CALIFORNIA Ref. Energy Mean Emission Levels)
-----------------------------------------------
NO BARRIER   TOTAL LEQ = 66 DBA  (APPROX. L10 67 DBA)

-----------------------------------------------
WARNING: SEGMENTS SHIELDED BY:
         SHLD/CUT CALCULATED AT 3DBA DROP-OFF
```

Title: Sepulveda Alt 2 Cut#3
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2
NO BARRIER		
Cut/Fill Atten. Auto	-0.81	-0.81
Cut/Fill Atten. Med. Trks	-0.61	-0.60
Cut/Fill Atten. Hvy. Trks	-0.29	-0.29
Leq Auto	61.81	61.48
Leq Med. Trucks	53.49	53.16
Leq Heavy Trucks	51.46	51.13
ELEMENT TOTALS	62.74	62.42

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 2, CUT 7
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	3427	3427	3427
2. Medium Truck Volume	104	104	104
3. Heavy Truck Volume	68	68	68
4. Vehicle Speed	72	72	72
5. Dist. to CTR. Near Lane	90	115	135
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	2	2	2
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	82	110	82
12. Height of Shoulder/Cut	2.40	1	0.80
13. Distance to Barrier	0	0	0
14. Barrier Type	0	0	0
15. Height of Barrier	0	0	0
16. Barrier Angle, Left	0	0	0
17. Barrier Angle, Right	0	0	0
18. Height of Observer	3.90	-7.20	2.30

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 62 DBA (APPROX. L10 65 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: I405 EXPRESSWAY, ALT 2, CUT 7
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3
NO BARRIER			
Cut/Fill Atten. Auto	-12.41	-11.57	-7.99
Cut/Fill Atten. Med. Trks	-10.72	-9.38	-7.83
Cut/Fill Atten. Hvy. Trks	-7.92	-4.52	-6.25
Leq Auto	52.51	52.31	55.19
Leq Med. Trucks	47.34	47.63	48.49
Leq Heavy Trucks	52.83	55.18	52.75
ELEMENT TOTALS	56.28	57.46	57.71

* * * * * * * LEQV2 * * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 2, CUT 8
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3	4
1. Auto Volume	7477	6386	3427	3427
2. Medium Truck Volume	228	195	104	104
3. Heavy Truck Volume	149	127	68	68
4. Vehicle Speed	104	104	104	104
5. Dist. to CTR. Near Lane	65	85	120	130
6. Roadway Angle, Left	-90	-90	-90	-90
7. Roadway Angle, Right	90	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50	4.50
9. Number of lanes	4	4	2	2
10. Grade Correction	0	0	0	0
11. Dist. to Shoulder/Cut	20	20	116	116
12. Height of Shoulder/Cut	4.90	4.90	1	1
13. Distance to Barrier	0	0	0	0
14. Barrier Type	0	0	0	0
15. Height of Barrier	0	0	0	0
16. Barrier Angle, Left	0	0	0	0
17. Barrier Angle, Right	0	0	0	0
18. Height of Observer	6.40	6.40	-7.10	-7.10

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 70 DBA (APPROX. L10 72 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: I405 EXPRESSWAY, ALT 2, CUT 8
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3	4
NO BARRIER				
Cut/Fill Atten. Auto	-8.13	-7.99	-11.65	-11.01
Cut/Fill Atten. Med. Trks	-8.02	-7.93	-9.27	-9.63
Cut/Fill Atten. Hvy. Trks	-7.82	-7.51	-2.04	-7.88
Leq Auto	65.94	64.30	56.64	56.94
Leq Med. Trucks	57.09	55.41	50.05	49.34
Leq Heavy Trucks	58.96	57.48	58.95	52.76
ELEMENT TOTALS	67.18	65.56	61.29	58.86

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 2, CUT 8 w/ R/W Barrier
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3	4
1. Auto Volume	7908	7014	3427	3427
2. Medium Truck Volume	241	214	104	104
3. Heavy Truck Volume	158	140	68	68
4. Vehicle Speed	104	104	104	104
5. Dist. to CTR. Near Lane	65	85	120	130
6. Roadway Angle, Left	-90	-90	-90	-90
7. Roadway Angle, Right	90	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50	4.50
9. Number of lanes	4	4	2	2
10. Grade Correction	0	0	0	0
11. Dist. to Shoulder/Cut	20	20	116	116
12. Height of Shoulder/Cut	4.90	4.90	1	1
13. Distance to Barrier	20	20	20	20
14. Barrier Type	0	0	0	0
15. Height of Barrier	8.60	8.60	-4.70	-4.70
16. Barrier Angle, Left	-90	-90	-90	-90
17. Barrier Angle, Right	90	90	90	90
18. Height of Observer	6.40	6.40	-7.10	-7.10

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 71 DBA (APPROX. L10 73 DBA)

WITH BARRIER TOTAL LEQ = 69 DBA (APPROX. L10 71 DBA)

FIELD INSERTION LOSS = 1

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF
BARRIER CALCULATED AT 3DBA DROP-OFF
WARNING: TRAFFIC VOLUME EXCEEDS LANE CAPACITY (2000 VPH)

Title: I405 EXPRESSWAY, ALT 2, CUT 8 w/ R/W Barrier
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3	4
NO BARRIER				
Cut/Fill Atten. Auto	-8.13	-7.99	-11.65	-11.01
Cut/Fill Atten. Med. Trks	-8.02	-7.93	-9.27	-9.63
Cut/Fill Atten. Hvy. Trks	-7.82	-7.51	-2.04	-7.88
Leq Auto	66.18	64.71	56.64	56.94
Leq Med. Trucks	57.34	55.81	50.05	49.34
Leq Heavy Trucks	59.22	57.91	58.95	52.76
ELEMENT TOTALS	67.42	65.97	61.29	58.86
WITH BARRIER				
BARRIER SEGMENT				
Barrier Atten. Auto	-12.02	-11.14	-6.40	-6.55
Barrier Atten. Med. Trks	-11.71	-10.88	-6.18	-6.34
Barrier Atten. Hvy. Trks	-10.90	-10.21	-5.70	-5.88
11.5 ft. Truck Stack Line-of-sight break	3.0	2.8	0.7	0.8
Leq Auto	62.29	61.56	61.89	61.40
Leq Med. Trucks	53.64	52.87	53.13	52.62
Leq Heavy Trucks	56.14	55.20	55.28	54.76
ELEMENT TOTALS	63.69	62.92	63.20	62.70

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 2, CUT 9 w/ Barrier at R/W
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3	4
1. Auto Volume	3427	7908	7014	3427
2. Medium Truck Volume	104	241	214	104
3. Heavy Truck Volume	68	148	140	68
4. Vehicle Speed	104	104	104	104
5. Dist. to CTR. Near Lane	75	100	130	165
6. Roadway Angle, Left	-90	-90	-90	-90
7. Roadway Angle, Right	90	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50	4.50
9. Number of lanes	2	4	4	2
10. Grade Correction	0	0	0	0
11. Dist. to Shoulder/Cut	70	35	35	160
12. Height of Shoulder/Cut	1	5.50	5.50	1
13. Distance to Barrier	35	35	35	35
14. Barrier Type	0	0	0	0
15. Height of Barrier	-13.70	7.30	7.30	-6.20
16. Barrier Angle, Left	-90	-90	-90	-90
17. Barrier Angle, Right	90	90	90	90
18. Height of Observer	-15.50	7	7	-8

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 69 DBA (APPROX. L10 71 DBA)

BARRIER ATTENUATION LESS THAN CUT/FILL ATTENUATION
BARRIER TOO LOW

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF
BARRIER CALCULATED AT 3DBA DROP-OFF
WARNING: TRAFFIC VOLUME EXCEEDS LANE CAPACITY (2000 VPH)

Title: I405 EXPRESSWAY, ALT 2, CUT 9 w/ Barrier at R/W
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3	4
NO BARRIER				
Cut/Fill Atten. Auto	-14.29	-8.51	-8.07	-11.23
Cut/Fill Atten. Med. Trks	-12.48	-8.27	-8.01	-9.06
Cut/Fill Atten. Hvy. Trks	-8.03	-8.00	-7.93	-2.63
Leq Auto	56.01	64.05	62.87	55.70
Leq Med. Trucks	48.85	55.32	53.98	48.89
Leq Heavy Trucks	54.97	56.99	55.73	56.99
ELEMENT TOTALS	58.97	65.29	64.09	59.77
WITH BARRIER				
BARRIER SEGMENT				
Barrier Atten. Auto	-0.06	-8.39	-7.32	-5.01
Barrier Atten. Med. Trks	-0.10	-8.00	-7.02	-5.00
Barrier Atten. Hvy. Trks	-0.08	-7.00	-6.32	-4.90
11.5 ft. Truck Stack Line-of-sight break	-6.9	1.5	1.2	-0.6
Leq Auto	70.23	64.16	63.62	61.91
Leq Med. Trucks	61.22	55.60	54.96	52.95
Leq Heavy Trucks	62.91	57.99	57.34	54.72
ELEMENT TOTALS	71.41	65.56	64.99	63.11

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 2, CUT 11
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3	4
1. Auto Volume	6854	5621	3427	3427
2. Medium Truck Volume	209	171	104	104
3. Heavy Truck Volume	137	112	68	68
4. Vehicle Speed	104	104	104	104
5. Dist. to CTR. Near Lane	47	97	19	127
6. Roadway Angle, Left	-90	-90	-90	-90
7. Roadway Angle, Right	90	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50	4.50
9. Number of lanes	4	4	2	2
10. Grade Correction	0	0	0	0
11. Dist. to Shoulder/Cut	4	4	14	122
12. Height of Shoulder/Cut	7.50	7.50	1	1
13. Distance to Barrier	0	0	0	0
14. Barrier Type	0	0	0	0
15. Height of Barrier	0	0	0	0
16. Barrier Angle, Left	0	0	0	0
17. Barrier Angle, Right	0	0	0	0
18. Height of Observer	9	9	-10	-3.40

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 76 DBA (APPROX. L10 78 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: I405 EXPRESSWAY, ALT 2, CUT 11
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3	4
NO BARRIER				
Cut/Fill Atten. Auto	-2.64	-0.96	-18.39	-10.78
Cut/Fill Atten. Med. Trks	-2.01	-0.90	-17.45	-8.71
Cut/Fill Atten. Hvy. Trks	-1.31	-0.67	-14.62	-1.75
Leq Auto	72.34	70.24	57.62	57.27
Leq Med. Trucks	64.01	61.32	49.58	50.37
Leq Heavy Trucks	66.39	63.24	54.08	58.99
ELEMENT TOTALS	73.81	71.47	59.66	61.57

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 2, CUT 11 W/BARRIER
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3	4
1. Auto Volume	6854	5621	3427	3427
2. Medium Truck Volume	209	171	104	104
3. Heavy Truck Volume	137	112	68	68
4. Vehicle Speed	104	104	104	104
5. Dist. to CTR. Near Lane	47	97	19	127
6. Roadway Angle, Left	-90	-90	-90	-90
7. Roadway Angle, Right	90	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50	4.50
9. Number of lanes	4	4	2	2
10. Grade Correction	0	0	0	0
11. Dist. to Shoulder/Cut	4	4	14	122
12. Height of Shoulder/Cut	7.50	7.50	1	1
13. Distance to Barrier	4	4	14	0
14. Barrier Type	0	0	0	0
15. Height of Barrier	11.20	11.20	3.70	0
16. Barrier Angle, Left	-90	-90	-90	0
17. Barrier Angle, Right	90	90	90	0
18. Height of Observer	9	9	-10	-3.40

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 76 DBA (APPROX. L10 78 DBA)

WITH BARRIER TOTAL LEQ = 67 DBA (APPROX. L10 69 DBA)

FIELD INSERTION LOSS = 9

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF
BARRIER CALCULATED AT 3DBA DROP-OFF

Title: I405 EXPRESSWAY, ALT 2, CUT 11 W/BARRIER
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3	4
NO BARRIER				
Cut/Fill Atten. Auto	-2.64	-0.96	-18.39	-10.78
Cut/Fill Atten. Med. Trks	-2.01	-0.90	-17.45	-8.71
Cut/Fill Atten. Hvy. Trks	-1.31	-0.67	-14.62	-1.75
Leq Auto	72.34	70.24	57.62	57.27
Leq Med. Trucks	64.01	61.32	49.58	50.37
Leq Heavy Trucks	66.39	63.24	54.08	58.99
ELEMENT TOTALS	73.81	71.47	59.66	61.57
WITH BARRIER				
BARRIER SEGMENT				
Barrier Atten. Auto	-14.11	-13.16	-17.75	
Barrier Atten. Med. Trks	-13.99	-13.09	-17.46	
Barrier Atten. Hvy. Trks	-13.68	-12.91	-16.38	
11.5 ft. Truck Stack Line-of-sight break	2.6	2.4	4.5	
Leq Auto	60.87	58.03	58.26	
Leq Med. Trucks	52.03	49.14	49.58	
Leq Heavy Trucks	54.03	50.99	52.32	
ELEMENT TOTALS	62.13	59.26	59.69	61.57

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: SR-1 Alt-2 Cut#14
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2
1. Auto Volume	3366	3212
2. Medium Truck Volume	80	76
3. Heavy Truck Volume	17	17
4. Vehicle Speed	55	55
5. Dist. to CTR. Near Lane	295	315
6. Roadway Angle, Left	-90	-90
7. Roadway Angle, Right	90	90
8. Drop-Off Rate	4.50	4.50
9. Number of lanes	3	3
10. Grade Correction	0	0
11. Dist. to Shoulder/Cut	235	235
12. Height of Shoulder/Cut	5	5
13. Distance to Barrier	0	0
14. Barrier Type	0	0
15. Height of Barrier	0	0
16. Barrier Angle, Left	0	0
17. Barrier Angle, Right	0	0
18. Height of Observer	7.50	7.50

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 51 DBA (APPROX. L10 52 DBA)

WARNING: ANSWERS MAY NOT BE VALID FOR:
DISTANCES OVER 1000 FT (300 M)
WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

```
Title: SR-1 Alt-2 Cut#14
Date: 10-18-2000
                                  ELEMENT NUMBER
OUTPUT DATA (HOURLY LEQS)         1      2
-----------------------------------------

NO BARRIER

  Cut/Fill Atten. Auto        -10.88 -10.09
  Cut/Fill Atten. Med. Trks -10.23  -9.55
  Cut/Fill Atten. Hvy. Trks  -8.74  -8.43
       Leq Auto               45.47  45.78
       Leq Med. Trucks        39.73  39.91
       Leq Heavy Trucks       40.09  40.11

       ELEMENT TOTALS         47.39  47.62
-----------------------------------------
```

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: Sepulveda/SR1 Interchange Alt 2 Cut#5
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2
1. Auto Volume	3499	3499
2. Medium Truck Volume	83	83
3. Heavy Truck Volume	18	18
4. Vehicle Speed	56	80
5. Dist. to CTR. Near Lane	200	260
6. Roadway Angle, Left	-90	-90
7. Roadway Angle, Right	90	90
8. Drop-Off Rate	4.50	4.50
9. Number of lanes	2	2
10. Grade Correction	0	0
11. Dist. to Shoulder/Cut	10	255
12. Height of Shoulder/Cut	4	1
13. Distance to Barrier	0	0
14. Barrier Type	0	0
15. Height of Barrier	0	0
16. Barrier Angle, Left	0	0
17. Barrier Angle, Right	0	0
18. Height of Observer	5.50	-2.50

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 59 DBA (APPROX. L10 61 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

```
Title: Sepulveda/SR1 Interchange Alt 2 Cut#5
Date: 10-18-2000
                                 ELEMENT NUMBER
OUTPUT DATA (HOURLY LEQS)        1      2
----------------------------------------

NO BARRIER

  Cut/Fill Atten. Auto        -2.95 -10.36
  Cut/Fill Atten. Med. Trks   -2.53  -8.40
  Cut/Fill Atten. Hvy. Trks   -1.98  -1.22
       Leq Auto               55.49  51.42
       Leq Med. Trucks        49.41  44.84
       Leq Heavy Trucks       48.64  49.62

       ELEMENT TOTALS         57.11  54.16
----------------------------------------
```

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: Alt 2 SR-1 Cut#6
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2
1. Auto Volume	3456	3456
2. Medium Truck Volume	3456	356
3. Heavy Truck Volume	356	435
4. Vehicle Speed	80	80
5. Dist. to CTR. Near Lane	300	320
6. Roadway Angle, Left	-90	-90
7. Roadway Angle, Right	90	90
8. Drop-Off Rate	4.50	4.50
9. Number of lanes	3	3
10. Grade Correction	0	0
11. Dist. to Shoulder/Cut	260	260
12. Height of Shoulder/Cut	2	2
13. Distance to Barrier	0	0
14. Barrier Type	0	0
15. Height of Barrier	0	0
16. Barrier Angle, Left	0	0
17. Barrier Angle, Right	0	0
18. Height of Observer	3	3

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 63 DBA (APPROX. L10 65 DBA)

WARNING: ANSWERS MAY NOT BE VALID FOR:
DISTANCES OVER 1000 FT (300 M)
WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF
WARNING: TRAFFIC VOLUME EXCEEDS LANE CAPACITY (2000 VPH)

Title: Alt 2 SR-1 Cut#6
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2
NO BARRIER		
Cut/Fill Atten. Auto	-9.07	-8.66
Cut/Fill Atten. Med. Trks	-8.44	-8.25
Cut/Fill Atten. Hvy. Trks	-7.86	-7.89
Leq Auto	52.01	52.14
Leq Med. Trucks	60.34	50.38
Leq Heavy Trucks	55.29	55.86
ELEMENT TOTALS	61.98	58.18

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 3, CUT 7
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	3427	3427	3427
2. Medium Truck Volume	104	104	104
3. Heavy Truck Volume	68	68	68
4. Vehicle Speed	72	72	72
5. Dist. to CTR. Near Lane	80	110	140
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	2	2	2
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	72	105	72
12. Height of Shoulder/Cut	2.40	1	0.80
13. Distance to Barrier	0	0	0
14. Barrier Type	0	0	0
15. Height of Barrier	0	0	0
16. Barrier Angle, Left	0	0	0
17. Barrier Angle, Right	0	0	0
18. Height of Observer	3.90	-7.20	2.30

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 62 DBA (APPROX. L10 65 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: I405 EXPRESSWAY, ALT 3, CUT 7
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3
NO BARRIER			
Cut/Fill Atten. Auto	-12.32	-11.63	-7.94
Cut/Fill Atten. Med. Trks	-10.63	-9.45	-7.74
Cut/Fill Atten. Hvy. Trks	-7.90	-4.80	-6.44
Leq Auto	53.11	52.44	55.09
Leq Med. Trucks	47.93	47.75	48.42
Leq Heavy Trucks	53.35	55.10	52.41
ELEMENT TOTALS	56.84	57.47	57.53

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 3, CUT 8
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	10282	8568	0
2. Medium Truck Volume	313	261	0
3. Heavy Truck Volume	205	171	0
4. Vehicle Speed	104	104	50
5. Dist. to CTR. Near Lane	45	73	100
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	4	4	4
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	3	3	96
12. Height of Shoulder/Cut	4.90	4.90	1
13. Distance to Barrier	0	0	0
14. Barrier Type	0	0	0
15. Height of Barrier	0	0	0
16. Barrier Angle, Left	0	0	0
17. Barrier Angle, Right	0	0	0
18. Height of Observer	6.40	6.40	-6.60

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 80 DBA (APPROX. L10 81 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF
WARNING: TRAFFIC VOLUME EXCEEDS LANE CAPACITY (2000 VPH)

Title: I405 EXPRESSWAY, ALT 3, CUT 8
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3
NO BARRIER			
Cut/Fill Atten. Auto	-0.46	-0.29	-11.51
Cut/Fill Atten. Med. Trks	-0.29	-0.29	-9.51
Cut/Fill Atten. Hvy. Trks	-0.29	-0.49	-6.14
Leq Auto	76.45	73.90	
Leq Med. Trucks	67.66	64.94	
Leq Heavy Trucks	69.34	66.41	
ELEMENT TOTALS	77.68	75.06	0.00

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 3, CUT 8 w/ Barrier
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	7908	7041	6854
2. Medium Truck Volume	241	214	209
3. Heavy Truck Volume	158	140	137
4. Vehicle Speed	104	104	104
5. Dist. to CTR. Near Lane	45	73	100
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	4	4	4
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	5	5	83
12. Height of Shoulder/Cut	4.90	4.90	1
13. Distance to Barrier	5	5	83
14. Barrier Type	0	0	0
15. Height of Barrier	6.70	6.70	1.80
16. Barrier Angle, Left	-90	-90	-90
17. Barrier Angle, Right	90	90	90
18. Height of Observer	6.40	6.40	-6.60

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 77 DBA (APPROX. L10 79 DBA)

WITH BARRIER TOTAL LEQ = 73 DBA (APPROX. L10 75 DBA)

FIELD INSERTION LOSS = 4

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF
BARRIER CALCULATED AT 3DBA DROP-OFF
WARNING: TRAFFIC VOLUME EXCEEDS LANE CAPACITY (2000 VPH)

Title: I405 EXPRESSWAY, ALT 3, CUT 8 w/ Barrier
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3
NO BARRIER			
Cut/Fill Atten. Auto	-2.96	-1.36	-11.62
Cut/Fill Atten. Med. Trks	-2.08	-1.22	-10.51
Cut/Fill Atten. Hvy. Trks	-1.25	-0.97	-8.20
Leq Auto	72.81	71.97	60.33
Leq Med. Trucks	64.73	63.14	52.48
Leq Heavy Trucks	67.25	65.07	56.47
ELEMENT TOTALS	74.37	73.23	62.30
WITH BARRIER			
BARRIER SEGMENT			
Barrier Atten. Auto	-7.54	-6.60	-10.10
Barrier Atten. Med. Trks	-7.27	-6.44	-9.09
Barrier Atten. Hvy. Trks	-6.60	-6.06	-6.37
11.5 ft. Truck Stack Line-of-sight break	0.6	0.5	0.4
Leq Auto	68.23	66.73	61.86
Leq Med. Trucks	59.55	57.92	53.90
Leq Heavy Trucks	61.89	59.98	58.30
ELEMENT TOTALS	69.59	68.01	63.90

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 3, CUT 9
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	6854	7453	6313
2. Medium Truck Volume	209	227	192
3. Heavy Truck Volume	137	149	126
4. Vehicle Speed	104	104	104
5. Dist. to CTR. Near Lane	48	100	130
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	4	4	4
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	42	89	89
12. Height of Shoulder/Cut	1	5.50	5.50
13. Distance to Barrier	0	0	0
14. Barrier Type	0	0	0
15. Height of Barrier	0	0	0
16. Barrier Angle, Left	0	0	0
17. Barrier Angle, Right	0	0	0
18. Height of Observer	-16	7	7

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 65 DBA (APPROX. L10 67 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: I405 EXPRESSWAY, ALT 3, CUT 9
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3
NO BARRIER			
Cut/Fill Atten. Auto	-16.72	-15.81	-11.56
Cut/Fill Atten. Med. Trks	-15.73	-14.94	-10.87
Cut/Fill Atten. Hvy. Trks	-12.63	-12.26	-9.18
Leq Auto	58.26	56.51	58.93
Leq Med. Trucks	50.30	48.42	50.65
Leq Heavy Trucks	55.08	52.79	54.03
ELEMENT TOTALS	60.41	58.50	60.61

```
                    * * * * * *  LEQV2 * * * * * *

                 San Fransisco Highway Traffic Noise
                          Prediction Program
                   Model Version 2.5  February 1985
                   (Calif. Vehicle Emissions Added)

                       Based on FHWA-RD-77-108


Title: I405 EXPRESSWAY, ALT 3, CUT 9 fut no proj
Date: 10-18-2000
                                 ELEMENT NUMBER
INPUT DATA ( Meters & KPH )        1      2
-----------------------------------------
 1. Auto Volume                 7470  10282
 2. Medium Truck Volume          228    313
 3. Heavy Truck Volume           149    205
 4. Vehicle Speed                104    104
 5. Dist. to CTR. Near Lane      130    100
 6. Roadway Angle, Left          -90    -90
 7. Roadway Angle, Right          90     90
 8. Drop-Off Rate               4.50   4.50
 9. Number of lanes                4      4
10. Grade Correction               0      0
11. Dist. to Shoulder/Cut         89     89
12. Height of Shoulder/Cut      5.50   5.50
13. Distance to Barrier            0      0
14. Barrier Type                   0      0
15. Height of Barrier              0      0
16. Barrier Angle, Left            0      0
17. Barrier Angle, Right           0      0
18. Height of Observer             7      7
-----------------------------------------

OUTPUT DATA  (Based on CALIFORNIA Ref. Energy Mean Emission Levels)
-----------------------------------------
NO BARRIER   TOTAL LEQ = 64 DBA  (APPROX. L10 66 DBA)

-----------------------------------------
WARNING: SEGMENTS SHIELDED BY:
         SHLD/CUT CALCULATED AT 3DBA DROP-OFF
WARNING: TRAFFIC VOLUME EXCEEDS LANE CAPACITY (2000 VPH)
```

Title: I405 EXPRESSWAY, ALT 3, CUT 9 fut no proj
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2
NO BARRIER		
Cut/Fill Atten. Auto	-11.56	-15.81
Cut/Fill Atten. Med. Trks	-10.87	-14.94
Cut/Fill Atten. Hvy. Trks	-9.18	-12.26
Leq Auto	59.66	57.91
Leq Med. Trucks	51.40	49.82
Leq Heavy Trucks	54.76	54.18
ELEMENT TOTALS	61.34	59.89

* * * * * * * LEQV2 * * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 3, CUT 10
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	6313	5873	6854
2. Medium Truck Volume	192	179	209
3. Heavy Truck Volume	126	117	137
4. Vehicle Speed	104	104	104
5. Dist. to CTR. Near Lane	110	145	184
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	4	4	4
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	95	95	174
12. Height of Shoulder/Cut	7.50	7.50	1
13. Distance to Barrier	0	0	0
14. Barrier Type	0	0	0
15. Height of Barrier	0	0	0
16. Barrier Angle, Left	0	0	0
17. Barrier Angle, Right	0	0	0
18. Height of Observer	9	9	-10

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 63 DBA (APPROX. L10 65 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: I405 EXPRESSWAY, ALT 3, CUT 10
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3
NO BARRIER			
Cut/Fill Atten. Auto	-16.98	-12.69	-10.90
Cut/Fill Atten. Med. Trks	-16.34	-12.12	-9.44
Cut/Fill Atten. Hvy. Trks	-14.44	-10.60	-7.66
Leq Auto	54.22	57.03	58.50
Leq Med. Trucks	45.90	48.64	51.00
Leq Heavy Trucks	49.48	51.82	54.46
ELEMENT TOTALS	55.93	58.63	60.47

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 3, CUT 11
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	5499	5873	6854
2. Medium Truck Volume	168	179	209
3. Heavy Truck Volume	110	117	137
4. Vehicle Speed	104	104	104
5. Dist. to CTR. Near Lane	80	105	155
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	4	4	4
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	55	55	150
12. Height of Shoulder/Cut	7.50	7.50	1
13. Distance to Barrier	0	0	0
14. Barrier Type	0	0	0
15. Height of Barrier	0	0	0
16. Barrier Angle, Left	0	0	0
17. Barrier Angle, Right	0	0	0
18. Height of Observer	9	9	-7

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 66 DBA (APPROX. L10 68 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

Title: I405 EXPRESSWAY, ALT 3, CUT 11
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3
NO BARRIER			
Cut/Fill Atten. Auto	-14.47	-11.59	-10.87
Cut/Fill Atten. Med. Trks	-13.83	-11.05	-9.03
Cut/Fill Atten. Hvy. Trks	-12.01	-9.68	-5.63
Leq Auto	57.43	59.47	59.27
Leq Med. Trucks	49.12	51.05	52.15
Leq Heavy Trucks	52.62	54.09	57.24
ELEMENT TOTALS	59.13	61.03	61.87

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 3, CUT 11
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	5499	5873	6854
2. Medium Truck Volume	168	179	209
3. Heavy Truck Volume	110	117	137
4. Vehicle Speed	104	104	104
5. Dist. to CTR. Near Lane	80	105	155
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	4	4	4
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	55	55	150
12. Height of Shoulder/Cut	7.50	7.50	1
13. Distance to Barrier	0	0	0
14. Barrier Type	0	0	0
15. Height of Barrier	0	0	0
16. Barrier Angle, Left	0	0	0
17. Barrier Angle, Right	0	0	0
18. Height of Observer	9	9	-7

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 66 DBA (APPROX. L10 68 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF

```
Title: I405 EXPRESSWAY, ALT 3, CUT 11
Date: 10-18-2000
                                 ELEMENT NUMBER
OUTPUT DATA (HOURLY LEQS)         1      2      3
------------------------------------------------

NO BARRIER

  Cut/Fill Atten. Auto       -14.47 -11.59 -10.87
  Cut/Fill Atten. Med. Trks -13.83 -11.05  -9.03
  Cut/Fill Atten. Hvy. Trks -12.01  -9.68  -5.63
       Leq Auto              57.43  59.47  59.27
       Leq Med. Trucks       49.12  51.05  52.15
       Leq Heavy Trucks      52.62  54.09  57.24

       ELEMENT TOTALS        59.13  61.03  61.87
------------------------------------------------
```

* * * * * * LEQV2 * * * * * *

San Fransisco Highway Traffic Noise
Prediction Program
Model Version 2.5 February 1985
(Calif. Vehicle Emissions Added)

Based on FHWA-RD-77-108

Title: I405 EXPRESSWAY, ALT 3, CUT 15
Date: 10-18-2000

INPUT DATA (Meters & KPH)	ELEMENT NUMBER 1	2	3
1. Auto Volume	6854	7908	7014
2. Medium Truck Volume	209	241	214
3. Heavy Truck Volume	137	158	140
4. Vehicle Speed	104	104	104
5. Dist. to CTR. Near Lane	27	65	90
6. Roadway Angle, Left	-90	-90	-90
7. Roadway Angle, Right	90	90	90
8. Drop-Off Rate	4.50	4.50	4.50
9. Number of lanes	4	4	4
10. Grade Correction	0	0	0
11. Dist. to Shoulder/Cut	17	5	5
12. Height of Shoulder/Cut	1	5.50	5.50
13. Distance to Barrier	0	0	0
14. Barrier Type	0	0	0
15. Height of Barrier	0	0	0
16. Barrier Angle, Left	0	0	0
17. Barrier Angle, Right	0	0	0
18. Height of Observer	-16	7	7

OUTPUT DATA (Based on CALIFORNIA Ref. Energy Mean Emission Levels)

NO BARRIER TOTAL LEQ = 76 DBA (APPROX. L10 78 DBA)

WARNING: SEGMENTS SHIELDED BY:
SHLD/CUT CALCULATED AT 3DBA DROP-OFF
WARNING: TRAFFIC VOLUME EXCEEDS LANE CAPACITY (2000 VPH)

Title: I405 EXPRESSWAY, ALT 3, CUT 15
Date: 10-18-2000

OUTPUT DATA (HOURLY LEQS)	ELEMENT NUMBER 1	2	3
NO BARRIER			
Cut/Fill Atten. Auto	-20.23	-1.72	-1.25
Cut/Fill Atten. Med. Trks	-19.98	-1.49	-1.15
Cut/Fill Atten. Hvy. Trks	-19.22	-1.11	-0.95
Leq Auto	56.94	72.58	71.21
Leq Med. Trucks	48.23	63.86	62.36
Leq Heavy Trucks	50.67	65.92	64.23
ELEMENT TOTALS	58.31	73.89	72.45

NOISE ABATEMENT REASONABLENESS ANALYSIS SUMMARY
LAX EXPRESSWAY - ALTERNATIVE 2
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.	No. of Benefited Residences N_i	Barrier Height (m)	Modified Reasonable Allowance per Benefited Residence, A_{mi} (Worksheet "B")	Cost of Noise Abatement per Benefited Residence (Worksheet "A")	Results
SW-1	27	3.66	$37,000	$36,852	REASONABLE
SW-2	45	3.66	$37,000	$14,378	REASONABLE
SW-3	32	3.66	$37,000	$13,813	REASONABLE

Analyzed by: P. Smittipatana　　Checked by:　　Last Revision: 10/17/00

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REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 2
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.:	SW-1
Noise Barrier Location:	Station 0+50 to 9+75
Barrier Length (m):	1800
Barrier Height (m):	3.66
Cost of Noise Barrier ($151/m2):	$995,000
Project Cost without Abatement (C_p):	$760,000,000
Number of Benefited Residences:	27

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD26	RD27	RD33			
Existing Noise Level (in dBA)	75	66	75			n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77	69	77			77
Future Noise Level with Abatement (in dBA)	67	66	66			n/a
Noise Increase due to Project (in dBA)	2	3	2			3
Noise Reduction by Abatement (in dBA)	10	3	11			11

BASE ALLOWANCE

Base Allowance per Benefited Residence: **$15,000**

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: **$6,000**

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 3

"Build" vs Existing Noise Levels Allowance per Benefited Residence: **$2,000**

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 11

Achievable Noise Reduction Allowance per Benefited Residence: **$4,000**

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: yes

Predate 1978 Allowance per Benefited Residence: **$10,000**

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A): **$37,000**

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: **$0**

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_m): **$37,000**

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: **$36,852**

NOISE ABATEMENT CONCLUSION: REASONABLE

Analyzed by: P. Smittipatana

Checked by:

Last Revision: 10/17/00

Print Date: 10/17/00

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jn:5709956020

REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 2
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.:	SW-2
Noise Barrier Location:	
Barrier Length (m):	1170
Barrier Height (m):	3.66
Cost of Noise Barrier ($151/m2):	$647,000
Project Cost without Abatement (C_p):	$760,000,000
Number of Benefited Residences:	45

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD29					
Existing Noise Level (in dBA)	73					n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77					77
Future Noise Level with Abatement (in dBA)	67					n/a
Noise Increase due to Project (in dBA)	4					4
Noise Reduction by Abatement (in dBA)	10					10

BASE ALLOWANCE
Base Allowance per Benefited Residence | $15,000

ALLOWANCE ADJUSTMENT 1
Maximum Absolute Noise Level (in dBA) | 77
Absolute Noise Level Allowance per Benefited Residence | $6,000

ALLOWANCE ADJUSTMENT 2
Maximum Noise Increase due to Project (in dBA) | 4
"Build" vs Existing Noise Levels Allowance per Benefited Residence | $2,000

ALLOWANCE ADJUSTMENT 3
Maximum Noise Reduction by Abatement (in dBA) | 10
Achievable Noise Reduction Allowance per Benefited Residence | $4,000

ALLOWANCE ADJUSTMENT 4
Majority of Residences (>50%) Constructed Prior or in 1978 | yes
Predate 1978 Allowance per Benefited Residence | $10,000

BASE ALLOWANCE PLUS ADJUSTMENT 1-4
Reasonable Allowance per Benefited Residence (A_r) | $37,000

ALLOWANCE ADJUSTMENT 5
Reduction of Reasonable Allowance per Benefited Residence | $0
(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE
Per Benefited Residence (A_{mr}) | $37,000
(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT
Per Benefited Residence | $14,378

NOISE ABATEMENT CONCLUSION: | REASONABLE

Analyzed by: P. Smittipatana   Checked by: Last Revision: 10/17/00
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REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 2
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.:	SW-3
Noise Barrier Location:	
Barrier Length (m):	800
Barrier Height (m):	3.66
Cost of Noise Barrier ($151/m2):	$442,000
Project Cost without Abatement (C_p):	$760,000,000
Number of Benefited Residences:	32

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD29					
Existing Noise Level (in dBA)	73					n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77					77
Future Noise Level with Abatement (in dBA)	67					n/a
Noise Increase due to Project (in dBA)	4					4
Noise Reduction by Abatement (in dBA)	10					10

BASE ALLOWANCE

Base Allowance per Benefited Residence: $15,000

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: $6,000

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 4

"Build" vs Existing Noise Levels Allowance per Benefited Residence: $2,000

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 10

Achievable Noise Reduction Allowance per Benefited Residence: $4,000

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: YES

Predate 1978 Allowance per Benefited Residence: $10,000

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r): $37,000

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: $0

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_m): $37,000

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: $13,813

NOISE ABATEMENT CONCLUSION: REASONABLE

Analyzed by: P. Smittipatana

Checked by:

Last Revision: 10/17/00

Print Date: 10/17/00

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WORKSHEET "B" FOR CALCULATING REASONABLE ALLOWANCE PER RESIDENCE
LAX EXPRESSWAY - ALTERNATIVE 2

07-LA-405-KP36.6/41.8

EA: 21180K

Noise Barrier No.	Reasonable Allowance per Benefited Residence, A_i (Worksheet "A") *(a)*	No. of Benefitted Residences N_i *(b)*	Reasonable Allowance per Noise Barrier $(A_i \times N_i) / A_T$ *(c)* *(c = a x b)*	Fraction of Total Reasonable Allowance $(A_i \times N_i) / A_T$ *(d)* *(d = c / box 1)*	Reduction of Reasonable Allowance per Noise Barrier *(e)* *(e = d x box 3)*	Reduction of Reasonable Allowance per benefited Residence *(f)* *(f = e / b)*	Modified Reasonable Allowance per Benefited Residence A_{mi} *(g)* *(g = a - f)*
SW-1	$37,000	27	$999,000	N/A	$0	$0	$37,000
SW-2	$37,000	45	$1,665,000	N/A	$0	$0	$37,000
SW-3	$37,000	32	$1,184,000	N/A	$0	$0	$37,000

Total Reasonable Allowance for Abatement (A_T) *(Box 1)*	**$3,848,000**
Estimated Project Cost ($760,000,000) x 0.5 *(Box 2)*	**$380,000,000**
(Box 3) = (Box 1) - (Box 2) *** If Box 3 < 0 then use the "Reasonable Allowances per Benefited Residence A_i" in column (a) above.** *** If Box 3 > 0 then use the "Modified Reasonable Allowance per Benefited Residence A_{mi}" in column (g)**	**-$376,152,000**

Analyzed by: P.Smittipatana Checked by:

Last Revision: 10/17/00

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Print Date: 10/17/00

NOISE ABATEMENT REASONABLENESS ANALYSIS SUMMARY
LAX EXPRESSWAY - ALTERNATIVE 2
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.	No. of Benefited Residences N_i	Barrier Height (m)	Modified Reasonable Allowance per Benefited Residence, A_{mi} (Worksheet "B")	Cost of Noise Abatement per Benefited Residence (Worksheet "A")	Results
SW-1	27	4.27	$37,000	$43,000	NOT REASONABLE
SW-2	45	4.27	$37,000	$16,756	REASONABLE
SW-3	32	4.27	$37,000	$16,125	REASONABLE

Analyzed by: P. Smittipatana   Checked by: Last Revision: 10/17/00

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REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 2

07-LA-405-KP36.6/41.8

EA: 21180K

Noise Barrier No.:	SW-1
Noise Barrier Location:	Station 0+50 to 9+75
Barrier Length (m):	1800
Barrier Height (m):	4.27
Cost of Noise Barrier ($151/m2):	$1,161,000
Project Cost without Abatement (C_p):	$760,000,000
Number of Benefited Residences:	27

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD26	RD27	RD33			
Existing Noise Level (in dBA)	75	66	75			n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77	69	77			77
Future Noise Level with Abatement (in dBA)	67	66	66			n/a
Noise Increase due to Project (in dBA)	2	3	2			3
Noise Reduction by Abatement (in dBA)	10	3	11			11

BASE ALLOWANCE

Base Allowance per Benefited Residence: **$15,000**

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: **$6,000**

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 3

"Build" vs Existing Noise Levels Allowance per Benefited Residence: **$2,000**

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 11

Achievable Noise Reduction Allowance per Benefited Residence: **$4,000**

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: yes

Predate 1978 Allowance per Benefited Residence: **$10,000**

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r): **$37,000**

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: **$0**

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_{rs}): **$37,000**

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: **$43,000**

NOISE ABATEMENT CONCLUSION: **NOT REASONABLE**

Analyzed by: P. Smittipatana   Checked by: Last Revision: 10/17/00

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jn:5709965020

REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 2

07-LA-405-KP36.6/41.8

EA: 21180K

Noise Barrier No.:	SW-2
Noise Barrier Location:	
Barrier Length (m):	1170
Barrier Height (m):	4.27
Cost of Noise Barrier ($151/m2):	$754,000
Project Cost without Abatement (C_p):	$760,000,000
Number of Benefited Residences:	45

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD29					
Existing Noise Level (in dBA)	73					n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77					77
Future Noise Level with Abatement (in dBA)	67					n/a
Noise Increase due to Project (in dBA)	4					4
Noise Reduction by Abatement (in dBA)	10					10

BASE ALLOWANCE

Base Allowance per Benefited Residence: $15,000

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: $6,000

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 4

"Build" vs Existing Noise Levels Allowance per Benefited Residence: $2,000

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 10

Achievable Noise Reduction Allowance per Benefited Residence: $4,000

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: yes

Predate 1978 Allowance per Benefited Residence: $10,000

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r): $37,000

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: $0

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_{mr}): $37,000

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: $16,756

NOISE ABATEMENT CONCLUSION: REASONABLE

Analyzed by: P. Smittipatana Checked by: Last Revision: 10/17/00

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Summary of Measured L_{eq} Levels on October 5-6, 2000

Site ID	Location	Date	Time	L_{eq} (dBA)
ST-1	Lincoln/La Tijera	10/5/00	11:15-11:25	66.2
ST-2	9110 Rayford Dr.	10/5/00	11:45-11:55	65.9
ST-3	Emerson Adult Center	10/5/00	12:15-12:25	64.0
ST-4	Kittyhawk/Fleetin	10/5/00	12:50-13:00	64.7
ST-5	St. Jerome School	10/5/00	14:30-14:35	59.7
ST-6	Ashwood Park	10/5/00	14:55-15:05	73.6
ST-7	7320 Piper	10/5/00	15:42-15:52	59.3
ST-8	Centinela Adobe	10/6/00	14:55-15:05	75.7
ST-9	6645 88th St.	10/6/10	15:40-15:50	61.3
LT-1	Centinela Adobe	10/4/00-10/6/00	16:00-10:00	77.0
LT-2	Lincoln/La Tijera	10/4/00-10/6/00	17:00-14:15	67.7

WORKSHEET "B" FOR CALCULATING REASONABLE ALLOWANCE PER RESIDENCE
LAX EXPRESSWAY - ALTERNATIVE 2
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.	Reasonable Allowance per Benefited Residence, A_i (Worksheet "A") (a)	No. of Benefitted Residences N_i (b)	Reasonable Allowance per Noise Barrier $(A_i \times N_i) / A_T$ (c) (c = a x b)	Fraction of Total Reasonable Allowance $(A_i \times N_i) / A_T$ (d) (d = c / box 1)	Reduction of Reasonable Allowance per Noise Barrier (e) (e = d x box 3)	Reduction of Reasonable Allowance per benefited Residence (f) (f = e / b)	Modified Reasonable Allowance per Benefited Residence A_{mi} (g) (g = a - f)
SW-1	$37,000	27	$999,000	N/A	$0	$0	$37,000
SW-2	$37,000	45	$1,665,000	N/A	$0	$0	$37,000
SW-3	$37,000	32	$1,184,000	N/A	$0	$0	$37,000

Total Reasonable Allowance for Abatement (A_T) ***(Box 1)***	**$3,848,000**
Estimated Project Cost ($760,000,000) x 0.5 ***(Box 2)***	**$380,000,000**
(Box 3) = (Box 1) - (Box 2) *** If Box 3 < 0 then use the "Reasonable Allowances per Benefited Residence A_i" in column (a) above.** *** If Box 3 > 0 then use the "Modified Reasonable Allowance per Benefited Residence A_{mi}" in column (g)**	**-$376,152,000**

Analyzed by: P.Smittipatana Checked by:

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Last Revision: 10/17/00
Print Date: 10/17/00

NOISE ABATEMENT REASONABLENESS ANALYSIS SUMMARY
LAX EXPRESSWAY - ALTERNATIVE 3

07-LA-405-KP36.6/41.8

EA: 21180K

Noise Barrier No.	No. of Benefited Residences N_i	Barrier Height (m)	Modified Reasonable Allowance per Benefited Residence, A_{mi} (Worksheet "B")	Cost of Noise Abatement per Benefited Residence (Worksheet "A")	Results
SW-1	27	3.66	$37,000	$36,852	REASONABLE
SW-2	45	3.66	$37,000	$14,378	REASONABLE
SW-3	32	3.66	$37,000	$13,813	REASONABLE

Analyzed by: P. Smittipatana   Checked by: Last Revision: 10/17/00

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REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 3
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.:	SW-1
Noise Barrier Location:	Station 0+50 to 9+75
Barrier Length (m):	1800
Barrier Height (m):	3.66
Cost of Noise Barrier ($151/m2):	$995,000
Project Cost without Abatement (C_p):	$610,000,000
Number of Benefited Residences:	27

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD26	RD27	RD33			
Existing Noise Level (in dBA)	75	66	75			n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77	69	77			77
Future Noise Level with Abatement (in dBA)	67	66	66			n/a
Noise Increase due to Project (in dBA)	2	3	2			3
Noise Reduction by Abatement (in dBA)	10	3	11			11

BASE ALLOWANCE

Base Allowance per Benefited Residence: $15,000

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: $6,000

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 3

"Build" vs Existing Noise Levels Allowance per Benefited Residence: $2,000

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 11

Achievable Noise Reduction Allowance per Benefited Residence: $4,000

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: yes

Predate 1978 Allowance per Benefited Residence: $10,000

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r): $37,000

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: $0

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_{rs}): $37,000

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: $36,852

NOISE ABATEMENT CONCLUSION: REASONABLE

Analyzed by: P. Smittipatana   Checked by: Last Revision: 10/17/00

N:\reasonableness analysis\405expressway\[ALT3_B.xls]SW3   Print Date: 10/17/00

REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 3
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.:	SW-2
Noise Barrier Location:	
Barrier Length (m):	1170
Barrier Height (m):	3.66
Cost of Noise Barrier ($151/m2):	$647,000
Project Cost without Abatement (C_p):	$610,000,000
Number of Benefited Residences:	45

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD29					
Existing Noise Level (in dBA)	73					n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77					77
Future Noise Level with Abatement (in dBA)	67					n/a
Noise Increase due to Project (in dBA)	4					4
Noise Reduction by Abatement (in dBA)	10					10

BASE ALLOWANCE

Base Allowance per Benefited Residence: **$15,000**

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: **$6,000**

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 4

"Build" vs Existing Noise Levels Allowance per Benefited Residence: **$2,000**

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 10

Achievable Noise Reduction Allowance per Benefited Residence: **$4,000**

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: yes

Predate 1978 Allowance per Benefited Residence: **$10,000**

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r): **$37,000**

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: **$0**

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_m): **$37,000**

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: **$14,378**

NOISE ABATEMENT CONCLUSION: **REASONABLE**

Analyzed by: P. Smitipatana   Checked by: Last Revision: 10/17/00

N:\reasonableness analysis\405expressway\[ALT3_B.xls]SW3   Print Date: 10/17/00

REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 3

07-LA-405-KP36.6/41.8

EA: 21180K

Noise Barrier No.:	SW-3
Noise Barrier Location:	Station 19+40 To 25+50
Barrier Length (m):	800
Barrier Height (m):	3.66
Cost of Noise Barrier ($151/m2):	$442,000
Project Cost without Abatement (C_p):	$610,000,000
Number of Benefited Residences:	32

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD29					
Existing Noise Level (in dBA)	73					n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77					77
Future Noise Level with Abatement (in dBA)	67					n/a
Noise Increase due to Project (in dBA)	4					4
Noise Reduction by Abatement (in dBA)	10					10

BASE ALLOWANCE

Base Allowance per Benefited Residence — $15,000

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA) — 77

Absolute Noise Level Allowance per Benefited Residence — $6,000

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA) — 4

"Build" vs Existing Noise Levels Allowance per Benefited Residence — $2,000

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA) — 10

Achievable Noise Reduction Allowance per Benefited Residence — $4,000

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978 — YES

Predate 1978 Allowance per Benefited Residence — $10,000

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r) — $37,000

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence — $0

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_{mr}) — $37,000

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence — $13,813

NOISE ABATEMENT CONCLUSION: REASONABLE

Analyzed by: P. Smittipatana

Checked by:

Last Revision: 10/17/00

Print Date: 10/17/00

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WORKSHEET "B" FOR CALCULATING REASONABLE ALLOWANCE PER RESIDENCE
LAX EXPRESSWAY - ALTERNATIVE 3
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.	Reasonable Allowance per Benefited Residence, A_i (Worksheet "A") (a)	No. of Benefitted Residences N_i (b)	Reasonable Allowance per Noise Barrier $(A_i \times N_i) / A_T$ (c) (c = a x b)	Fraction of Total Reasonable Allowance $(A_i \times N_i) / A_T$ (d) (d = c / box 1)	Reduction of Reasonable Allowance per Noise Barrier (e) (e = d x box 3)	Reduction of Reasonable Allowance per benefited Residence (f) (f = e / b)	Modified Reasonable Allowance per Benefited Residence A_{mi} (g) (g = a - f)
SW-1	$37,000	27	$999,000	N/A	$0	$0	$37,000
SW-2	$37,000	45	$1,665,000	N/A	$0	$0	$37,000
SW-3	$37,000	32	$1,184,000	N/A	$0	$0	$37,000

Total Reasonable Allowance for Abatement (A_T) *(Box 1)*	$3,848,000
Estimated Project Cost ($610,000,000) x 0.5 *(Box 2)*	$305,000,000
(Box 3) = (Box 1) - (Box 2) * If Box 3 < 0 then use the "Reasonable Allowances per Benefited Residence A_i" in column (a) above. * If Box 3 > 0 then use the "Modified Reasonable Allowance per Benefited Residence A_{mi}" in column (g)	-$301,152,000

Analyzed by: P.Smittipatana Checked by:

Last Revision: 10/17/00

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Print Date: 10/17/00

NOISE ABATEMENT REASONABLENESS ANALYSIS SUMMARY
LAX EXPRESSWAY - ALTERNATIVE 3
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.	No. of Benefited Residences N_i	Barrier Height (m)	Modified Reasonable Allowance per Benefited Residence, A_{mi} (Worksheet "B")	Cost of Noise Abatement per Benefited Residence (Worksheet "A")	Results
SW-1	27	4.27	$37,000	$43,000	NOT REASONABLE
SW-2	45	4.27	$37,000	$16,756	REASONABLE
SW-3	32	4.27	$37,000	$16,125	REASONABLE

Analyzed by: P. Smittipatana Checked by: Last Revision: 10/17/00

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REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 3
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.:	SW-1
Noise Barrier Location:	Station 0+50 to 9+75
Barrier Length (m):	1800
Barrier Height (m):	4.27
Cost of Noise Barrier ($151/m2):	$1,161,000
Project Cost without Abatement (C_p):	$610,000,000
Number of Benefited Residences:	27

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD26	RD27	RD33			
Existing Noise Level (in dBA)	75	66	75			n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77	69	77			77
Future Noise Level with Abatement (in dBA)	67	66	66			n/a
Noise Increase due to Project (in dBA)	2	3	2			3
Noise Reduction by Abatement (in dBA)	10	3	11			11

BASE ALLOWANCE

Base Allowance per Benefited Residence: $15,000

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: $6,000

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 3

"Build" vs Existing Noise Levels Allowance per Benefited Residence: $2,000

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 11

Achievable Noise Reduction Allowance per Benefited Residence: $4,000

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: yes

Predate 1978 Allowance per Benefited Residence: $10,000

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r): $37,000

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: $0

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_{rm}): $37,000

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: $43,000

NOISE ABATEMENT CONCLUSION: NOT REASONABLE

Analyzed by: P. Smittipatana   Checked by: Last Revision: 10/17/00

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REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 3

07-LA-405-KP36.6/41.8

EA: 21180K

Noise Barrier No.:	SW-2
Noise Barrier Location:	
Barrier Length (m):	1170
Barrier Height (m):	4.27
Cost of Noise Barrier ($151/m2):	$754,000
Project Cost without Abatement (C_p):	$610,000,000
Number of Benefited Residences:	45

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD29					
Existing Noise Level (in dBA)	73					n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77					77
Future Noise Level with Abatement (in dBA)	67					n/a
Noise Increase due to Project (in dBA)	4					4
Noise Reduction by Abatement (in dBA)	10					10

BASE ALLOWANCE

Base Allowance per Benefited Residence: $15,000

ALLOWANCE ADJUSTMENT 1

Maximum Absolute Noise Level (in dBA): 77

Absolute Noise Level Allowance per Benefited Residence: $6,000

ALLOWANCE ADJUSTMENT 2

Maximum Noise Increase due to Project (in dBA): 4

"Build" vs Existing Noise Levels Allowance per Benefited Residence: $2,000

ALLOWANCE ADJUSTMENT 3

Maximum Noise Reduction by Abatement (in dBA): 10

Achievable Noise Reduction Allowance per Benefited Residence: $4,000

ALLOWANCE ADJUSTMENT 4

Majority of Residences (>50%) Constructed Prior or in 1978: yes

Predate 1978 Allowance per Benefited Residence: $10,000

BASE ALLOWANCE PLUS ADJUSTMENT 1-4

Reasonable Allowance per Benefited Residence (A_r): $37,000

ALLOWANCE ADJUSTMENT 5

Reduction of Reasonable Allowance per Benefited Residence: $0

(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE

Per Benefited Residence (A_{rm}): $37,000

(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT

Per Benefited Residence: $16,756

NOISE ABATEMENT CONCLUSION: REASONABLE

Analyzed by: P. Smittipatana   Checked by: Last Revision: 10/17/00

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REASONABLENESS ANALYSIS OF NOISE ABATEMENT MEASURES - WORKSHEET "A"
LAX EXPRESSWAY - ALTERNATIVE 3
07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.:	SW-3
Noise Barrier Location:	Station 19+40 To 25+50
Barrier Length (m):	800
Barrier Height (m):	4.27
Cost of Noise Barrier ($151/m2):	$516,000
Project Cost without Abatement (C_p):	$610,000,000
Number of Benefited Residences:	32

Noise Abatement Criteria	Noise Levels at Impacted Design Receivers					Maximum
	RD29					
Existing Noise Level (in dBA)	73					n/a
Future Noise Level without Abatement (in dBA) [Absolute Noise Level]	77					77
Future Noise Level with Abatement (in dBA)	67					n/a
Noise Increase due to Project (in dBA)	4					4
Noise Reduction by Abatement (in dBA)	10					10

BASE ALLOWANCE
Base Allowance per Benefited Residence — **$15,000**

ALLOWANCE ADJUSTMENT 1
Maximum Absolute Noise Level (in dBA) — 77
Absolute Noise Level Allowance per Benefited Residence — **$6,000**

ALLOWANCE ADJUSTMENT 2
Maximum Noise Increase due to Project (in dBA) — 4
"Build" vs Existing Noise Levels Allowance per Benefited Residence — **$2,000**

ALLOWANCE ADJUSTMENT 3
Maximum Noise Reduction by Abatement (in dBA) — 10
Achievable Noise Reduction Allowance per Benefited Residence — **$4,000**

ALLOWANCE ADJUSTMENT 4
Majority of Residences (>50%) Constructed Prior or in 1978 — YES
Predate 1978 Allowance per Benefited Residence — **$10,000**

BASE ALLOWANCE PLUS ADJUSTMENT 1-4
Reasonable Allowance per Benefited Residence (A_r) — **$37,000**

ALLOWANCE ADJUSTMENT 5
Reduction of Reasonable Allowance per Benefited Residence — **$0**
(See Worksheet "B")

MODIFIED REASONABLE ALLOWANCE
Per Benefited Residence (A_m) — **$37,000**
(See Worksheet "B")

ESTIMATED ACTUAL COST OF NOISE ABATEMENT
Per Benefited Residence — **$16,125**

NOISE ABATEMENT CONCLUSION: — REASONABLE

Analyzed by: P. Smittipatana Checked by: Last Revision: 10/17/00
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WORKSHEET "B" FOR CALCULATING REASONABLE ALLOWANCE PER RESIDENCE
LAX EXPRESSWAY - ALTERNATIVE 3

07-LA-405-KP36.6/41.8
EA: 21180K

Noise Barrier No.	Reasonable Allowance per Benefited Residence, A_i (Worksheet "A") *(a)*	No. of Benefitted Residences N_i *(b)*	Reasonable Allowance per Noise Barrier $(A_i \times N_i) / A_T$ *(c)* *(c = a x b)*	Fraction of Total Reasonable Allowance $(A_i \times N_i) / A_T$ *(d)* *(d = c / box 1)*	Reduction of Reasonable Allowance per Noise Barrier *(e)* *(e = d x box 3)*	Reduction of Reasonable Allowance per benefited Residence *(f)* *(f = e / b)*	Modified Reasonable Allowance per Benefited Residence A_{mi} *(g)* *(g = a - f)*
SW-1	$37,000	27	$999,000	N/A	$0	$0	$37,000
SW-2	$37,000	45	$1,665,000	N/A	$0	$0	$37,000
SW-3	$37,000	32	$1,184,000	N/A	$0	$0	$37,000

Total Reasonable Allowance for Abatement (A_T) *(Box 1)*	**$3,848,000**
Estimated Project Cost ($610,000,000) x 0.5 *(Box 2)*	**$305,000,000**
(Box 3) = (Box 1) - (Box 2) *** If Box 3 < 0 then use the "Reasonable Allowances per Benefited Residence A_i" in column (a) above.** *** If Box 3 > 0 then use the "Modified Reasonable Allowance per Benefited Residence A_{mi}" in column (g)**	**-$301,152,000**

Analyzed by: P.Smittipatana Checked by:

Last Revision: 10/17/00

Print Date: 10/17/00

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Attachment 3

Hazardous Waste Technical Data

LAX Expressway and State Route 1 Improvements

SITE ASSESSMENT - SPECIAL PROJECT
(ALL DATABASES SEARCHED TO 500 FEET)

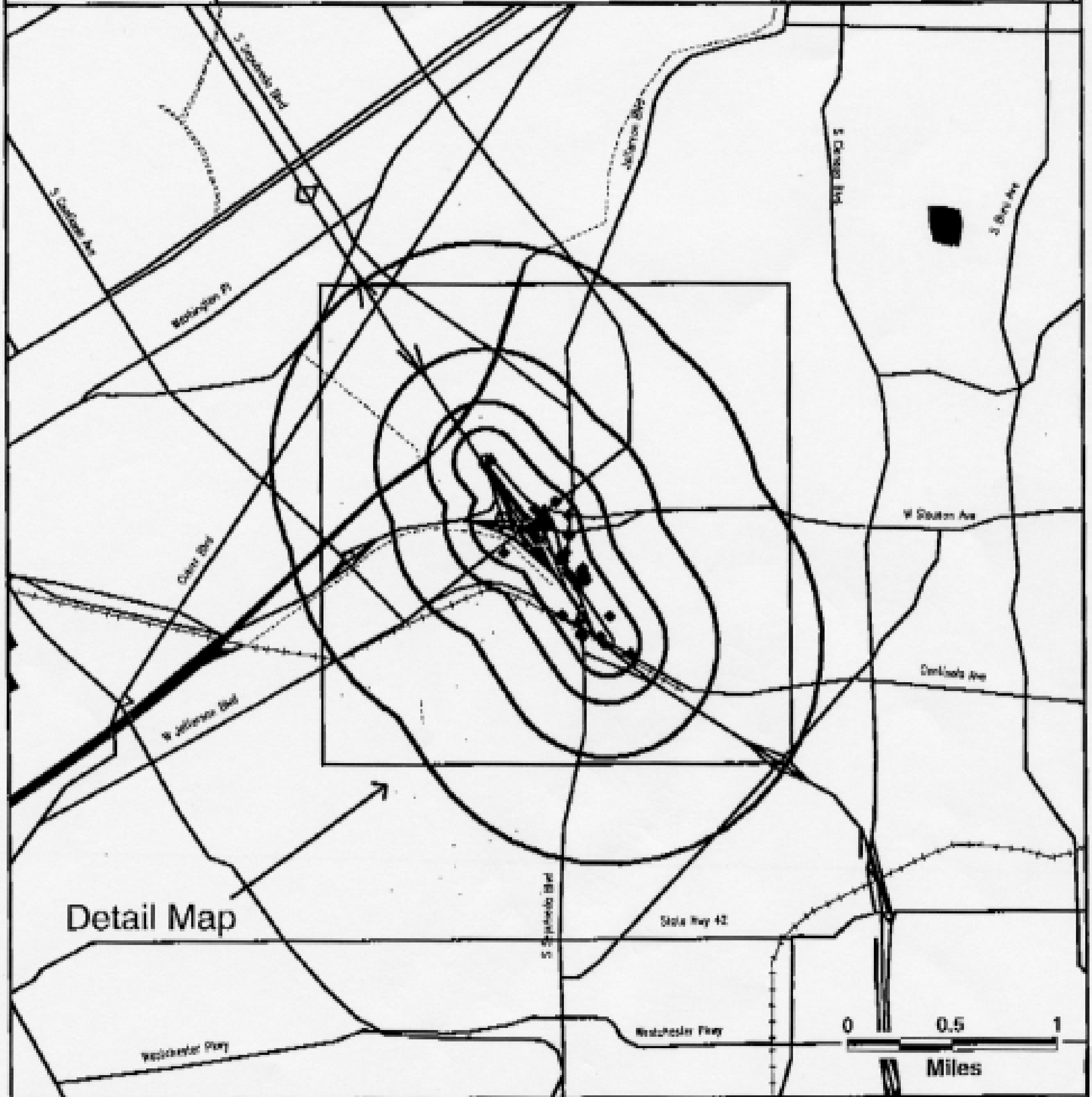
PROPERTY INFORMATION	CLIENT INFORMATION
Project Name/Ref #: Not Provided LAX EXPRESSWAY ALIGNMENT 3 - MP ALTERNATIVE C LOS ANGELES, CA Latitude/Longitude: (33.983299, 118.394098)	IVETTE BOLENDER CAMP DRESSER MCKEE 18881 VON KARMAN AVE SUITE 650 IRVINE, CA 92612

Site Distribution Summary

Agency / Database - Type of Records			*within 500 FEET*
A) Databases searched to 500 FEET:			
US EPA	NPL	National Priority List	0
US EPA	CORRACTS	RCRA Corrective Actions	0
US EPA	RCRA-TSD	RCRA permitted treatment, storage, disposal facilities	0
STATE	SPL	State equivalent priority list	0
STATE	SCL	State equivalent CERCLIS list	0
US EPA	CERCLIS/ NFRAP	Sites under review by US EPA	0
STATE/ REG/CO	LUST	Leaking Underground Storage Tanks	7
STATE/ REG/CO	SWLF	Solid waste landfills, incinerators, or transfer stations	0
STATE	NON ASTM	Additional federal, state and regional lists	33
STATE/ CO	UST	Registered underground storage tanks	52
STATE	AST	Registered aboveground storage tanks	0
US EPA/ STATE	SPILLS	ERNS and state spills lists	2

SITE ASSESSMENT - SPECIAL PROJECT (ALL DATABASES SEARCHED TO 500 FEET)

Overview Map



Subject Centerline

Search Area

Risk Sites

Risk Sites Plotted as Polygons

N
W
E
S

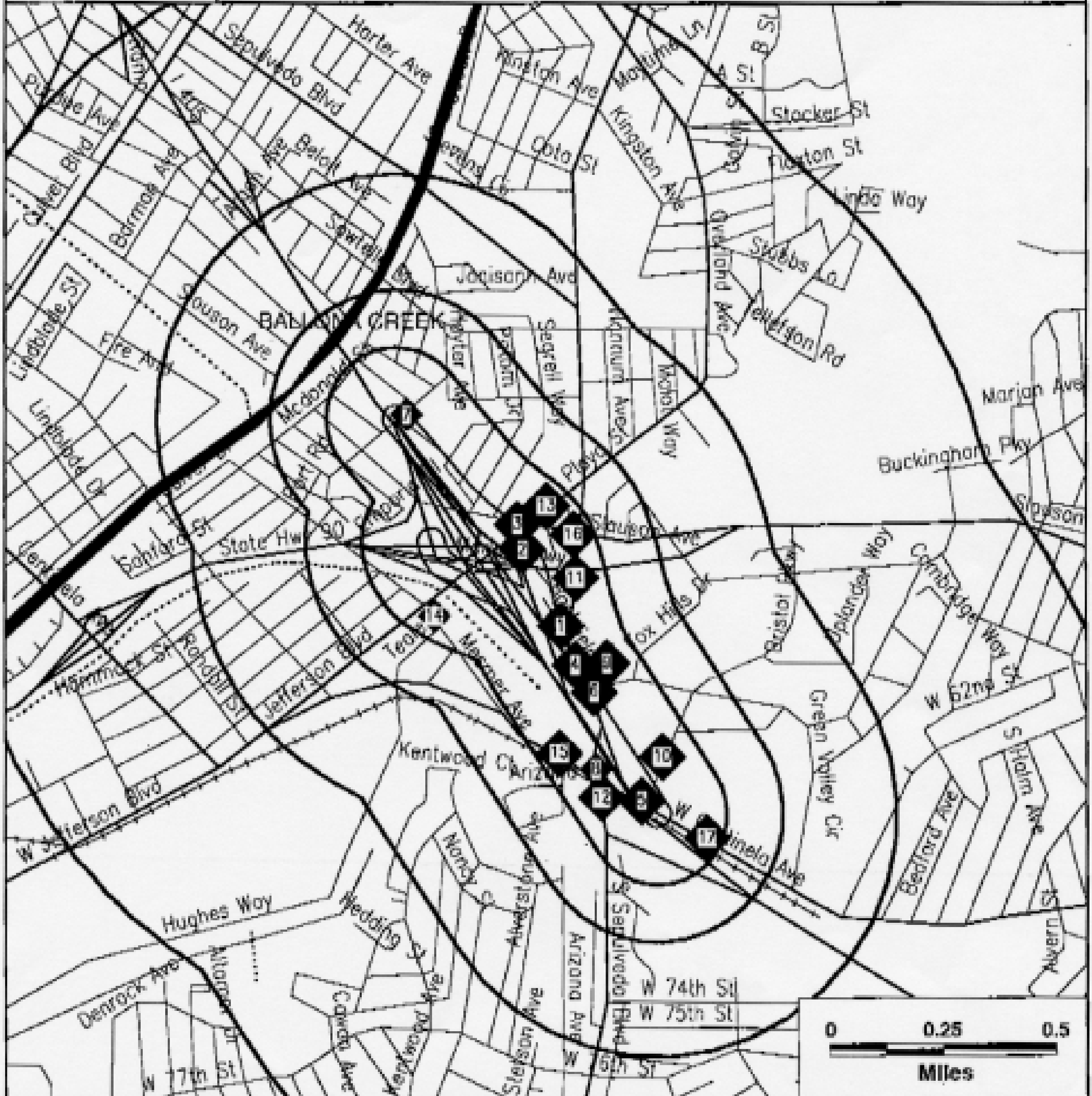
Highways and Major Roads

Rivers or Water Bodies

Categories correspond to database searches described in the Site Distribution Summary, beginning on Page #1.

SITE ASSESSMENT - SPECIAL PROJECT (ALL DATABASES SEARCHED TO 500 FEET)

Detail Map



Subject Centerline	Category:	A	B	C	D	Risk Sites Plotted as Polygons
Search Area	Single Sites	◆	■	△	○	
	Multiple Sites	◆	■	△	○	

- Highways and Major Roads
- Roads
- Railroads
- Rivers or Water Bodies
- Utilities

Categories correspond to database searches described in the Site Distribution Summary, beginning on Page #1.

SITE ASSESSMENT - SPECIAL PROJECT
(ALL DATABASES SEARCHED TO 500 FEET)

SITE INVENTORY

MAP ID	PROPERTY AND THE ADJACENT AREA (within 500 FEET)	VISTA ID	A: NPL	CORRACTS	TSD	SPL	SCL	CERCLIS/NFRAP	LUST	SWLF	NON ASTM	UST	AST	SPILLS
1	FLUE STEAM INC 5734 BANKFIELD AVE CULVER CITY, CA 90230	65142902										X		
1	LEEDER CHEMICAL CO 5738 BANKFIELD AVE CULVER CITY, CA 90230	65137854										X		
1	PRIDE MACHINE PROD CO 5708 BANKFIELD AVE CULVER CITY, CA 90230	65133543										X		
1	MOLLY UDELL 5730 BANKFIELD AVE CULVER CITY, CA 90230	65135813										X		
1	PLASMAKOTE CORP 5909 SEPULVEDA BLVD CULVER CITY, CA 90230	65133682										X		
2	WIRENETICS INC 5652 SELMARAINE DR CULVER CITY, CA 90230	65124097										X		
2	ARNOLD MAGNETICS CORP 11520 W JEFFERSON BLVD CULVER CITY, CA 90230	27047									X			
2	MCLAUGHLIN 5681 SELMARAINE DR CULVER CITY, CA 90230	65136465										X		
2	IDEAL METALS/BULL MOOSE DEL CO 5620 SYLMARINE CULVER CITY, CA 90230	931516							X			X		
2	DANA HARRIET EUGENE 5681 SELMARAINE DR CULVER CITY, CA 90230	65141415										X		
2	1X HARRIETT DANA 5681 SELMARNINE DR CULVER CITY, CA 90230	6679086									X			
2	1X IDEAL METAL SVCS 11510 W. JEFFERSON BLVD CULVER CITY, CA 90230	7762562									X			

MAP ID	PROPERTY AND THE ADJACENT AREA (within 500 FEET)	VISTA ID	A											
			NPL	CORRACTS	TSD	SPL	SCL	CERCLIS/NFRAP	LUST	SWLF	NON ASTM	UST	AST	SPILLS
3	BUCKINGHAM HEIGHTS BUSINESS PK 5601 SLAUSON AVE CULVER CITY, CA 90230	65148228										X		
3	FRAZEE PAINT AND WALLCOVERING 11513 JEFFERSON CULVER CITY, CA 90230	4825046										X		
3	FRAZEE PAINT AND WALLCOVERING 11513 JEFFERSON BLVD CULVER CITY, CA 90230	65142716										X		
3	EARL SCHEIB AUTO PAINTING 90 11501 JEFFERSON BLVD CULVER CITY, CA 90230	7750870									X	X		
3	1X EARL SCHEIB INC. 11501 JEFFERSON BLVD CULVER CITY, CA 90230	7750889									X			
4	MAY CO RESTAURANT 6050 SEPULVEDA BLVD CULVER CITY, CA 90230	65136679										X		
4	FREDERICKS CEMENT BLOCKS 6012 SEPULVEDA BLVD CULVER CITY, CA 90230	65142735										X		
4	SCHULKEN BROS TRANSFER ST 6008 SEPULVEDA BLVD CULVER CITY, CA 90230	65131259										X		
4	1X ZALE CORP 6000 SEPULVEDA 135 BLVD CULVER CITY, CA 90230	7711659									X			
5	1X PACIFIC PLAZA OFFICE BLDG. 6101 W. CENTINILA AVE CULVER CITY, CA 90230	7752300									X			
5	PACIFICA PLAZA OFFICE BLDG 6101 CENTINELA AVE LOS ANGELES, CA 90045	65134473										X		
6	MOBIL SERVICE STATION 6100 SEPULVEDA BLVD CULVER CITY, CA 90230	65135745										X		
6	MOBIL OIL CORP 6090 SEPULVEDA BLVD CULVER CITY, CA 90230	4043154							X			X		X
6	MOBIL OIL CORP S S 18-LKA 6100 SEPULVEDA BLVD CULVER CITY, CA 90230	65138017										X		
6	BOYS MARKET NO 35 6695 GREEN VALLEY CIR CULVER CITY, CA 90230	65148414										X		

MAP ID	PROPERTY AND THE ADJACENT AREA (within 500 FEET)	VISTA ID	A											
			NPL	CORRACTS	TSD	SPL	SCL	CERCLIS/NFRAP	LUST	SWLF	NON ASTM	UST	AST	SPILLS
7	LANDMARK WEST SCHOOL 11450 PORT RD CULVER CITY, CA 90230	3201229									X			
8	1X PRESTIGE STATIONS, INC 6300 SEPULVEDA AVE CULVER CITY, CA 90230	7754350									X			
9	LENSCRAFTERS218 192 FOX HILLS MALL CULVER CITY, CA 90230	65137919										X		
9	EXPRESSLY PORTRAITS INC 248 FOX HILLS MALL UNIT F 10 CULVER CITY, CA 90230	4061991									X			
9	CHINESE BUFFET 111 FOX HILLS MALL CULVER CITY, CA 90230	65146433										X		
9	CASA CARLOS 119 FOX HILLS MALL CULVER CITY, CA 90230	65147232										X		
9	FOX HILLS MALL MGNT VACANT 119 FOX HILLS MALL CULVER CITY, CA 90230	65142654										X		
9	1X H. B-H ASSOCIATES CALIF LTD PARTNSHP FOX HILLS MALL CULVER CITY, CA 90230	7712434									X			
9	LOVES B B Q 191 FOX HILLS MALL CULVER CITY, CA 90230	65137535										X		
9	LORD BYRON PIZZA 191 FOX HILLS MALL CULVER CITY, CA 90230	65137446										X		
9	FOX HILLS MALL LLC 191 FOX HILLS MALL CULVER CITY, CA 90230	65142653										X		
9	CARLS JR RESTAURANT 290 FOX HILLS MALL CULVER CITY, CA 90230	65147490										X		
9	BURGER KING RESTAURANT 290 FOX HILLS MALL CULVER CITY, CA 90230	65147945										X		
9	MCDONALDS CORPORATION 294 FOX HILLS MALL CULVER CITY, CA 90230	65136768										X		
9	RITZ CAMERA CENTERS 69 225 FOX HILLS MALL CULVER CITY, CA 90230	65132492										X		

MAP ID	PROPERTY AND THE ADJACENT AREA (within 500 FEET)	VISTA ID	A											
			NPL	CORRACTS	TSD	SPL	SCL	CERCLIS/NFRAP	LUST	SWLF	NON ASTM	UST	AST	SPILLS
9	POPEYES RESTAURANT 318 FOX HILLS MALL CULVER CITY, CA 90230	65133408										X		
9	FROMEX ONE HOUR PHOTO SYSTEMS 358 FOX HILLS MALL CULVER CITY, CA 90230	162054									X			
9	RITZ CAMERA CENTERS 358 FOX HILLS MALL CULVER CITY, CA 90230	65132491										X		
9	FROMEX 358 FOX HILLS MALL CULVER CITY, CA 90230	7763353									X			
10	RAMADA INN 6333 BRISTOL PKWY CULVER CITY, CA 90230	65132869										X		
10	RAMADA HOTEL 6333 BRISTOL CULVER CITY, CA 90230	1583168							X		X	X		
11	SIZZLER RESTAURANT 5801 SEPULVEDA BLVD CULVER CITY, CA 90230	65130098										X		
11	MOBIL OIL CORP WEST COAST PIPE 5800 SEPULVEDA BLVD CULVER CITY, CA 90230	65136044										X		
11	MOBIL OIL CORP SLAUSON STA 5800 SEPULVEDA CULVER CITY, CA 90230	279607									X	X		X
12	H H PROPERTY 6530 SEPULVEDA BLVD LOS ANGELES, CA 90045	932015							X		X			
12	94855-CHEVRON STATION 6530 SEPULVEDA LOS ANGELES, CA 90045	3979076									X	X		
12	ANDREA BELOTTA 6530 SEPULVEDA BLVD LOS ANGELES, CA 90045	7749205									X			
12	CURRENT OCCUPANT 6540 S SEPULVEDA LOS ANGELES, CA 90045	4826391									X	X		
12	ANDREA BELOTTA 6530 S SEPULVEDA LOS ANGELES, CA 90045	4043159										X		
12	1X HOWARD HUGHES PROP. 6550 SEPULVEDA BLVD LOS ANGELES, CA 90045	7752139									X			

MAP ID	PROPERTY AND THE ADJACENT AREA (within 500 FEET)	VISTA ID	NPL	CORRACTS	TSD	SPL	SCL	CERCLIS/NFRAP	LUST	SWLF	NON ASTM	UST	AST	SPILLS
			A											
12	HOWARD HUGHES PROP LOT #2 6540 SEPULVEDA BLVD LOS ANGELES, CA 90045	2748625							X		X			
13	VACANT - SERV STA 11467 JEFFERSON BLVD CULVER CITY, CA 90230	65125690										X		
13	SEE I-7210 11467 JEFFERSON BLVD CULVER CITY, CA 90230	65130649										X		
13	TEXACO INC - CAR WASH 11467 JEFFERSON BLVD CULVER CITY, CA 90230	65127562										X		
14	PRUDENTIAL HEALTH CARE PLAN 5620 MESMER AVE CULVER CITY, CA 90230	65133287										X		
15	PACIFICA HOTEL 6161 CENTINELA AVE CULVER CITY, CA 90230	7769730									X			
15	RED LION HOTEL 6161 CENTINELA AVE CULVER CITY, CA 90230	65132617										X		
16	1X CROW L A #2 6300 SLAUSON AVE CULVER CITY, CA 90230	7746110									X			
16	1X PRECO CO. 6300 SLAUSON AVE CULVER CITY, CA 90230	7746113									X			
16	CROW L A NO 2 6300 SLAUSON AVE CULVER CITY, CA 90230	7746114									X			
16	CROW LA NO 2 6300 SLAUSON AVE CULVER CITY, CA 90230	7746115									X			
16	PRESTIGE STATIONS #5253 6300 SLAUSON AVE CULVER CITY, CA 90230	7746116									X			
16	ARCO PETROLEUM PROD CO # 0073 6300 W SLAUSON CULVER CITY, CA 90230	931517							X		X	X		
16	ARCO PRODUCTS 00073 6300 SLAUSON AVE CULVER CITY, CA 90230	64994004							X			X		
16	1X CROW/LOS ANGELES #2 6300 SLAUSON AVE CULVER CITY, CA 90230	7706735									X			

MAP ID	PROPERTY AND THE ADJACENT AREA (within 500 FEET)	VISTA ID	NPL	CORRACTS	TSD	SPL	SCL	CERCLIS/NFRAP	LUST	SWLF	NON ASTM	UST	AST	SPILLS
			A											
16	PRECO INC 6300 SLAUSON AVE CULVER CITY, CA 90230	7706736									X			
16	1X CROW LA NUMBER 2 6300 SLAUSON AVE CULVER CITY, CA 90230	7746112									X			
16	1X CROW LA #2 6300 SLAUSON AVE CULVER CITY, CA 90230	7746111									X			
17	HILLSIDE MEMORIAL PK-MSLM 6001 CENTINELA AVE CULVER CITY, CA 90230	65140911										X		
17	PACIFICA PLAZA OFFICE BLDG 6106 CENTINELA LOS ANGELES, CA 90045	1250637										X		
17	HILLSIDE MEMORIAL PARK 6001 CENTINELLA CULVER CITY, CA 90230	195766									X	X		

ATTACHMENT 4

Preliminary Section 4(f) Evaluation

LAX Expressway and State Route 1 Improvements

Table of Contents

1.0 INTRODUCTION

This DOT Section 4(f) analysis addresses the potential for the proposed roadway projects, the LAX Expressway and State Route 1 improvements, to result in a "use" of public parks and recreation lands, wildlife and waterfowl refuges, and historic sites, as defined by the Department of Transportation Act 1966, Section 4(f). This section also considers potential impacts on public parks and recreation lands funded by the Department of the Interior Land and Water Conservation Fund Act of 1965 (L&WCF Act), Section 6(f) resulting from the proposed roadway projects.

1.1 REGULATORY FRAMEWORK

DOT Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." Section 4(f) specifies that

> "the Secretary of Transportation may approve a transportation program or project…. requiring the use of publicly owned land of a public park, recreation area, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge or site on if –
>
> 1. there is no prudent and feasible alternative to using that land; and
> 2. the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and Housing and Urban Development in developing transportation projects and programs which use lands protected by Section 4(f).

Section 4(f) permits "use" of a publicly owned park, recreation area, wildlife or waterfowl refuge or any historic site for a transportation project when no other feasible and prudent alternative to the proposed project. "Use" as defined by Section 4(f) involves a physical taking of the resource for use by the project thereby changing the resources purpose and function. "Use" accounts for adverse direct as well as indirect impacts, otherwise known as "constructive use." "Constructive use" accounts for impacts involving the impairment of usual activities, features or attributes of a resource not resulting from direct take of the resource. There are several different types of impacts that qualify "constructive use" such as excessive noise levels that exceed federal, state and local standards, changes in vehicle access to parks, degradation of viewshed, changes in user demand for parks, devaluation of wildlife habitat from associated project activity and function.

Land & Water Conservation Fund Act, Section 6(f)

The Department of Interior Land & Water Conservation Fund Act of 1965 (L&WCF Act) (16 U.S.C. Section 4601-8) requires that all properties acquired or developed with L&WCF Act assistance be maintained in public outdoor recreation use in perpetuity or be suitably replaced. Acquisition and development of such property for other uses than public outdoor recreation use would constitute a "conversion" and be regarded as a significant adverse impact.

2.0 GENERAL APPROACH

To determine applicability of Section 4(f) use, parks, recreation areas, historic sites and wildlife refuges within 0.8 km (.5 mile) of the proposed project study areas were researched and identified. This included 0.8 km (.5 mile) east and west of the I-405 from Arbor Vitae Street to the SR-90, 0.8 km (.5 mile) north and south of Westchester Parkway and 0.8 km (.5 mile) east and west of Sepulveda Boulevard from the I-105 to Westchester Parkway. Information was obtained through agency correspondence, local street maps, and a tax assessor parcel-level database search. PCR Services Corporation prepared a Section 4(f) and Section 6(f) report (June 2000) which identified the presence of known parks, recreation areas, historic and archaeological sites within an Area of Potential Effects (APE) specific to the LAX Master Plan study area. This APE included the airport boundaries and vicinity. For purposes of this roadway analysis, the APE was augmented to include the entire proposed LAX Expressway, which extends along the I-405 from Arbor Vitae Street to the SR-90 interchange. Figure A Section 4(f) Analysis Study Area depicts the study area boundary for parks and recreation areas, historic sites and wildlife habitat. The evaluation of impacts on identified resources involves consideration of both direct ("use") and indirect impacts ("constructive use"). Constructive use may occur when the "projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise sensitive facility of a resource protected by Section 4(f). FHWA and Caltrans design noise abatement criteria (NAC) for various land use ratings (called activity categories) were used to determine the potential for constructive use due to noise. Table A provides the sound level criteria for various activity categories.

Table A
Federal Highway Administration and Caltrans Noise Abatement Criteria Peak Noise Hour A-weighted Sound Level in Decibels (dBA) [a, b]

Activity Category	L_{eq} h	L_{eg}10 h	Description of Activity Category
A	57	60	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	67 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

Source: Federal Highway Administration 1995
[a] Either L10 h or Leq h, but not both may be used on a project
[b] These sound levels are to be used only to determine impact. These are the absolute levels where abatement must be considered. Noise abatement should be designed to achieve a substantial noise reduction, not just the noise abatement criteria.

2.1 PURPOSE AND NEED

The purpose and need for the proposed LAX Expressway and State Route 1 Improvements project are primarily focused on the implementation of the LAX Master Plan. The purpose and need for the Master Plan can be found in Section 2.0 of the Draft LAX EIS/EIR. A new LAX Expressway along the I-405 (San Diego Freeway) that would connect to Arbor Vitae Street and State Route 1 facilities west of the I-405 emerged as partial solutions to existing and forecasted roadway congestion on and around the airport. The State Route 1 improvements are proposed to accommodate proposed runway configurations envisioned under certain LAX Master Plan alternatives and projected traffic congestion on Sepulveda Boulevard in the vicinity of LAX. The forecasted roadway congestion is associated with LAX Master Plan Alternatives A, B and C, which are described in Section 3.0 of the Draft LAX EIS/EIR.

LAX Expressway

The purpose and need for the proposed LAX Expressway are to:

1) Minimize traffic on local streets north of the airport by providing a direct connection to the airport via an improved Arbor Vitae Street and I-405 freeway;
2) Separate airport – related traffic from non-airport related traffic by provided vehicle lanes that directly connect to the airport;
3) Provide added roadway capacity between the I-405 and LAX; and
4) Contribute to improving circulation and congestion in local communities to the north of the airport.

The LAX Expressway would provide a direct link from on-airport roadways to the I-405, north of Arbor Vitae Street. Southbound traffic on the I-405 destined for the airport complex would transition onto the LAX Expressway at the SR-90 (Marina Freeway) or near Howard Hughes Parkway and proceed south to a point where the LAX Expressway merges with an improved Arbor Vitae Avenue (near Hindry Avenue). Improvements to Arbor Vitae Street between Hindry Avenue and State Route 1 (Sepulveda Boulevard) would be undertaken by the City of Los Angeles in conjunction with the LAX Master Plan, assuming selection of a Master Plan build alternative (refer to Draft LAX EIS/EIR Section 3.0). Arbor Vitae Street improvements include widening from four lanes to six lanes, three in each direction. Reverse traffic flow (vehicles exiting the airport complex) would access the LAX Expressway from Arbor Vitae Avenue (near Hindry Avenue) and proceed to the northbound lanes of the I-405 at the point where the freeway and LAX Expressway merge (SR-90 or Howard Hughes Parkway).

State Route 1

The purpose and need for the proposed State Route 1 improvements are to:

1) Provide continuous movement on State Route 1, which does not currently exist; and
2) Accommodate requirements for roadway realignment due to future extension of airport runways.

2.2 EVALUATION CRITERIA

The evaluation of potential impacts to Section 4(f) and Section 6(f) resources was based on the following guideline criteria:

- Does the project involve acquisition of a park, outdoor recreation area, wildlife or waterfowl habitat or historic site as defined under Section 4(f) and Section 6(f) that would result in its conversion to another use other than its current use?
- Would the project increase noise levels in excess of Federal Highway Administration and Caltrans noise abatement criteria as defined by 23 CFR 772 for Section 4(f) and Section 6(f) resources?
- Would the project require noise mitigation for sites listed or eligible for listing on the National Register of Historic Places?
- Would the project hinder vehicle access to park facilities and pedestrian access to neighborhood parks?
- Would the project obstruct existing viewsheds?
- Would the project result in any changes to park or recreation area user demand?
- Would the project result in substantial degradation of wildlife?

3.0 AFFECTED ENVIRONMENT

The existing proposed project location for the LAX Expressway project consists of a north-south freeway with four mixed-flow lanes and auxiliary lanes with street access/egress ramps at Arbor Vitae Street, Manchester Boulevard, La Cienega Boulevard, La Tijera Boulevard, and Howard Hughes Parkway. The existing conditions for the State Route 1 improvements consist of up to six travel lanes along Lincoln Boulevard and Sepulveda Boulevard.

The proposed LAX Expressway project would be located along Arbor Vitae Street and the I-405 beginning from Hindry Avenue just west of the I-405 and up to either Howard Hughes Parkway or up to State Route-90 (Marina Freeway) depending on the alternative. The State Route 1 improvements would be located along Westchester Parkway and Sepulveda Boulevard and extend from 96th Street to the Westchester Parkway and Arbor Vitae Street interchange then along Westchester Parkway to just past the Westchester Golf Course.

3.1 DESCRIPTION OF POTENTIALLY AFFECTED SECTION 4(F) RESOURCES

Results of the park, recreation area, historic site and wildlife refuge search revealed that there are six Section 4(f) and no Section 6(f) parks and recreation areas, four significant historic sites and no wildlife refuge within the vicinity of the proposed roadway improvement projects (Figure B and Figure 4.15-3 of Appendix K, Environmental Evaluation). Table B and Table C lists these resources. The Carl E. Neilsen Youth Center and Westchester Golf Course are both located within the project study area of the State Route 1 improvements. The Westchester Golf Course is owned by LAWA and operated under a lease agreement with American Golf Corporation. According to the "Interim Replacement Lease Between The City of Los Angeles And American Golf Corporation For The Operation Of A Public Golf Course And Driving Range At Los Angeles International Airport," it is noted that the golf course would undergo some re-configuration because of the future development of the Westchester Southside Project of the LAX Master Plan and the need to use portions of the golf course. In addition, the lease agreement also states that the

> "City reserves the right to repeatedly increase or decrease the size of the leasehold without limitation at any time throughout the term hereof but will, however, endeavor to include within said leasehold at all times nine (9) playable holes…."

The interim lease agreements for the golf course site are contained as an attachment to this report (see Attachment 5). Carl E. Nielsen Youth Center is also located on City property and owned by LAWA. It has currently been vacated in anticipation of development of the LAX Master Plan. Under FAA Order 5050.4a Section 47 (e)(7)(3) of FAA's Environmental Handbook, these two facilities were dismissed from further evaluation. The order states that:

> "where property is owned by and currently designated for use by a transportation agency and a park or recreation use of the land is being made only on an interim basis, a Section 4(f) determination would not ordinarily be required. The sponsor should indicate in any lease or agreement involving such use that this use is temporary."

Figure B depicts the relative location of these sites to the proposed projects. No sites were identified that qualified for Section 6(f) protection.

Table B
Section 4(f) and Section 6(f) park and Recreation Area Inventory

No.	Name	Jurisdiction	Access	Distance From Study Area
1	Fox Hills Park	City of Fox Hills	Green Valley Circle	.5 mi.
2	Rogers Park	City of Inglewood	N. Oak Street/Eucalyptus Ave.	.5 mi.
3	Ashwood Park	City of Inglewood	S. Ash Ave	0 mi.
4	Siminski Park	City of Inglewood	S. Inglewood Blvd.	.5 mi.
5	Westchester Park Recreation Center	City of Westchester	Lincoln Boulevard	<.5 mil

Fox Hills Park is a 4.0 hectares (10-acre) community and neighborhood park and is considered an active recreation area. It is located in Culver City and is bound by Bristol Parkway, Uplander Way, Green Valley Circle, and Buckingham Parkway.

Rogers Park is a 4.0 hectares (10-acre) park located at 400 W. Beach Avenue and supports one playground, two tennis courts, one basketball court, two softball fields, one playing field, a wading pool and an enclosed outdoor multi-purpose area approximately 3,112 square meters (33,500 square feet).

Ashwood Park, located adjacent to the I-405 on the east side, is a 0.35 hectares (0.86-acre) park in the City of Inglewood. It provides both passive and active recreation in the form of picnic tables, a toddler play lot, tennis courts and basketball courts. It is located within a residential neighborhood and is heavily landscaped with large trees on the west side serving to block the visual and audible effects of the freeway. Its current noise levels have been calculated at 76 dBA_q (URS Corporation 2000).

Siminski Park is a 0.72 hectares (1.9-acre) park located at 9717 S. Inglewood Avenue that supports two playgrounds, one picnic areas, one patio, a senior citizen and preschool community center and restrooms.

Westchester Recreation Center is located at 7000 W. Manchester Avenue in the City of Los Angeles. It is approximately 8.8 hectares (22-acre) in size and provides softball/baseball fields, a swimming pool, tennis courts a walking, biking, and fitness trails. Access to this facility is by car or foot along Manchester Avenue.

Table C
Historic Properties Potentially Affected (Directly or Indirectly) by Roadway Improvement Projects

No.		Location	NR	CR/LAHCM/ OTHER	Year Built
6	Centinela Adobe	City of Inglewood	Listed	Listed	c.1844
7	Randy's Donut	City of Inglewood	Eligible	Eligible	1953
8	Theme Building	LAX	Eligible	Eligible	1961-62
9	Merle Norman Headquarters Complex	City of Los Angeles	Eligible	Eligible	1950-51

(other)
NR – National Register of Historic Places
CR – California Register of Historic Places
LAHCB – Los Angeles Historic-Cultural Monument
OTHER – Local Landmark Potential (City of Inglewood)
(TBD) – To be determined

Centinela Adobe or Centinela Ranch House (Ygnacio Machado Adobe) was once Rancho Aguaje de la Centinela and was granted to Ygnacio Machado by Governor Manuel Micheltorens in 1844. The existing property supports a parking lot and three separate structures. The adobe house itself is single story made of adobe with a wood shingle roof, fireplace, and deep window reveals. It is evident that rooms were added onto the original adobe structure in the early 1860's. The Centinela Adobe was placed on the National Register of Historic Places in 1974 (NR No. 19750402).

Donut Shop, Randy's Donut, is located at the northwest corner of Manchester Boulevard and La Cienega Boulevard and was built in 1953 by Robert Graham. It is a small structure with a giant doughnut on top. The structure is characteristic of the early 1950's Modern fast-food era in its representation of mid-20th century Programmatic/Mimetic architecture, where the sign is the design and attraction and the building below serves merely as the base. It can be considered an expression of folk art to depict the lifestyles and architectural freedom typically found in Los Angeles. Because of this structures architectural style, it appears eligible for listing in the National Register of Historic Places at the local level of significance.

Theme Building was previously determined eligible for listing in the National Register of Historic Places. For its unique architecture, which has become symbolic not only of the airport but of the whole city, the Theme Building satisfies National Register Criteria Consideration G for exceptional significance in a building less than 50 years old. The Theme Building is also eligible for listing in the California Register for architectural merit under Criterion 3. Constructed in 1961-62, the Theme Building was the centerpiece of the large expansion of LAX, which concerted it into a "jet-age airport." The arresting design of parabolic arches with a flying saucer restaurant suspended between them was conceived by joint venture architects William L. Peirera, Charles Luckman, Welton Becket, and Paul R. Williams. The City of Los Angeles Historic-Cultural Monument #570 designated the Theme Building in 1992.

Merle Norman Headquarters Complex is eligible for the National Register under Criterion C for its distinctive architectural style and design utilized in an industrial building. The property also appears eligible for the California Register and for listing as a City of Los Angeles Historic-

Cultural Monument. This group of industrial buildings on S. Bellanca Avenue near the Los Angeles International Airport includes the main headquarters building and the shipping and receiving facility. The Merle Norman Headquarters Complex, design by local architects Arthur Freeman and Arthur Froehlich (Froehlich was also the architect of the Paradise Theatre in Westchester) and built in 1950-51, reflects the company's attention to design the economic success of their cosmetic manufacturing company and an awareness of the expectations of their clientele.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 LAX EXPRESSWAY

Alternative 1 - No Action

No impacts identified.

Alternative 2 – Split Viaduct

Under the LAX Expressway project, three parks and three historic sites would potentially be affected: Rogers Park, Ashwood Park, Siminski Park, the Centinela Adobe, Donut Shop and the Merle Norman Headquarters Complex. Neither of these sites would be acquired. Therefore, no resources under Section 4(f) would be directly impacted by "use" under the LAX Expressway project. No direct impact to these resources, such as conversion to a different use, under Section 4(f) would occur.

Noise modeling conducted for the roadway improvement projects predicted unabated noise levels to be between 62 and 77 dBA for construction of the LAX Expressway. These noise levels exceed the NAC at noise sensitive locations such as Ashwood Park, Centinela Adobe, and the Donut Shop, all three of which are located directly adjacent to the roadway with only a vegetated strip of trees to separate them. Projected increases in noise levels would require noise abatement in the form of noise barriers. With the construction of 14-foot sound barrier walls at the top of the roadside slope near these locations, existing elevated noise level would be reduced substantially and below the NAC of 67 dBA. Section 5.5 of this report, provides a detailed discussion and analysis of projected noise impacts. Where vegetation is to be removed to accommodate the installation of the sound wall, landscaping comparable to existing conditions would be conducted. Ultimately, implementation of Alternative 2, with noise abatement measures, would not result in a "constructive use" on Section 4(f) and Section 6(f) resources from elevated noise levels associated with the project alternative.

However, the introduction or encroachment of this structure onto the donut shop parcel would result in a visual impact thereby diminishing the integrity of the property's significantly historic feature. Thus, a "constructive use" on the donut shop would occur upon implementation of the project alternative.

The parks and outdoor recreation areas potentially affected by the LAX Expressway project Alternative 2 are Rogers Park, Ashwood Park and Siminski Park. Access to Rogers Park is from North Oak Street in the City of Inglewood. Access to Ashwood Park is from Ash Avenue in Inglewood and access to Siminski Park is from South Inglewood Avenue in Inglewood. Construction of the project is limited to the immediate area adjacent to the I-405 from Arbor Vitae Street and Bristol Parkway. Construction of the project under design Alternative 2 may involve the partial closure of Ash Avenue thereby hindering vehicular and pedestrian access to Ashwood Park. Ultimately, the LAX-Expressway project Alternative 2 would likely result in short-term impacts on park access. Such impacts can be reduced substantially with the implementation of mitigation measures. No long-term access conflicts are anticipated upon implementation of this project design alternative.

LAX Expressway Alternative 2 involves the construction of an entirely elevated roadway structure approximately 4.0 km (2.5 miles) in length and approximately 6.1 meters (20 feet) in height. The project area is within an already built environment and reflects primarily an urban cityscape. There are no naturally occurring landscape features within the project area. However, the proximity of Ashwood Park to the roadway would potentially influence the extent to which Alternative 2 would impact views from this site. Currently, only a strip of vegetation – planted trees approximately 9.2 meters (30 feet) high - is what separates the park from the roadway. Existing views from the park would not change if these trees are to remain in place. This alternative involves the construction of an access/egress ramp from La Cienega Boulevard and at Ashwood Park. Despite the introduction of an elevated structure, the existing landscaping would shield it from view.

Under the LAX Expressway project Alternative 2, 115 residential units would be acquired primarily in the eastern fringe of Westchester. The decrease in service population from this alternative is considered an impact on user demand. The community of Westchester is located within the City of Los Angeles. Currently, the City of Los Angeles is deficient in park space. The city has an overall deficiency of 4,675.6 hectares (11,404 acres) of neighborhood and community parkland (City of Los Angeles 1995). Therefore, the drop in the number of users of over-used facilities would constitute a positive impact. However, Alternative 2 would potentially impact the Centinela Adobe park facility. This park facility is located in the City of Inglewood which currently has a deficit of 0.09 hectares (0.2 acre) per 1,000 residents (City of Inglewood, 1995). Should this facility ultimately be slated as 'take', the deficit in the number of acres of park per residents within the City of Inglewood would increase thereby constituting an adverse impact from the implementation of this alternative.

The only wildlife habitat or waterfowl refuge that exists in the vicinity of the two roadway improvement projects is the El Segundo Blue Butterfly Habitat Restoration Area, which is located more than 0.8 km (0.5 miles) away. Projected noise levels for Alternative 2 under the LAX-Expressway project at the Habitat Restoration Area are comparable to existing noise levels and therefore a substantial change in the existing noise environment is not expected.

Alternative 3 – Single Viaduct

Alternative 3 would result in less severe impacts as those identified for Alternative 2. However, it would potentially impact two additional parks: Fox Hills Park and Hillside Memorial Park. Alternative 3 involves approximately 6.4 km (4 miles) of new roadway and extends all the way to the SR-90 interchange where connector ramps are proposed. Alternative 3 does not require any acquisition of these resources and therefore no "use" would occur. However, as with Alternative 2, projected unabated noise levels associated with this alternative range between 62 and 76 dBA, thereby exceeding the NAC at noise sensitive locations such Ashwood Park, Centinela Adobe, and the Donut Shop. With the implementation of noise abatement measures identified, impacts would be reduced below the 67 dBA NAC level, thereby, resulting in a finding of no "constructive use" from projected noise levels. Sound walls are proposed along the eastside of the LAX Expressway and I-405 from Arbor Vitae Street to Olive Street and along the eastside of the I-405 from the La Cienega Boulevard on/off ramp to La Tijera Boulevard. Sound walls would also be constructed on the westside of the I-405 from Florence Avenue to La Tijera Boulevard at the top of the slope. The addition of such structures would not result in a substantial deterioration in visual quality because it is contained within in already heavily built urban environment. However, because portions alongside the I-405 on the east and west near Ashwood Park, Centinela Adobe and residential development are heavily landscaped to obscure views of the freeway, the construction of the sound walls may require removal of this vegetation and possibly permanent replacement. A built structure is less aesthetically pleasing than a naturally vegetated barrier, thus, resulting in an adverse visual impact. Mitigation is recommended to minimize this potential visual impact to park users.

shade and shadow impacts on Ashwood Park from this alternative may occur given that the LAX Expressway would rise up to 6 meters (20 feet) in height. However, the retention of the existing landscaping which rise to 5-6 meters (20 feet) alongside the park would obscure this affect.

In addition, there currently exists no natural landscape view from Hillside Memorial Park. Views are primarily disturbed in nature given the evidence of a predominantly built urban environment. Though construction of an elevated freeway would introduce another built structure, it is consistent with the fundamental character of the area. The new structure would likely be visible from Hillside Memorial Park; however, it would not be considered a substantial change in the character or quality of the view.

4.2 STATE ROUTE 1

Alternative 1 - No Action

Existing and future, unabated noise levels under Alternative 1 are predicted to range between 56 and 65 dBA and would not approach or exceed the NAC for the respective Activity Categories listed in Table A. Therefore, implementation of Alternative 1 would not result in any constructive use requiring noise abatement.

The Draft LAX EIS/EIR of the proposed LAX Master Plan projects discusses noise impacts from construction activities of highway facilities associated with the plan and determines that there is the potential for adverse noise affects from roadway projects including the tunneling of Sepulveda Boulevard. However, as noted, the nearest eligible historic site to Sepulveda Boulevard planned for tunneling is the Theme Building. This site is already subject to elevated noise levels from everyday airport operations. Elevated noise levels from construction activities would not likely impact this resource either in the short-term or long-term.

No hindrances of entrances to nearby parks would occur nor would any views be obstructed from implementation of the No Build alternative. The No Action alternative would not affect user demand in that no right-of-way or property acquisition is necessary nor would any wildlife refuge be affected given that the no new construction is to take place that would potentially disrupt such a natural environment

Alternatives 2 (Diamond Interchange) and 3 (Urban Interchange)

Under the State Route 1 project, no park, outdoor recreation area, wildlife or waterfowl habitat or historic site would be acquired. Westchester Park Recreation Center (Site No. 8) is adjacent to the proposed newly realigned SR-1 roadway. Its purpose and use would remain unchanged upon implementation of either build alternative. The State Route 1 project would not involve conversion of this resource and therefore, would not result in an adverse impact on current use. The Theme Building (Site No. 11), which is located within the airport boundary and closest to the State Route 1 project meets the criteria for eligibility for the National Register of Historic Places. However, it would remain in place and not be affected by the project alternatives.

From Table B, only one park/recreation area would be potentially impacted by noise levels associated with construction activities: Westchester Park Recreation Center, located in the City of Los Angeles at the northwest corner of the junction of Lincoln Boulevard and Westchester Parkway. As with the No Build alternative, unavoidable, short-term noise impacts from construction activities is expected. Noise levels are significantly reduced at distances greater than 121.9 meters (400 feet). This park is located approximately within 0.4 km (0.25 mile) of construction activities for the west end interchange of the State Route 1 project. All other park/recreation areas listed in Table B, are at a distance of 0.5 miles or greater from the State Route 1 project area and proposed Sepulveda Boulevard tunnel, therefore, no noise impacts on these resources from construction activities is anticipated.

One significant historic site exists within 0.8 km (0.5 mile) of the proposed State Route 1 project which would be potentially impacted by increases in noise levels during construction activities: Theme Building. Given their relative proximity to the project, the build alternatives would not have a "constructive use" impact because these resources are already subject to elevated noise levels from everyday airport activities. Operation of the project under both Alternative 2 and 3 is estimated to generate an increase of up to 56 dBA which according to noise studies conducted by URS Corporation (2000) would not exceed NAC levels (see Attachment 2).

As discussed, projected unabated noise levels from either alternative would range between 56 and 65 dBA that would not approach or exceed the NAC for the Section 4(f) and Section 6(f) category. Neither Alternative 2 nor 3, in and of themselves, would generate substantial or excessive noise levels that would alone warrant the implementation of noise abatement practices for parks, recreation areas or sensitive historic resources. The closest historic resource to the State Route 1 project is the Theme Building located within the airport boundary and currently exposed to elevated noise levels from normal airport operations. Tunneling of Sepulveda Boulevard under both design alternatives would rather reduce noise levels to these resources. Therefore, the project's two build alternatives would not result in noise mitigation impacts on registered historic sites.

The parks and outdoor recreation areas potentially affected by the State Route 1 project is the Westchester Park Recreation Center. Access to Westchester Park Recreation Center is off of Lincoln Boulevard. Construction of the project is limited to Westchester Parkway, Lincoln Boulevard, and Sepulveda Boulevard from 98th Street to Arbor Vitae Street. Construction of the project under both design alternatives would involve partial closure of Westchester Parkway and Lincoln Boulevard as well as possible re-routing of traffic onto Manchester Boulevard. The increase in congestion from construction related traffic on this street would potentially hinder vehicle access to the park. No obstruction of pedestrian access is anticipated. Ultimately, the State Route 1 project Alternative 2 and 3 would likely result in short-term impacts on park access. These impacts can be reduced substantially by the implementation of mitigation measures. No long-term access conflicts are anticipated upon implementation of the project and its two design alternatives.

Alternatives 2 and 3 of the State Route 1 project involves lowering Westchester Boulevard approximately 3.1 meters (10 feet) below existing grade in order to comply with FAA regulations governing buffer zones for airports. Currently, the existing viewshed from Westchester Boulevard is of moderate quality in that existing views are primarily of the airstrip and aircraft activities and complimentary urban landscaping. No views of the Oceanside are evident. Placement of the roadway below grade would not obstruct this view. Construction of the interchange at Arbor Vitae Street and Sepulveda Boulevard may hinder views of the Pacific Ocean viewshed from existing multi-story structures on the northeast portion of the intersection. However, these properties would be acquired under the proposed project and therefore eliminate any potential viewer conflicts.

Under the State Route 1 project, 8 residential units including Bethany Village would need to be acquired. Bethany Village is located at the northwest juncture of Lincoln Boulevard and

Westchester Parkway. Access to this residential development is off of Lincoln Boulevard. It is bound on the north by La Tijera Boulevard, on the east by Lincoln Boulevard, to the south by Westchester Parkway and the east by Loyola Boulevard. The loss of residential land and actual residents would ultimately decrease the user demand for parks and recreation areas.

The only wildlife habitat or waterfowl refuge that exists in the vicinity of the State Route 1 improvements study area is the El Segundo Blue Butterfly Habitat Restoration Area that encompasses approximately 80.8 hectares (200 acres) at the western most boundary of the LAX property. It is greater than 0.8 km (.5 miles) away. Neither construction activities nor operation of this project, including both design alternatives, is expected to adversely affect this known ecologically sensitive area or impact established wildlife migration patterns.

4.3 MITIGATION MEASURES

1. Prior to construction, a Traffic Management Plan for construction activities should be prepared and implemented to ensure that continued access to Westchester Park Recreation Center is provided.
2. If necessary, provide an alternative entrance for visitors to Westchester Park Recreation Center along Manchester Boulevard.
3. Construct noise barrier walls along segments of the I-405 and LAX Expressway which coincide with park, recreation areas and historic site locations.
4. Provide for comparable roadside clearance between roadway and other land uses as under existing conditions.
5. Existing visual barrier landscaping features shall be retained wherever possible.

4.4 FINDINGS

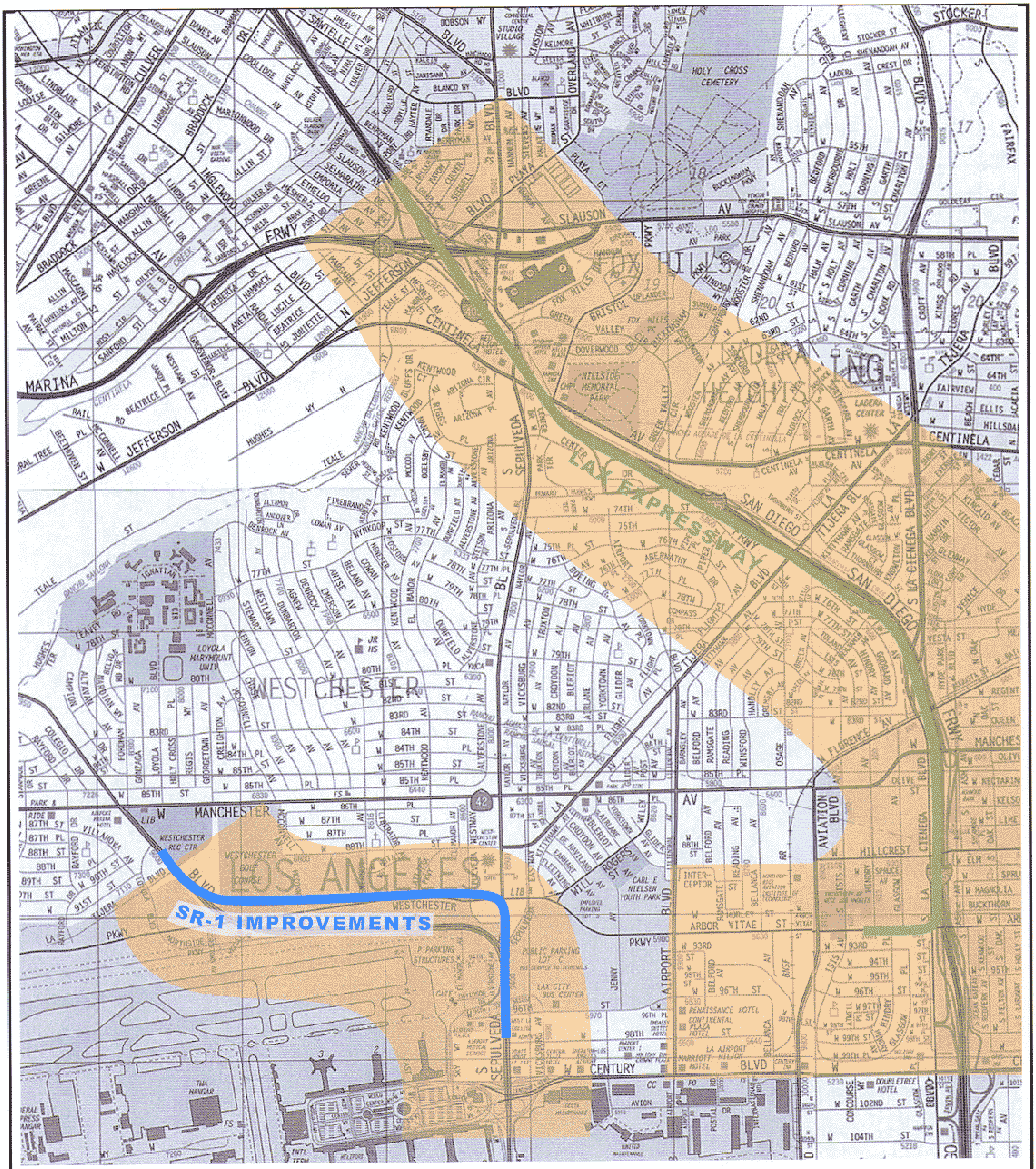
Based upon preliminary assessment of the two roadway projects, the following findings are presented:

1. LAX Expressway Alternative 2 would adversely impact two historic resources by converting their use to provide the necessary right-of-way for the proposed project.
2. LAX Expressway Alternative 3 would not result in any adverse impacts to either of the historic resources identified in the APE.
3. Implementation of noise abatement (i.e. construction of a sound wall) would substantially reduce potential construction impacts on Section 4(f) resources.

Either of the proposed projects may result in additional Section 4(f) use depending on a comprehensive Historic Properties Survey Report

4.5 COORDINATION

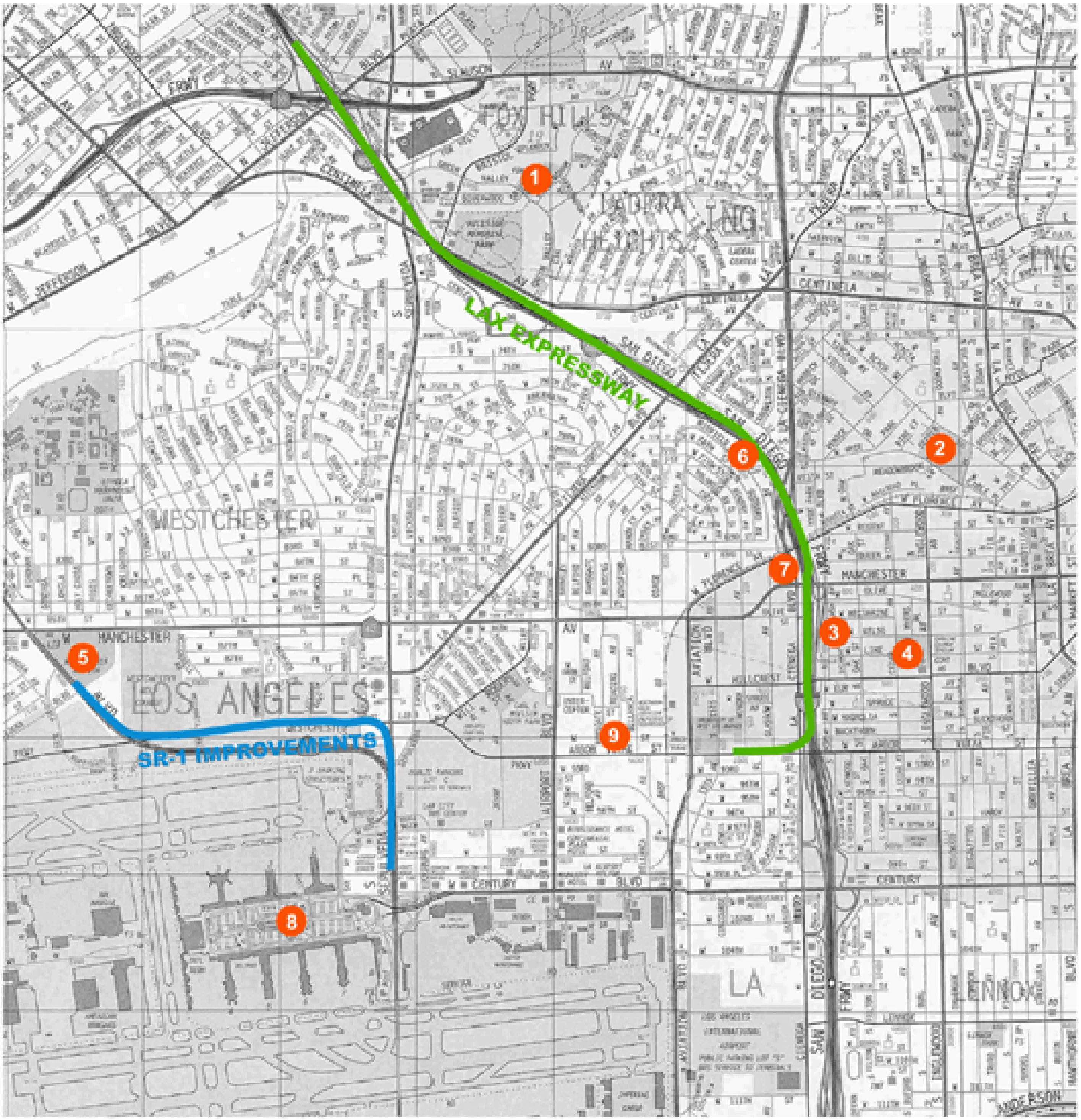
A Notice of Intent (NOI) to prepare an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the LAX Master Plan was distributed on June 7, 1999 to 93 federal, state and local agencies. The LAX Master Plan includes the LAX Expressway and State Route 1 Improvements project as components of the plan. One agency scoping meeting (July 16, 1997) and three public scoping meetings (July 12, 15, and 16, 1997) were held for the LAX Master Plan alternatives. In addition, a public scoping notice was published in the Los Angeles Times on June 11, 1997 that specifically called out the roadway projects to be evaluated.



SOURCE: USGS Inglewood, CA and Venice, CA Quad Maps, Photorevised 1981

LAX Master Plan EIS/EIR	Section 4(f) Analysis Study Area	Figure A

L:/LAX pat/hist resources analysis



LEGEND

1 Fox Hills Park
2 Rogers Park
3 Ashwood Park
4 Siminski Park
5 Westchester Park Recreation Center
6 Centinela Adobe
7 Randy's Donut
8 Theme Building
9 Merle Norman Headquarters Complex

L:/LAX pat/parks-rec-hist

LAX Master Plan EIS/EIR	Section 4 (f) Parks, Recreation Areas, Historic Resources Near Roadway Improvement Projects	Figure B

Attachment 5

Lease Agreement Between City of Los Angeles and American Gold Corporation

LAX Expressway and State Route 1 Improvements

City of Los Angeles Department of Airports
Tom Bradley, Mayor

BOARD ORDER NO. AO-4319

LAA 6410A

ORDER AUTHORIZING FIRST AMENDMENT BETWEEN THE CITY OF LOS ANGELES AND AMERICAN GOLF CORPORATION INTERIM REPLACEMENT LEASE NO. LAA-6410 COVERING AN EXTENSION OF THE EXPIRATION DATE AT LOS ANGELES INTERNATIONAL AIRPORT.

Section 1. WHEREAS, there is in existence Interim Replacement Lease No. LAA-6410 between the City of Los Angeles and American Golf Corporation covering a public golf course at Los Angeles International Airport; and

WHEREAS, it is the desire of the parties hereto to amend said Agreement by extending the expiration date from December 31, 1991 to December 31, 1993; and

WHEREAS, all other provisions of the Lease [including the City's right to terminate the Lease at any time with thirty (30) days' advance written notice] will remain unchanged; and

WHEREAS, this action, as a continuing administrative activity, is exempt from the requirements of the California Environmental Quality Act as provided by Article III, Section 2.f. of the Los Angeles City CEQA Guidelines; and

WHEREAS, actions taken on this item by the Board of Airport Commissioners will become final pursuant to the provisions of Los Angeles City Charter Section 32.3;

NOW, THEREFORE, IT IS ORDERED that it is in the best interest of the City of Los Angeles to make and enter into said First Amendment, which is exempt from CEQA requirements, and the draft of First Amendment as now before this Board is hereby approved, and the Executive Director of the Department of Airports is hereby authorized and directed to execute said First Amendment on behalf of this Board and the City of Los Angeles upon approval as to form by the City Attorney.

Section 2. IT IS FURTHER ORDERED that the Secretary of the Board certify to the passage of this Order and cause the same to be published once in a newspaper of general circulation in the same manner as ordinances of the City of Los Angeles are published.

oOo

I hereby certify that the foregoing is a true and correct copy of Board Order No. AO-4319 adopted by the Board of Airport Commissioners at a regular meeting held Wednesday, January 8, 1992.

Sandra J. Miller

ACTING SECRETARY

Elaine E. Staniec - Secretary
BOARD OF AIRPORT COMMISSIONERS

FIRST AMENDMENT TO INTERIM REPLACEMENT LEASE BETWEEN THE CITY OF LOS ANGELES AND AMERICAN GOLF CORPORATION COVERING PUBLIC GOLF COURSE AT LOS ANGELES INTERNATIONAL AIRPORT

THIS FIRST AMENDMENT to Interim Replacement Lease No. LAA-6410, made and entered into this 24th day of January, 1992, by and between the CITY OF LOS ANGELES, a municipal corporation, acting by order of and through its Board of Airport Commissioners (hereinafter referred to as "City"), and AMERICAN GOLF CORPORATION, a corporation (hereinafter referred to as "Lessee"),

W I T N E S S E T H

WHEREAS, City and Lessee entered into Interim Replacement Lease No. LAA-6410, dated May 18, 1990, covering certain golf course facilities at Los Angeles International Airport; and

WHEREAS, the parties hereto now desire to amend said Interim Replacement Lease in order to extend the expiration date thereof;

NOW, THEREFORE, the parties hereto, for and in consideration of the premises, and of the terms, covenants and conditions hereinafter contained to be kept and performed by the respective parties hereto, do mutually agree that, effective January 8, 1992, Interim Replacement Lease No. LAA-6410 BE AMENDED AS FOLLOWS:

Sec. 1. Section 1, "<u>Term of Lease</u>", is hereby amended by deleting therefrom "two (2)" in the second line thereof and inserting instead "four (4)" and by deleting "1991" in the third line thereof and inserting instead "1993".

Sec. 2. Except as specifically provided herein, this Amendment shall not in any manner alter, change, modify or affect any of the rights, privileges, duties or obligations of either of the parties hereto under or by reason of said Interim Replacement Lease No. LAA-6410.

IN WITNESS WHEREOF, City has caused this First Amendment to Interim Replacement Lease No. LAA-6410 to be executed on its behalf by the Executive Director of its Department of Airports and Lessee has caused the same to be executed by its duly authorized officers and its corporate seal to be hereunto affixed, all as of the day and year first hereinabove written.

APPROVED AS TO FORM
JAMES K. HAHN
CITY ATTORNEY

JAN 22 1992

By H. Talifer
ASSISTANT/DEPUTY

CITY OF LOS ANGELES

By [signature]
for Executive Director
Department of Airports

ATTEST:

By Ann Tanaka
Secretary (Signature)

Assistant Secretary
Print Name

[SEAL]

AMERICAN GOLF CORPORATION, a corporation

By Craig Price
Signature

Craig Price
Print Name

Exec. V-P
Print Title

City of Los Angeles Department of Airports
Tom Bradley, Mayor

Board of Airport Commissioners

Jerry B. Epstein
President
Johnnie L. Cochran, Jr.
Vice President
Robert A. Chick
Samuel Greenberg
Diane Pasillas

Clifton A. Moore
Executive Director

BOARD ORDER NO. AO-4173

LAA 6410

ORDER AUTHORIZING INTERIM REPLACEMENT LEASE BETWEEN THE CITY OF LOS ANGELES AND AMERICAN GOLF CORPORATION COVERING PUBLIC GOLF COURSE AT LOS ANGELES INTERNATIONAL AIRPORT AND ADOPTION OF RELATED FINDING.

Section 1. WHEREAS, there has been negotiated an Interim Replacement Lease between the City of Los Angeles and American Golf Corporation covering public golf course at Los Angeles International Airport and adoption of related finding; and

WHEREAS, the leasehold consists of the Westchester Golf Course located at 6900 Manchester Boulevard. The premises will continue to be used as a public golf course known as the Westchester Golf Course; and

WHEREAS, the leasehold initially will have an area of approximately sixty-five (65) acres. The City reserves the right to repeatedly increase or decrease the size of the leasehold without limitation, at any time throughout the term of the Lease. The City will, however, endeavor to include within the leasehold, at all times, nine (9) playable holes. The Lessee agrees to adjust its operations to conform to the property provided to it by the City. At some time during the term of the Lease, the existing clubhouse will be demolished, removed, and replaced with a new clubhouse. During the demolition and reconstruction period, there will be no clubhouse available for use by the Lessee or by its patrons; and

WHEREAS, the Lessee shall be solely responsible for full compliance with any and all applicable rules, regulations, restrictions, ordinances, statutes, laws and/or orders of any governmental authority (federal, state and/or local) regarding the storage, distribution, processing, use and/or disposal of hazardous substances. The term "hazardous substances" includes insecticides and/or herbicides. All civil penalties levied as a result of Lessee's failure to comply shall be the sole responsibility of the Lessee; and

WHEREAS, the term of the Lease shall be two (2) years commencing January 1, 1990 and ending December 31, 1991. The City may terminate the Lease at any time with thirty (30) days' advance written notice; and

WHEREAS, the Lessee shall pay twenty percent (20%) of all green fees and driving range fees. The City shall be responsible for all expenses associated with reconstruction and realignment of the golf course and for demolition of the existing clubhouse and for construction of a new clubhouse. The Lessee shall be responsible for all other expenses associated with the leasehold. These Lessee expenses include possessory interest taxes, other taxes, utilities, maintenance, and insurance. The Lessee shall purchase and maintain insurance of the types and in the amounts as shall be prescribed by the Department of Airports' Risk Manager. The Lessee shall further provide to City evidence of such insurance that is satisfactory to the City; and

WHEREAS, it is not practical or compatible with the City's best interest to attempt to obtain a lease through a competitive bid or proposal process for the following reason. Throughout most of the term of the proposed Lease, approximately one-half (1/2) of the existing eighteen (18) hole golf course will be deleted from the leasehold. It is not possible to estimate how well the remainder of the golf course will function or how much revenue will be generated. As a result, it would not be possible for a prospective bidder/proposer to submit a meaningful bid/proposal; and

WHEREAS, the Lessee has been assigned City Business Tax Certificate No. 0274941; and

WHEREAS, the Lessee does not do and has not done business in or with the Republic of South Africa; and

WHEREAS, the Lessee has an approved Affirmative Action Plan on file; and

WHEREAS, this Interim Replacement Lease is categorically exempt from the requirements of the California Environmental Quality Act as provided by Article VII, Class 1 (18)(c) of the Los Angeles City CEQA Guidelines;

NOW, THEREFORE, IT IS ORDERED that it is in the best interest of the City of Los Angeles to make and enter into said Interim Replacement Lease, which is exempt from CEQA requirements, and the draft of Interim Replacement Lease as now before this Board is hereby approved, and the Executive Director of the Department of Airports is hereby authorized and directed to execute said Interim Replacement Lease on behalf of this Board and the City of Los Angeles upon approval as to form by the City Attorney.

Section 2. IT IS FURTHER ORDERED that the Secretary of the Board certify to the passage of this Order and cause the same to be published once in a newspaper of general circulation in the same manner as ordinances of the City of Los Angeles are published.

oOo

I hereby certify that the foregoing is a true and correct copy of Board Order No. AO-4173 adopted by the Board of Airport Commissioners at a regular meeting held Wednesday, November 29, 1989.

Elaine E. Staniec

Elaine E. Staniec - Secretary
BOARD OF AIRPORT COMMISSIONERS

LAA 6410

INTERIM REPLACEMENT LEASE BETWEEN THE CITY OF LOS ANGELES AND AMERICAN GOLF CORPORATION FOR THE OPERATION OF A PUBLIC GOLF COURSE AND DRIVING RANGE AT LOS ANGELES INTERNATIONAL AIRPORT

THIS INTERIM REPLACEMENT LEASE, made and entered into this 18th day of May, 1990, by and between the CITY OF LOS ANGELES, a municipal corporation, acting by order of and through its Board of Airport Commissioners (hereinafter referred to as "City"), and AMERICAN GOLF CORPORATION, a corporation (hereinafter referred to as "Lessee"),

W I T N E S S E T H

WHEREAS, City is the owner of certain real property located northerly of Runway 24-R at Los Angeles International Airport (hereinafter referred to as "Airport"); and

WHEREAS, City and Golf of Southern California, Ltd. entered into Lease No. LAA-2534, whereby Golf of Southern California, Ltd. operated a public golf course and driving range on said property; and

WHEREAS, Golf of Southern California, Ltd. subsequently merged into California Golf-Tennis; and

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4-23-90

WHEREAS, California Golf-Tennis changed its name to American Golf Corporation, effective September 2, 1983; and

WHEREAS, said Lease No. LAA-2534 commenced February 1, 1978 and terminated January 31, 1983, a term of five (5) years; and

WHEREAS, a 24-month Holdover Lease, on a month-to-month basis, with respect to Lease No. LAA-2534, commenced February 1, 1983 and terminated January 31, 1985; and

WHEREAS, said public golf course must be reconfigured because of the planned future construction of the North Side Arterial (Westchester Parkway) which will require the use of a portion of the existing golf course; and

WHEREAS, it is anticipated that the reconfigured golf course site will be determined within the next 24 months; and

NOW, THEREFORE, in consideration of the premises, and of the terms, covenants and conditions hereinafter contained to be kept and performed by the parties hereto, IT IS MUTUALLY AGREED AS FOLLOWS:

Sec. 1. Term of Lease. The term of this Interim Replacement Lease shall be two (2) years, commencing January 1, 1990 and ending December 31, 1991; subject, however, to City's right to terminate same upon its giving Lessee a thirty (30) day advance, written notice.

Sec. 2. All of the terms, covenants and conditions of Lease No. LAA-2534, except as specified below, are hereby incorporated by reference into this Interim Replacement Lease. A copy of Lease No. LAA-2534 is attached hereto, marked Exhibit "A" and incorporated by reference herein. The additions/modifications to said Lease consist of the following:

(a) City reserves the right to repeatedly increase or decrease the size of the leasehold without limitation at any time throughout the term hereof but will, however, endeavor to include within said leasehold at all times nine (9) playable holes and Lessee agrees to adjust its operations to conform to the premises provided it by City;

(b) City shall be responsible for all expenses associated with reconstruction and realignment of the golf course and further agrees, at some time during the term hereof, to demolish and remove the clubhouse presently situated on the demised premises and replace same with a new clubhouse; provided, however, that Lessee acknowledges that during the demolition and reconstruction period there will be no clubhouse available for use by Lessee or by its patrons;

(c) Lessee's percentage rental shall be twenty percent (20%) of all green and driving range fees; and

(d) Lessee agrees to accept sole responsibility for full compliance with any and all applicable present or future rules, regulations, restrictions, ordinances, statutes, laws and/or other orders of any governmental entity regarding the use, storage, handling, distribution, processing and/or disposal of hazardous wastes, extremely hazardous wastes, hazardous substances, hazardous materials, hazardous chemicals, toxic chemicals, toxic substances, pollutants, contaminants or other similarly regulated substances (hereinafter referred to as "hazardous substances") regardless of whether the obligation for such compliance or responsibility is placed on the owner of the land, on the owner of any improvements on the leasehold, on the user of the land, or on the user of the improvements. Said hazardous substances shall include, but not be limited to, gasoline, aviation, diesel and jet fuels, lubricating oils, solvents, insecticides and/or herbicides. Lessee agrees that any damages, penalties or fines levied on City and/or Lessee as a result of noncompliance with any of the above shall be the sole responsibility of Lessee and further, that Lessee shall indemnify and pay and/or reimburse City for any damages, penalties or fines that City pays as a result of non-compliance with the above.

In the case of any hazardous substance spill, leak, discharge, or improper storage on the leasehold or contamination of the leasehold by any person, Lessee agrees to make or cause to be made any necessary repairs or corrective actions as well as to clean up and remove any leakage, contamination or contaminated ground. In the case of any hazardous substance spill, leak, discharge or contamination by Lessee or its employees, servants, agents, contractors, or subcontractors which affects other property of City or its tenants' property, Lessee agrees to make or cause to be made any necessary corrective actions to clean up and remove any spill, leakage, or contamination to the satisfaction of the Executive Director of City's Department of Airports (hereinafter referred to as "Executive Director"). If Lessee fails to repair, clean up, properly dispose of or take any other corrective actions as required herein, City may (but shall not be required to) take all steps it deems necessary to properly repair, clean up or otherwise correct the conditions resulting from the spill, leak or contamination. Any such repair, cleanup or corrective actions taken by City shall be at Lessee's sole cost and expense and Lessee shall indemnify and pay for and/or reimburse City for any and all costs (including any administrative costs) City incurs as a result of any repair, cleanup or corrective action it takes.

If Lessee installs or uses already installed underground storage tanks, pipelines or other improvements on the demised premises for the storage, distribution, use, treatment or disposal of any hazardous substances, Lessee agrees, upon the expiration and/or termination of this Interim Replacement Lease, to remove and/or clean up, at the sole option of Executive Director, the above-referred to improvements. Said removal and/or cleanup shall be at Lessee's sole cost and expense and shall be undertaken and completed in full compliance with all federal, state and local laws and regulations, as well as with the directions of Executive Director.

Lessee shall promptly supply City with copies of all notices, reports, correspondence and submissions made by Lessee to any governmental entity regarding any hazardous substance spill, leak, discharge or clean-up including all test results.

This Section and the obligations therein shall survive the expiration or earlier termination of this Interim Replacement Lease.

IN WITNESS WHEREOF, City has caused this Interim Replacement Lease to be executed by the Executive Director of its Department of Airports and Lessee has caused the same to be executed by its duly authorized officers and its corporate seal to be hereunto affixed, all as of the day and year first hereinabove written.

CITY OF LOS ANGELES

W. M. Schoenfeld

By [signature]
for Executive Director
Department of Airports

APPROVED AS TO FORM
JAMES K. HAHN
CITY ATTORNEY

MAY 17 1990

By [signature]
ASSISTANT/DEPUTY

ATTEST:

By [signature]
Secretary (Signature)

Stephen R. Hofer
Print Name

[SEAL]

AMERICAN GOLF CORPORATION, a corporation

By [signature]
Signature

DAVID G. PRICE
Print Name

CHAIRMAN OF BOARD
Print Title

CONFORMED COPY

LAA 2534

LEASE BETWEEN THE CITY OF LOS ANGELES AND Golf of Southern California, Ltd. FOR THE OPERATION OF A PUBLIC GOLF COURSE AND DRIVING RANGE AT LOS ANGELES INTERNATIONAL AIRPORT

THIS LEASE, made and entered into this 11th day of January, 1978, by and between the CITY OF LOS ANGELES, a municipal corporation, acting by order of and through its Board of Airport Commissioners (hereinafter referred to as "City"), and Golf of Southern California, Ltd. (hereinafter referred to as "Lessee"),

W I T N E S S E T H

WHEREAS, the City of Los Angeles is the owner of certain real property located northerly of Runway 24-R at Los Angeles International Airport, which such property is restricted by the Federal Aviation Agency for use for agricultural purposes, automobile parking and light recreational purposes; and

WHEREAS, the operation of a public recreational golfing facility is an economically advantageous use of such property; and

EXHIBIT A

WHEREAS, City and Lessee desire to enter into a Lease to provide such use;

NOW, THEREFORE, in consideration of the covenants and conditions hereinafter contained to be kept and performed by the parties hereto, IT IS MUTUALLY AGREED AS FOLLOWS:

Sec. 1. Section Headings. The section headings appearing herein shall not be deemed to govern, limit, modify or in any manner affect the scope, meaning or intent of the provisions of this Lease.

Sec. 2. Demised Premises. City hereby leases to Lessee and Lessee takes and leases from City, for the term and upon the conditions hereinafter provided, the premises, comprising approximately 65 acres, located northerly of Runway 24-R at Los Angeles International Airport (hereinafter referred to as "Airport") as shown in red on Airport Engineer's Drawing No. 77098-80, which is attached hereto and made a part hereof, marked Exhibit "A."

Sec. 3. Term of Lease. This Lease shall commence on February 1, 1978, and shall continue for a period of five (5) years; subject, however, to earlier termination as hereinafter provided.

Sec. 4. Rental.

A. For and in consideration of City executing this Agreement and granting the rights herein enumerated, Lessee shall during the term hereof pay to City a minimum annual guarantee of One Hundred Ten Thousand ($110,000.00) Dollars or 34 % (percent) of the annual gross receipts derived from the golf course and driving range only during the term hereof, whichever amount is greater. Said minimum annual guarantee or alternate annual amount shall be divided into twelve payments and shall be paid monthly, on or before the tenth (10th) day of the next succeeding month in equal monthly installments of $9,166.66 (except that the last monthly installment of each year shall be in the amount of $9,166.74), or a sum equal to the percentage set forth above of the month's gross receipts, whichever is the greater.

Bid Item To Be Completed By Bidder

B. "Gross receipts" shall include all receipts derived from operation of the driving range and all "green fees" for use of the golf course.

C. All rental payments hereunder shall be paid to the City of Los Angeles, Department of Airports, Post Office Box 92216, Los Angeles, California 90009, or to such other address as City may designate by written notice to Lessee.

D. Lessee's books, records, reports and accounts of its business authorized herein to be conducted on the demised premises shall be audited periodically by City during the term hereof.

It is agreed that examinations of the books, ledgers, journals and accounts of Lessee will be conducted in accordance with generally accepted auditing standards applicable in the circumstances and that, as such, said examinations do not require a detailed audit of all transactions. Testing and sampling methods may be used in verifying reports submitted by Lessee and deficiencies ascertained by applying percentages of error obtained from such testing and sampling to the entire period of reporting under examination will be binding upon Lessee. In the event any deficiency in the amount of two (2%) percent or greater of the fees and charges payable to City hereunder is ascertained, Lessee agrees to pay City for the cost of the audit. All information gained by

City from such examinations shall be confidential and shall not be disclosed other than to carry out the purposes hereof.

At the expiration of each year of the term hereof, Lessee shall furnish to City a certified copy of a statement prepared by a Certified Public Accountant covering the business transacted by Lessee at Airport and showing the gross receipts derived from the golf course and driving range.

Lessee shall, upon request, furnish such other financial or statistical reports as the City may, from time to time, require.

Sec. 5. Use of Demised Premises. The demised premises shall be used by Lessee only for the operation of a public golf course, driving range, an automobile parking facility for golfing patrons, and a golf pro shop in which only that golfing equipment and apparel customarily sold in golf pro shops throughout the Los Angeles area may be offered for sale, and a small coffee shop as permitted by Conditional Use Zoning Case No. 77-030. Lessee shall not use the demised premises or any portion thereof for any other purpose than that hereinabove set forth without first having had and obtained the written consent of the General Manager of the Department of Airports (hereinafter referred to as "General Manager"). Lessee agrees that City shall have the right to install and maintain a portion of an aircraft noise monitoring system on the demised premises, pursuant to the terms and conditions of License Agreement No. DA-1371 in the files of the Board of Airport Commissioners.

Sec. 6. Access to Premises - Ingress and Egress. Throughout the term of this Lease, Lessee, its agents, servants, employees and business invitees, and its equipment, vehicles, machinery and other property, shall have full and free right of ingress to and egress from the demised premises without charge.

Sec. 7. Alterations to Improvements. Lessee shall make no structural alterations to the roof, walls or floor of any structure constructed on the demised premises nor shall it alter the contours of the premises without the written consent of said General Manager.

Sec. 8. Ownership of Improvements. Title to all structures, improvements and facilities installed and in place at the commencement of this Lease are vested in City. All such improvements shall at Lessee's sole cost and expense be repainted within 60 days of the award of the bid for this Lease including resurfacing of the parking lot. All structures, improvements, including alterations, if any, made, erected or constructed by Lessee upon the demised premises during the term of this Lease shall remain the property of Lessee during the term of this Lease. All such structures and improvements made, erected or constructed by Lessee shall be subject to prior approval of the General Manager and may be altered or repaired, subject, however, to the provisions of Section 7 hereof. At the expiration of this Lease, title to all structures and improvements, including alterations thereto, erected or constructed on the demised premises during the term hereof shall vest in the City. However, any capital improvements installed by Lessee shall be subject to a "buy-back" by the City, based on a five-year straight-line schedule, if the area leased is reduced in whole or in part by the City for airport and/or public street purposes.

Lessee's machines, equipment, trade fixtures and other installations of the type commonly installed in and removed by tenants from improvements similar to those authorized herein which are installed by Lessee in or on the demised premises shall not be deemed to be part of the realty even though they are attached to the floor, walls or roof of the building(s) or to outside pavements, so long as they can be removed without structural damage to said improvements and provided that if such removal, at Lessee's option, of any such installation results in nonstructural damage to any part(s) of the building(s), pavement or premises, Lessee shall repair such damage and restore said damaged part(s) of said building(s), pavement or premises to as good condition as the same were in at the commencement of this Lease, reasonable wear and tear excepted.

Sec. 9. Maintenance of Demised Premises. Lessee, solely at its own cost and expense, shall maintain the demised premises, including structures, paving, landscaping, improvements and facilities presently thereon and any constructed by Lessee during the term hereof, in good condition and in compliance with all requirements of law. Lessee shall also conduct its, and cause its sublessees to conduct their, operations on the demised premises in such manner, using the best known available and practical devices and facilities to reduce as much as is reasonably practicable, considering the nature and extent of said operations, the emanation from the demised premises of noise, vibration, movements of air, fumes and odors, so as not to interfere unreasonably with the use of other premises adjoining the demised premises or Airport.

Sec. 10. Periods and Conditions of Operation.

A. The golf course and driving range shall be open and operating seven days a week, weather permitting, and shall be adequately staffed with personnel to provide and maintain the golfing facilities and activities specified hereinabove.

B. Lessee shall fully equip the facility with necessary mowers, aerators, and other lawn (green and fairway) and golf course maintenance items together with necessary kitchen and pro-shop equipment and fixtures.

C. Lessee shall control the conduct, demeanor and appearance of its officers, agents, employees, representatives, customers, guests, invitees, contractors and others doing business with it and upon objection from the General Manager concerning the conduct, demeanor or appearances of such persons, Lessee shall forthwith take all steps necessary to remove the cause of the objection.

Sec. 11. Insurance. Lessee shall procure at its expense, and keep in effect at all times during the term of this Lease, the following forms of insurance:

(a) Public liability and property damage insurance. The policy or policies providing said coverage shall include premises, contractual liability and personal injury coverage including, but not limited to, the liability assumed by Lessee under the Hold Harmless provision of this Lease. Said policy or policies shall cover loss or liability for damages in an amount not less than One Million ($1,000,000) Dollars combined single limit, for each occurrence for bodily injury, death or property damage occurring by reason of Lessee's operations in, on or about the demised premises or Airport; and

(b) Fire and lightning, extended coverage, vandalism and malicious mischief and "all risk" insurance, excluding earthquake and flood but including debris removal, in a form at least as broad as the standard insurance services office special extended coverage endorsement, covering all improvements or additions made by Lessee on the demised premises, such insurance to be in an amount equal to the full replacement value of all such improvements with the policy or policies containing a loss payable endorsement(s) in favor of the parties hereto as their respective interests may appear. "Full replacement value" shall be determined by a qualified appraiser(s) at the time said improvements are initially insured and shall be redetermined annually thereafter throughout the term of this Lease. It shall be Lessee's responsibility to obtain said redeterminations. Both Lessee and City shall be promptly notified of the results of said redeterminations and Lessee shall immediately thereafter adjust the amount of the insurance coverage to correspond with each redetermination of "full replacement value."

The insurance specified above shall, either by provisions in the policies or by special endorsements attached thereto, insure City against the risks to which it is exposed as the owner of the demised premises and shall include City and all of its officers, employees and agents as additional insureds, shall contain a standard cross-liability provision and shall stipulate that no insurance held by City's Department of Airports will be called on to contribute to a loss covered thereunder. City shall have no liability for any premiums charged for such coverage, and the inclusion of City as an additional insured is not intended to, and shall not, make City a partner or joint venture with Lessee in Lessee's operations at Airport. Such policies shall also be for full coverage with any deductibles and/or retentions subject to approval by General Manager and shall contain provisions on the part of the respective insurers waiving the right of such insurers to subrogation.

All such insurance as provided in this Section 11 shall be procured, filed and approved in strict accordance with the provisions in Sections 11.47 through 11.56 of City's Administrative Code and certificates evidencing such coverage shall be filed with City immediately upon commencement of this Lease. Each certificate shall contain the applicable policy number(s) and the inclusive date(s) for same, shall bear an original signature of an authorized representative of the insurance carrier or broker and, pursuant to said provisions, shall also provide thereon that the insurance shall not be subject to cancellation except after notice by registered mail to the City Attorney of the City of Los Angeles at least thirty (30) days prior to the date of cancellation. At least ten (10) days prior to the expiration date of any such policy, a certificate showing that the insurance coverage has been renewed or extended shall be filed with City. If such coverage is cancelled or reduced, Lessee shall, within fifteen (15) days after receipt of written notice from City of such cancellation or reduction of coverage, file with City a certificate showing that the required insurance has been reinstated or provided through another insurance company or companies.

In the event that Lessee fails to furnish the certificates required under this Section 11 to City, City, upon written notice to Lessee of its intention so to do, shall have the right to secure the required insurance at the cost and expense of Lessee, and Lessee agrees to promptly reimburse City for the cost thereof plus fifteen (15%) percent for administrative overhead.

Sec. 12. City Held Harmless. Lessee shall keep and hold City, including Board, and City's officers, agents, servants and employees, harmless from any and all costs, liability, damage or expense (including costs of suit and fees and expenses of legal services) claimed by anyone by reason of injury or damage to persons or property sustained in, on or about the demised premises, or arising out of Lessee's operations in or on said premises, or on Airport, as a proximate result of the acts or omissions of Lessee, its agents, servants or employees, or arising out of any condition of the demised premises, excepting such liability as may be the result of the direct and proximate negligence of City, or its officers, agents, servants or employees while acting in the scope of their official duties, agency or employment.

Sec. 13. Faithful Performance Bond. Within fifteen (15) days after award of this Agreement, Lessee shall furnish to City, at Lessee's sole cost and expense, and keep in full force and effect during the complete term of this Agreement, a Faithful Performance Bond or other surety acceptable to the General Manager, in continuing penal sum of Fifty Thousand ($50,000) Dollars or other security deposit acceptable to General Manager, guaranteeing full performance by Lessee of all of the terms, covenants and conditions herein, including, but not limited to, payment of the compensation specified herein. Said Bond or other surety shall be issued by a surety company authorized and licensed to transact business in the State of California, be for the full amount stated above with the City of Los Angeles, Department of Airports, as obligee, and shall not be subject to material change and/or cancellation except after the expiration of a thirty (30) day written notice by registered or certified mail to the City Attorney of the City of Los Angeles and to City's Department of Airports.

Sec. 14. Damage to or Destruction of Improvements. If, during the term of this Lease, Lessee's improvements on the demised premises are partially or totally destroyed from a risk covered by the insurance described in Section 11 (b) herein, Lessee shall restore the premises to substantially the same condition as they were in immediately before destruction; provided, however, that Lessee shall not be required to expend for such restoration an amount greater than the insurance proceeds it recovers as a result of such partial or total destruction.

If, during the term of this Lease, Lessee's improvements on the demised premises are partially or totally destroyed from a risk not covered by the insurance described in Section 11 (b) herein, Lessee shall restore the premises to substantially the same condition as they were in immediately before destruction. If, however, the cost of said restoration exceeds ten (10%) percent of the replacement value of Lessee's improvements which have been destroyed, as said value existed immediately before said destruction, Lessee need not so restore the premises; provided, however, that General Manager may require Lessee to remove from the demised premises all debris arising from such destruction.

Sec. 15. Assignments and Subleases. Except as provided in this Section 15, Lessee shall not mortgage, hypothecate, pledge or otherwise encumber or assign the leasehold estate herein created without the prior written consent of Board. In addition, except as provided in this Section 15, Lessee shall not sublet or sublease the demised premises, in whole or in part, without the prior written consent of the General Manager. Lessee shall request, in writing, said consents. Attached to any such request shall be exact copies of all legal documents prescribing the assignment or the sublease. Said documents shall expressly show all financial details of the proposed assignment or sublease. Any attempted assignment, mortgaging, hypothecation or encumbering of the leasehold estate, or any subletting or subleasing of the whole or any part of the demised premises, except as provided above, or other violations of the provisions of this Section 15, whether voluntary or involuntary, shall be voidable at the option of City.

The interest of Lessee under this Lease shall not, except at City's option and with its written consent, be assignable by operation of law. In case of bankruptcy of Lessee or the appointment of a receiver for Lessee, or if a receiver is appointed to take possession of the demised premises as a result of any act or omission of Lessee or if Lessee makes an assignment of this Lease for the benefit of creditors, or if possession of the demised premises is taken by virtue of any attachment, execution or the levy of any judicial process, City, at its election, may, without notice, terminate this Lease and enter upon said demised premises and remove all persons therefrom.

Sec. 16. Termination by City.

(a) City shall have the right to terminate this Lease Agreement in its entirety and all rights ensuing therefrom upon thirty (30) days written notice if any one or more of the following events shall occur:

1. Lessee shall fail duly and punctually to pay the rental required hereunder when due to City within ten (10) days after written notice from City of non-payment thereof;

2. Lessee shall permit to continue for a period of five (5) days, after written notice from the General Manager to correct, the existence of unsanitary conditions or practices, disrepair

of buildings, structures, equipment or facilities, unsafe and hazardous practices, or untidy and unsightly condition in, on or about the demised premises; provided, however, that if Lessee shall forthwith upon receipt of said notice proceed to correct the condition complained of, then Lessee shall have a reasonable time in which to correct should the nature of the work be such as to require more than five (5) days;

3. The happening of any act which results in the suspension or revocation of the rights, powers, licenses, permits and authorities necessary for the conduct and operation of the business authorized herein for a period of more than thirty (30) days;

4. The interest or estate of Lessee under this Lease Agreement shall be transferred to, passed to or devolve upon, by operation of law, any other person, firm or corporation;

5. Lessee shall fail to keep, perform and observe each and every other promise, covenant, condition and agreement set forth in this Lease Agreement on its part to be kept, performed or observed within fifteen (15) days after receipt of written notice of default thereunder from City,

except where fulfillment of Lessee's obligation requires activity over a period of time and Lessee shall have commenced to perform whatever may be required for fulfillment within seven (7) days after receipt of such notice and continues such performance without interruption except for causes beyond its control;

6. The levy of any attachment or execution, or the appointment of any receiver, or the execution of any other process of any court of competent jurisdiction which does or as a direct consequence of such process will interfere with Lessee's occupation of the demised premises and will interfere with its operations under this Lease Agreement, and which attachment, execution, receivership or other process of such court is not vacated, dismissed or set aside within a period of thirty (30) days;

7. Lessee shall become insolvent, or shall take the benefit of any present or future insolvency statute, or shall make a general assignment for the benefit of creditors, or file a voluntary petition in bankruptcy, or a petition or answer seeking an arrangement for its reorganization, or the readjustment of its indebtedness

under the federal bankruptcy laws or under any other law or statute of the United States, or of any state law, or consent to the appointment of a receiver, trustee or liquidator of all or substantially all of its property;

8. By order or decree of a court of competent jurisdiction, Lessee shall be adjudged bankrupt, or an order shall be made approving a petition filed by any of the creditors, or by any of the stockholders of Lessee seeking its reorganization or the readjustment of its indebtedness under the federal bankruptcy laws or under any law or statute of the United States or any state thereof;

9. By or pursuant to, or under authority of any legislative act, resolution or rule or any order or decree of any court, governmental board, agency, or officer having jurisdiction, a receiver, trustee or liquidator shall take possession or control of all or substantially all of the property of Lessee, and such possession or control shall continue in effect for a period of thirty (30) days;.

10. Lessee shall voluntarily abandon, desert, vacate or discontinue its operation of

the business herein authorized in this Lease Agreement;

11. In the event Lessee is prevented from occupying or using the demised premises, or is prevented from conducting or operating its business on said premises by final action, order or ruling of any governmental authority, federal, state or municipal, then Lessee may, at its option, cancel this Lease by written notice to City, and said Lease shall be and become cancelled and terminated thirty (30) days after the receipt by City of such notice.

(b) Notwithstanding the above, City has the absolute right to terminate this Lease, upon the giving of six (6) months notice in writing to Lessee, if in the City's opinion all or portions of the demised premises are required for other airport or public street purposes.

(c) Nothing in this Section 16 shall require Lessee to observe or conform to any governmental authority's requirements or to pay any tax, lien, claim, charge or demand so long as the validity or enforceability thereof shall be contested in good faith to the extent appropriate unless in City's judgment the performance of Lessee's obligations are being materially and adversely affected.

(d) No acceptance by City of rentals, in whole or in part, for any period or periods after a default of any of the terms, covenants and conditions to be performed, kept or observed by Lessee, other than a default in the payment rentals as set forth in Section 16 hereof, shall be deemed a waiver of any right on the part of City to terminate this Lease Agreement on account of such default.

(e) No waiver by City of any default on the part of Lessee in the performance of any of the terms, covenants, or conditions hereof to be performed, kept or observed by Lessee shall be or be construed to be a waiver by City of any other or subsequent default in performance of any of said terms, covenants and conditions.

Sec. 17. City's Right of Re-entry. City shall, as an additional remedy, upon the giving of written notice of termination as provided in Section 16 hereof, have the right to re-enter the demised premises and every part thereof on the effective date of termination without further notice of any kind, and may regain and resume possession either with or without the institution of summary or legal proceedings or otherwise. Such re-entry or regaining or resumption of possession, however, shall not in any manner affect, alter, or diminish any of the obligations of Lessee under this Lease and Agreement, and shall in no event constitute an acceptance or surrender.

Sec. 18. Survival of Lessee's Obligations. In the event this Lease is terminated by City, or in the event City re-enters, regains or resumes possession of the demised premises, all of the obligations of Lessee hereunder shall survive and shall remain in full force and effect for the full term of this Lease. Subject to City's obligation to mitigate damages, pursuant to which there shall be an offset against Lessee's obligations hereunder for any fees and charges received by City from a succeeding lessee during the term hereof, the amount or amounts of fees and charges shall become due and payable to City to the same extent, at the same time or times and in the same manner as if no termination, cancellation, re-entry, regaining or resumption of possession had taken place. City may maintain separate actions each month to recover any monies then due or, at its option and at any time, may sue to recover the full deficiency.

Sec. 19. Waiver of Redemption and Damages. Lessee hereby waives any and all rights of redemption granted by or under any present or future law, or statute, arising in the event City obtains or retains possession of the demised premises in any lawful manner. Lessee further agrees that in the event the manner or method employed by City in re-entering or regaining possession of the demised premises gives rise to a cause of action in Lessee in forceable entry and detainer under the laws of the State of California, then the total amount of damages to which Lessee shall be entitled to in any such action shall be the sum of $1.00 and Lessee agrees that the provisions of this Section 1 may be filed in any such action as its stipulation fixing the amount of damages to which it would be entitled therein.

Sec. 20. City's Right to Relet. City, upon termination or cancellation pursuant to Section 16 hereof, or upon re-entry, regaining or resumption of possession pursuant to Section 17 hereof, may occupy the demised premises or may lease the same to others, and shall have the right to permit any person, firm or corporation to enter upon the demised premises and use the same. Such leasing to or occupation by others may be of a part only of the demised premises, or the whole thereof, or a part thereof, together with other space, and for a period of time the same as or different from the balance of the term hereunder remaining, and on terms and conditions the same as or different from those set forth in this Lease Agreement. City shall also, upon termination or cancellation pursuant to Section 16, or upon its re-entry, regaining or resumption of possession pursuant to Section 17, have the right to repair or to make such structural or other changes in the demised premises as are necessary in its judgment to maintain the suitability thereof for uses and purposes similar to those granted under this Lease Agreement. In the event either of any leasing to others, or any actual use and occupancy by City, except as specified in subparagraph (b) of Section 16, there shall be charged to the account of Lessee all expenses, costs and disbursements incurred or paid by City in connection therewith. No such leasing to others shall be or be construed to be an acceptance of surrender.

Sec. 21. Taxes and Licenses. Lessee shall pay all taxes of whatever character that may be levied or charged upon the leasehold estate in the demised premises, or upon the improvements, fixtures, equipment or other property thereon, or upon Lessee's operations hereunder. Lessee shall also pay all license or permit fees necessary or required by law for the conduct of its operations hereunder; provided, however, Lessee need not pay such taxes as it shall be contesting, provided such contest is in good faith and pursued diligently. If a determination is made adverse to the interest of Lessee, Lessee, after all time for appeal has run, shall promptly pay such taxes.

Sec. 22. Possessory Interest Tax. By Lessee's executing this Lease and accepting the benefits thereof, a property interest may be created known as a "possessory interest" and such property interest will be subject to property taxation. Lessee, as the party in whom the possessory interest is vested, may be subject to the payment of the property taxes levied upon such interest.

Sec. 23. Rules and Regulations. The leasehold estate herein created and all operations of Lessee at Airport shall be subject to any and all applicable rules, regulations, including noise regulations in effect at the commencement of this Lease or thereafter promulgated during the term hereof, laws, ordinances, statutes or orders of any governmental authority, federal, state or municipal, lawfully exercising authority over Airport or Lessee's operations hereunder.

City shall not be liable to Lessee for any diminution or deprivation of possession of its rights hereunder on account of the exercise of any such authority as is provided in this Section 23, nor shall Lessee be entitled to terminate the whole or any portion of the leasehold estate herein created by reason thereof unless the exercise of such authority shall so interfere with Lessee's use and occupancy of the demised premises or the improvements thereon as to constitute termination, in whole or in part, of this Lease by operation of law.

Sec. 24. Utility Services. All charges for water, gas, heat, light, power, telephone and any other utility service used by Lessee in connection with its occupancy of the demised premises, including deposits, connection fees or charges and meter rentals required by the supplier of any such utility service, and the costs of all equipment and improvements necessary for connecting the demised premises to such utility service facilities, shall be paid by Lessee. Lessee expressly waives any and all claims against City's Department of Airports for compensation for any and all loss or damage sustained by reason of any defect, deficiency or impairment of any water supply system, drainage or sewer system, gas supply system, telephone system, electrical supply system or electrical apparatus or wires serving the demised premises.

Sec. 25. Signs. No signs or advertisements pertaining to Lessee's operations on the demised premises shall be installed or placed in or on said premises or Airport until Lessee has submitted to General Manager, for approval in writing, drawings, sketches, design dimensions and type and character of such signs and advertisements proposed to be placed thereon or therein, and any conditions in respect to the use thereof stated by said General Manager in his written approval thereof shall be conditions thereof as if set forth herein at length.

Sec. 26. <u>Inspection by City</u>. General Manager, or any person designated by said General Manager, shall have access at all reasonable times, in, to and upon the demised premises for the purpose of inspecting the same and to post any notices which, in the opinion of General Manager, shall be necessary to hold City harmless from any claim or liability arising out of any work done in, on or about the demised premises, or in connection with the use thereof by Lessee; subject, however, to reasonable property protection, rules and regulations of Lessee.

Sec. 27. <u>Workers' Compensation Insurance</u>. Before entering upon the performance of this Lease, Lessee agrees to take out, or cause to be taken out, with a responsible insurance carrier authorized under the laws of the State of California to insure employers against liability for compensation under the Workers' Compensation Insurance and Safety Act, compensation insurance covering liability for compensation under said Act for any person injured while performing any work or labor incidental to the performance of this Lease. Said policy or policies shall be procured, filed and approved in strict accordance with the provisions in Sections 11.47 through 11.56 of City's Administrative Code and shall provide therein that the same shall not be subject to cancellation except after delivery of written notice by registered mail to the City Attorney of the City of Los Angeles at least thirty

(30) days prior to the effective date of any such cancellation. A certificate or certificates evidencing the issuance of such policy or policies, showing the inclusive dates of coverage, bearing an original signature(s) of an authorized representative of the respective carrier or carriers and containing thereon the above thirty day notice provision, shall be filed with the Secretary of Board. No payment will be made to Lessee unless the provisions of this Section have been complied with.

Sec. 28. Nondiscrimination and Affirmative Action Program. Lessee, in its operations at Airport, for itself, its personal representatives, successors in interest and assigns, as part of the consideration hereof, does hereby covenant and agree as a covenant running with the land that: (1) no person on the grounds of race, color or national origin shall be excluded from participation, denied the benefits of or be otherwise subjected to discrimination in the use of the facilities covered by this Lease; (2) that in the construction of any improvements on, over or under the premises authorized to be utilized herein and the furnishing of services thereon, no person on the grounds of race, color or national origin shall be excluded from participation in, denied the benefits of or otherwise be subjected to discrimination and (3) that Lessee shall use said premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation-Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended. Lessee agrees that City has the right to take such action against Lessee as the United States Government may direct to enforce this covenant.

In addition, Lessee, during the term of this Lease, agrees not to discriminate in its employment practices against any employee or applicant for employment because of the employee's or applicant's race, religion, national origin, ancestry, sex, age or physical handicap.

Sec. 29. Attorneys' Fees. If City shall, without any fault, be made a party to any litigation commenced by or against Lessee arising out of Lessee's use or enjoyment of the demised premises and as a result of which Lessee is finally adjudicated to be liable, then Lessee shall pay all costs and reasonable attorneys' fees incurred by or imposed upon City in connection with such litigation. In any action by City or Lessee for recovery of any sum due under this Lease, or to enforce any of the terms, covenants or conditions contained herein, the prevailing party shall be entitled to reasonable attorneys' fees in addition to costs and necessary disbursements incurred in such action. Each party shall give prompt notice to the other of any claim or suit instituted against it that may affect the other party.

Sec. 30. Entire Agreement. This Lease contains the entire agreement between the parties hereto and said Lease shall not be modified in any respect except by formal, written amendment.

Sec. 31. Miscellaneous.

(a) No waiver by City or Lessee of any breach of any provision of this Lease shall be deemed for any purpose to be a waiver of any breach of any other provision hereof, or of any continuing or subsequent breach of the same provision.

(b) Each right of the parties hereto is cumulative and is in addition to each other legal right which the party may have in the event of any default of the other.

(c) In the event any covenant, condition or provision herein contained is held to be invalid by final judgment of any court of competent jurisdiction, the invalidity of such covenant, condition or provision shall not in any way affect any other covenant, condition or provision herein contained.

(d) This Lease shall be construed and enforced in accordance with the laws of the State of California.

(e) This Lease shall be binding upon and shall inure to the benefit of the successors and assigns of the parties hereto.

(f) In each instance where Board's or General Manager's approval is required before Lessee may act, such consent shall not be unreasonably withheld.

(g) Written notices to City hereunder shall be given by registered or certified mail, postage prepaid, and addressed to the City of Los Angeles, Department of Airports, Post Office Box 92216, Los Angeles, California 90009, or to such other address as City may designate by written notice to Lessee. Written notices to Lessee hereunder shall be given by registered or certified mail, postage prepaid, and addressed to Golf of Southern California, Ltd., 17315-B Sunset Boulevard, Pacific Palisades, Calif. 90272, Attn: David G. Pr or to such other address as Lessee may designate by written notice to City. The execution of any such notice by the General Manager shall be as effective as to Lessee as if it were executed by the Board of Airport Commissioners or by resolution or order of said Board, and Lessee shall not question the authority of the General Manager to execute any such notice.

(h) The Notice Inviting Bids and Instructions to Bidders and all attachments thereto are incorporated herein and made a part of this Agreement.

IN WITNESS WHEREOF, City has caused this Agreement to be executed by the General Manager and Lessee has executed the same, all as of the day and year first hereinabove written.

CITY OF LOS ANGELES

By Robert C. Davidson
General Manager
Department of Airports

ATTEST:

Golf of Southern California, Ltd.

By Secretary

By President

[SEAL]

Approved as to form
Date ......, 1978
Burt Pines
City Attorney
By ......
Deputy