Of the 360 properties eligible for the program, 21 were acquired by the County. A large majority of of the acquired properties were in the Pegasus (adjacent to RMS 1) and Anniversary (adjacent to RMS 3) residential tracts. At the present time, more than half of the acquired properties are being leased to residents, while only a small number have actually been resold or remain vacant.

On July 16, 1991, the Board of Supervisors imposed a moratorium on the resale of County-owned residential properties due to the uncertainty surrounding the changes in noise abatement departure procedures necessitated by AC 91-53A. This step was required because the County, as seller, could not adequately disclose to prospective purchasers the community's future noise environment in light of the uncertainties created by proposed AC 91-53A, the need of the County to consider the ramifications of that proposed action at JWA, and the need to perform the necessary policy and environmental analyses. For that reason, homes slated for resale were leased until the new noise environment could be defined.

Acoustical Insulation Program

The Acoustical Insulation Program was implemented in tandem with the Purchase Assurance Program, although, unlike the Purchase Assurance Program, the Acoustical Insulation Program did not have the one year limit on eligibility. The Acoustical Insulation Program is also a voluntary program, and under this program the County pays the costs of insulating eligible homes.[89] After completion of the acoustical insulation construction, an avigation easement is granted by the property owner to the County and recorded in the chain of title to the property. The insulation standard under the program is to reduce the interior noise level in treated residential units to 45 dB CNEL, consistent with the state and county noise standards discussed earlier.[90] To date, the program has been funded without federal AIP funds. Through the use of the redevelopment mechanisms available under California law, the source of funds has been the "tax increment" available due to growth in the project area. With some exceptions, the additional property taxes generated since formation of the redevelopment project area are devoted to redevelopment activities. As noted above, acoustical improvements are one of the programs identified for use of these funds.

---

[89] The program provides that the County will pay a maximum of $ 32,500 for the acoustical insulation improvements. These typically involve special windows and doors, chimney baffles, attic insulation and air conditioning. Program management and acoustical engineering services are not included in this amount. These costs are approximately an additional $5,000 per single family residence. In spite of the presence of many additions and other customizing features in participating homes, this level of funding has been sufficient to cover the costs of virtually all of the projects undertaken to date.

[90] If actual noise measurements for an eligible dwelling unit are already at or below 45 dB CNEL, a 5 dB CNEL decrease is the design standard for the acoustical insulation.

Homes have been insulated at a pace which has been governed to a large degree by the limited level of resources which the County has been able to devote to the program.[91] As a practical matter, staff members are assigned to the Santa Ana Heights acoustical program as one of several responsibilities, which must be balanced with other assignments.

When initiated in February 1986, the program had a very slow start and a low level of acceptance in the community. Only one property owner signed up for the program in February 1986, and the general lack of community response was symptomatic of the level of skepticism in the community regarding the benefits of the program. However, after the initial homes were insulated (most of these were homes purchased by the County, under the purchase assurance program), an open house program was conducted by the County to demonstrate the benefits of the program to the community.

The initial insulation of homes acquired by the County also provided valuable lessons in the management of the program and program contractors. For example, although the actual time required for the acoustical construction is not great for typical improvements to eligible properties, lead times are extensive due to the need to customize components for each individual property (*i.e.,* special windows and doors custom made to measure the particular installation requirements, *etc.*).

As a result of this effort and the knowledge gained by the first acoustical insulation projects, a second phase of the program, which commenced in July 1988, was significantly more successful, with an average of two homes being completed each month. Very gradually, community acceptance of the program rose and the County's ability to complete the construction improvements in a timely manner increased. In fact, a waiting list had to be established as the demand for the program continued to increase at a rate faster than the County could cycle available funds and devote staff resources to the program. The status of the acoustical insulation program is summarized in Table 3-14.

The progress realized during Phase 2 of the acoustical insulation program came to a halt in mid-1991. By that time, County staff was aware of the possible change in federal policy on noise abatement departure procedures in use at JWA and recommended to the Board of Supervisors that a moratorium be implemented on the program until the consequences of that possible change could be evaluated. There was concern at that time that the increased noise levels which would be caused by this change in FAA policy might be sufficiently large to require staff to recommend to the Board that some existing residential neighborhoods in Santa Ana Heights be converted to non-residential land uses, and County staff charged with administering the program concurred that it would be prudent

---

[91] Another limiting factor is that the expected "growth" in the Santa Ana Heights area resulting from land use conversions has been limited by the extended recession in California during past years and the past and continuing weakness in local demand for office and business park development.

TABLE 3-14

LUCP ACOUSTICAL INSULATION PROGRAM RESULTS
(February 1986 - Present)

	Phase 1 (2/86 to 7/88)	Phase 2 (7/88 to Present)*
Dwelling Units Claiming Eligibility	37	460**
Dwelling Units on Waiting List	N/A	77 Single Family 214 Multi-Family
Dwelling Units Insulated	8***	69

* The program moratorium was implemented in July 1991. However, work in progress was completed and hardship cases have been undertaken since that date.

** Includes the 37 units claiming eligibility during Phase 1 of the program.

*** Includes seven homes owned by the County.

to suspend the program until the impacts of the FAA initiative could be measured.[92] From an economic perspective, it was not prudent to invest in acoustical improvements if, as a result of the demonstration, the County would be in a position of acquiring properties for conversion on which public funds had already been expended for acoustical insulation.

For that reason, the Board of Supervisors imposed a moratorium on new construction under the Acoustical Insulation Program until existing insulation design parameters could be reaffirmed, or new ones developed. One of the major purposes underlying the County's decision to sponsor the noise level demonstration was to facilitate an analysis of the impacts of the change in FAA policy on implementation of the Acoustical Insulation Program. The number of residents currently on the waiting list, or otherwise desiring to participate in the program has increased as a result of the proposed project.

As noted above, when the Acoustical Insulation Program was first implemented, the community eligible to participate in the program was generally skeptical and, at least initially, slow to accept the program. Generally, the program began to attract

---

[92] Subsequent analysis conducted during the noise level demonstration test and as part of the environmental analysis conducted for this EIR indicates that such action is not necessary or desired by the vast majority of the residents in Santa Ana Heights. *See* the discussion in Section 3.2.7 (Land Use, Mitigation Measures), below.

more applicants just at the time the program was suspended by the moratorium necessitated by the FAA's consideration of a possible change in policy on noise abatement departure procedures. In the absence of federal funding assistance, implementation of the Acoustical Insulation Program by the County has been limited by available resources, including the staff necessary to administer the program. Although the program now appears to have demonstrated its effectiveness to the community (as evidenced by the substantial waiting list for the program), implementation of the program in a manner preferred by the County has been further delayed because of the policy and environmental ramifications of the possible need to make amendments to the PHASE 2 ACCESS PLAN as a result of proposed AC 91-53A.

3.2.4 IMPACTS ANALYSIS

This section examines the impacts of the proposed project (Alternative 1), Alternative 2, and the Notice of Preparation ("NOP") project case on land uses. In light of the discussion in Section 3.1 and earlier in this section of the EIR, the analysis focuses on those land uses which are potentially affected by the proposed noise level increases, principally residential uses south of the airport in Costa Mesa, Newport Beach and unincorporated Orange County. Again, for reasons discussed earlier, the principal focus of this analysis is on the Santa Ana Heights area directly south of the airport because that is the only residential area which is (or will be if the proposed project, Alternative 2, or the "NOP project" is implemented) subject to CNEL levels of 65 dB CNEL or greater.

Although Section 3.1.5 proposes inclusion of lower noise limits (in certain cases) at RMS 1, 2 and 3 than proposed in the NOP, analysis of the non-mitigated NOP project case is presented here in order to provide a comparative analysis in land use terms which identifies some of the benefits which would be realized by the reduced noise levels as proposed in the "mitigated project" (Alternative 1).

With respect to the other alternatives evaluated in this EIR, the no project case and Alternative 3 would - at a minimum - retain the current CNEL contours, in effect causing no new land use impacts. In fact, both Alternative 3 and the no-project case would probably result either in a reduction in air carrier operations at JWA, or a significant increase in operations in the Class E category by either air carriers or commuter carriers, to make up for the capacity lost by the effects of the adoption of AC 91-53A on the feasibility of their pre-demonstration operations at JWA. Under Alternative 3, single event limits would not be regulated and could rise significantly in individual cases, depending upon the equipment choices made by the air carriers. Under the no-project alternative, single event limits would remain at levels currently defined in the PHASE 2 ACCESS PLAN. However, under both alternatives, the CNEL contours would remain unaffected by the adoption of AC 91-53A. In Section 4 of this EIR, both the no project alternative and Alternative 3 are found to be infeasible and unreasonable alternatives to the proposed project (or to Alternative 2). Since neither of those two alternatives is deemed feasible, and

since an analysis of either of those alternatives in terms of probable resulting fleet mix would be highly - if not entirely - speculative,[93] no specific quantitative analysis of those alternatives is presented in this section.

The analysis of this section is presented in a manner consistent with the analysis in Section 3.1. Impacts and effects of the proposed project (Alternative 1), Alternative 2 and the "NOP Project" are made in terms of the three analysis scenarios identified in Section 3.1: the "*Base Case*" *Scenario,* "*Scenario A*" and "*Scenario B.*" The *Base Case Scenario* allows analysis of the near term impacts of the proposed project and the analyzed alternatives, since it assumes the current passenger service level of approximately 6.0 MAP, and a fleet mix for the air carriers representative of current conditions.

Scenario A and *Scenario B* allow analysis of the long term future case since both scenarios assume the ultimate 1985 Settlement Agreement service level limit of 8.4 MAP and an increase in operations to accommodate the additional passengers.[94] Again, the principal difference is that *Scenario A* assumes a fleet mix which includes 13.3 ADDs operated by MD-80 aircraft, while *Scenario B* makes the artificial "worst-case" assumption that all 39 Class A ADDs will be operated by MD-80 series aircraft. Under each analysis, impacts in the projected 65 and 60 dB CNEL contours - the contours used as critical thresholds for state and local land use compatibility policies - are presented.

As noted earlier, neither the project nor any of the alternatives considered in this EIR would involve landform alterations or related traffic impacts, because the established passenger cap of 8.4 MAP, and the Class A and Class AA aircraft operations limitations of the 1985 Settlement Agreement (73 Regulated ADDs) would not be affected.

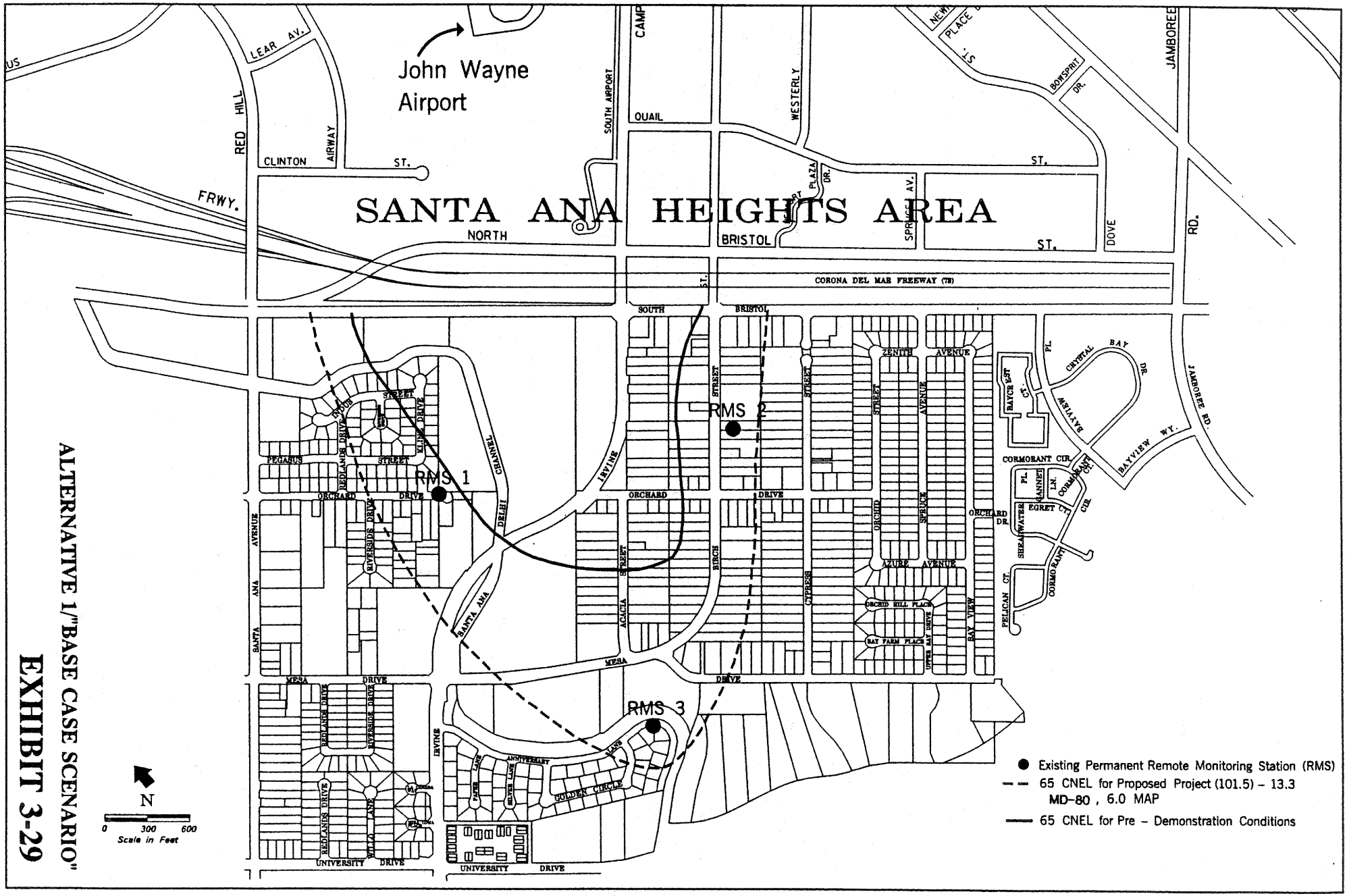
3.2.4.1 *Base Case Scenario* Analysis

The immediate impacts of the proposed project (Alternative 1) Alternative 2, and the NOP proposed project case are measured against the pre-demonstration conditions, *i.e.,* the noise environment that existed prior to the noise level

---

[93] Attempting to predict the probable fleet mix of air carrier operations under either Alternative 3 or the no-project alternative is necessarily speculative. The air carriers using JWA would respond to the decision to select either alternative by making aircraft equipment choices for JWA which would be influenced by economic factors and circumstances beyond the control of the County. Some of the considerations taken into account by the air carriers in making equipment and operations level choices under either alternative inevitably involve information which is considered "proprietary" by air carriers. In other words, the air carriers are understandably reluctant or unwilling to speculate themselves about equipment and operations choices under different alternatives and, willing or not, they could not reasonably be expected to identify marketing choices and contingency plans (if they have any) to their competitors as part of the environmental review process.

[94] *See* Section 3.1 for a more complete discussion and description of the three analysis scenarios used in this EIR.



ALTERNATIVE 1/"BASE CASE SCENARIO"

EXHIBIT 3-29

demonstration period when various departure procedures were used for purposes of analyzing the impacts of the adoption of proposed AC 91-53A and the alternative procedures which might offer the best control over noise levels south of JWA after adoption and implementation of AC 91-53A by the FAA. This analysis assumes that various pre-demonstration conditions, specifically a passenger service level of approximately 6.0 MAP, and a fleet mix which includes 13.3 ADDs by MD-80 aircraft.

65 dB CNEL Contour

The 65 dB CNEL contour is the most critical contour line from a land use policy standpoint because it acts as a threshold line for state and local land use/noise compatibility standards.

Residential uses within the 65 dB CNEL contour are generally considered incompatible by state and local standards; most other non-residential uses are compatible if interior noise standards are met.[95] The County of Orange, the City of Newport Beach and the City of Costa Mesa do not generally allow new residential development within the 65 dB CNEL contour.

Under the *Base Case Scenario,* noise levels of the proposed project (Alternative 1) (as mitigated by the noise levels proposed in Section 3.1) are illustrated on Exhibit 3-29. That exhibit shows the 65 dB CNEL contour for the proposed project (Alternative 1) compared to the 65 dB CNEL contour under pre-demonstration conditions. Again, Exhibit 3-28 reflects the specific types of residential uses in Santa Ana Heights which will be included within the projected contour.

The proposed project (Alternative 1)/*Base Case Scenario* would result in an increase in the pre-demonstration 65 dB CNEL contour. The increased contour would include 390 single and multi-family residential units, compared to 35 such units under the pre-demonstration conditions. Most of these properties are located within the Pegasus tract, Anniversary tract and along Kline Drive and Birch Street. In addition, certain properties on Birch Street and Acacia Street would be included in the 65 dB CNEL contour under Alternative 1/*Base Case Scenario* (*see* Table 3-15).[96] Various business park uses along Birch

---

[95] In terms of the California Noise Standards, those regulations identify 65 dB CNEL as the noise level which should be acceptable to a "reasonable person" residing in the vicinity of an airport.

[96] *I.e.,* properties which would, after implementation of the proposed project, be included within, or touched by, the 65 dB CNEL contour which were not included within or touched by that contour under the pre-demonstration conditions. It should be noted that this comparison is for current conditions only. Some of these properties would eventually have been included within the 65 dB CNEL contour because that contour is still expected to increase in size to some extent as the air carriers add flights in the future to meet the full (continued...)

and Acacia Streets, and certain commercial uses along South Bristol Street, would also fall within the 65 dB CNEL contour under the Alternative 1/*Base Case Scenario*, although those uses are considered to be compatible with airport operations.

TABLE 3-15

RESIDENTIAL LAND USES WITHIN THE 65 dB CNEL CONTOUR
(Base Case Scenario)

	Pre-Demonstration Conditions (1st Analyzing 1992)*	NOP Project Case	Proposed Project (as mitigated) (Alternative 1)	Alternative 2
Single Family Residential Units	28	147	123	100
Multi-Family Residential Units	7	279	267	259
Unimproved Lots Zoned Residential	0	2	2	1

* This column is, to the extent any prediction can be made, representative of the "no project" and Alternative 3 conditions.

Alternative 2/*Base Case Scenario* would result in an increase in noise levels in the same residential, business park and commercial areas, but to a lesser degree than under the proposed project (Exhibit 3-30). As reflected on Table 3-15, the Alternative 2/*Base Case Scenario* would include 359 single and multi-family residential units within the 65 dB CNEL contour, as compared to 390 residential units under the proposed project (Alternative 1/*Base Case Scenario*).

The NOP project case 65 dB CNEL contour is the largest of the contours for the alternatives evaluated in this EIR (using the *Base Case Scenario* assumptions on fleet mix and operations levels [Exhibit 3-31]). The NOP project case would include 426

---

[96](...continued)
service level capacity of 8.4 MAP. An analysis of the effects of the project at an 8.4 MAP service level is provide under the *Scenario A* and *Scenario B* analysis.

existing single family and multi-family residential units. Therefore, the mitigation proposed in Section 3.1.5, to reduce, in some cases, the maximum permitted single event levels for the proposed project below the levels set forth in the Notice of Preparation, effectively removes 36 single and multi-family residential units from the project's 65 dB CNEL contour.

On a total area basis, Table 3-16 shows that, under pre-demonstration conditions, the 65 dB CNEL contour encompassed 0.85 square miles, while it would encompass 1.06 square miles if the proposed project is implemented (Alternative 1/*Base Case Scenario*) and 0.99 square miles for Alternative 2/*Base Case Scenario*.[97]

Finally, the City of Costa Mesa identifies the location of noise sensitive land uses in its general plan, and has included a child care facility and hospital on Del Mar/University Drive, and two educational facilities along Irvine Avenue near the Santa Ana Heights area, in that category. Neither the Alternative 1/*Base Case Scenario* 65 dB CNEL contour, the Alternative 2/*Base Case Scenario* contour, nor the NOP Project Case/*Base Case Scenario* contour, would include these properties.

Avigation Easements

As of December 1992, there were 75 recorded avigation easements in favor of the County on individual properties in the Santa Ana Heights area. Most of these avigation easements were applied as a condition of participation in the County Acoustical Insulation and Purchase Assurance Programs. Each easement identifies a specific CNEL noise level above which the easement is not applicable. Using representative contours over the Santa Ana Heights area presented in increments of 1 dB CNEL, the location of the properties which are subject to these easements, and the individual CNEL values which are a basis for establishing the easement levels, are identified in Exhibit 3-32 (NOP Case/*Base Case Scenario*), Exhibit 3-33 (Alternative 1/*Scenario A*) and Exhibit 3-34 (Alternative 2/*Scenario A*).[98] Implementation of the proposed project (Alternative 1), or implementation of Alternative 2, would not result in noise levels which exceed any of the established easement noise levels, regardless of the "*scenario*" assumption except, possibly, under certain of the *Scenario B* cases.

---

[97] This table and information is useful only for rough relative comparisons of CNEL effects of the proposed project and must be read with caution. The square mile values are for *all* property included within the contour, regardless of use, and includes the airport itself. Therefore, it is not a direct indication of the effects of the proposed project on residential or other "incompatible" uses, which comprise only a small portion of the square mileage values presented in Table 3-16.

[98] The CNEL values depicted on these three exhibits are the estimated values based upon the EIR 508/EIS project case noise contours. The easements granted to the County are each at these estimated values, plus 1.0 dB CNEL. In other words, if a specific property on any of these three exhibits shows a lot CNEL value of 67 dB CNEL, the actual easement granted to the County would be 68 dB CNEL.

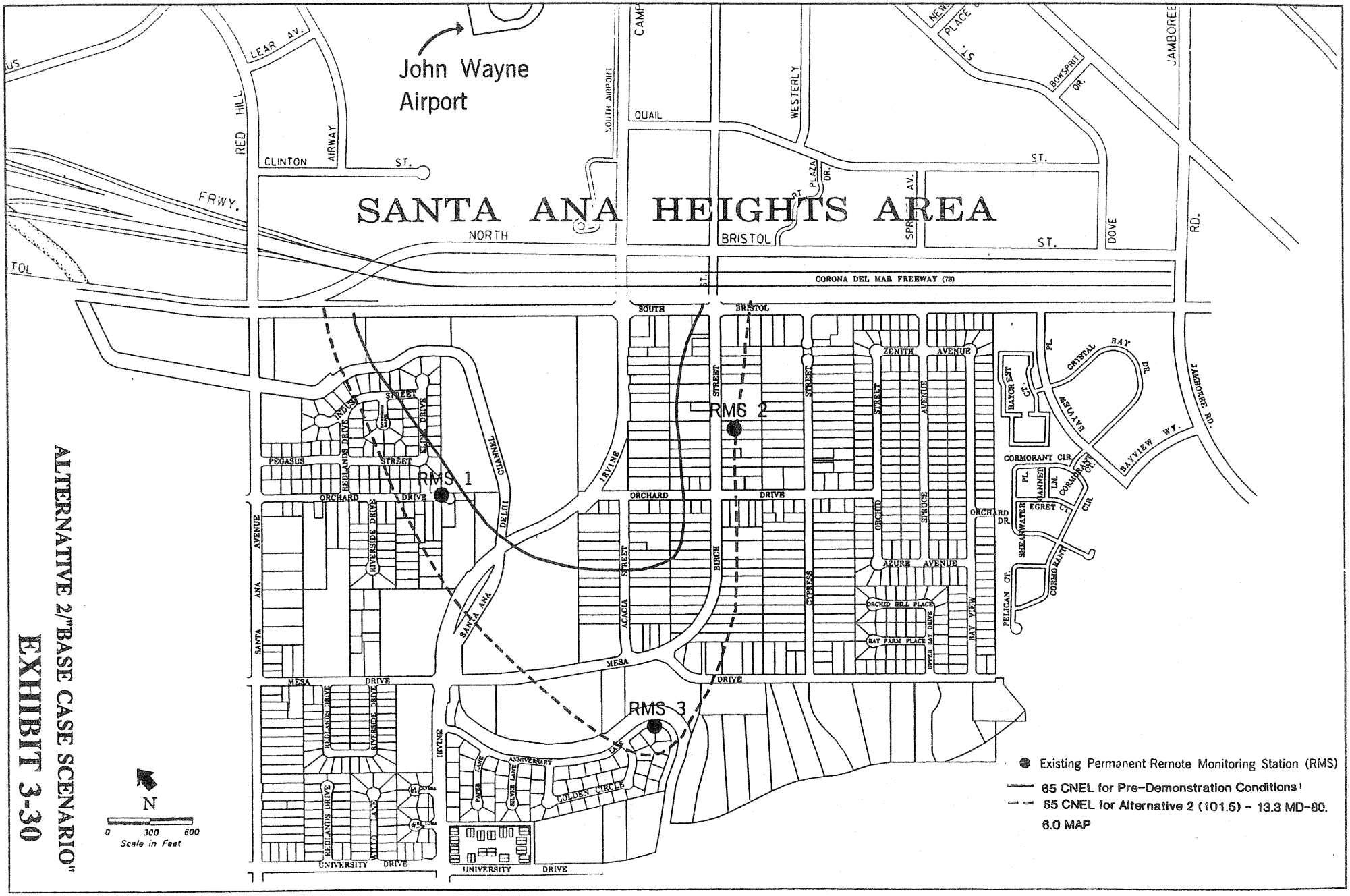
TABLE 3-16

CNEL AREA COMPARISON

(Total Area Within Contour (square miles)*)

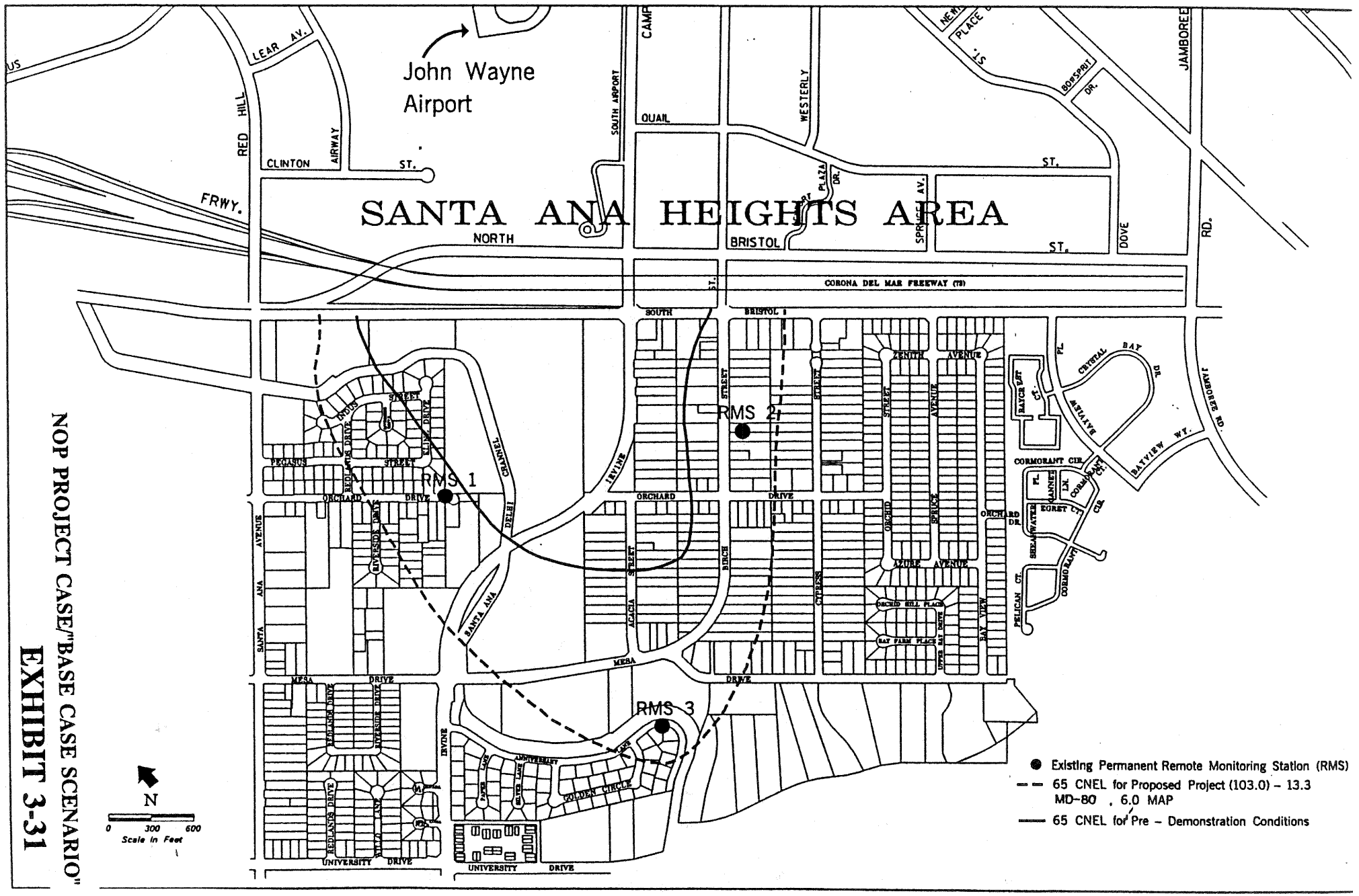
Scenario	60 dB CNEL	65 dB CNEL	70 dB CNEL
No Project Case - Pre-Test Conditions ("*Base Case Scenario*")	2.68	0.85	0.36
Proposed Project (Alternative 1) ("*Base Case Scenario*")	2.46	1.06	0.52
800 Foot Case (Alternative 2) ("*Base Case Scenario*")	2.53	0.99	0.46
NOP Project Case ("*Base Case Scenario*")	2.51	1.10	0.55
Proposed Project (Alternative 1) ("*Scenario A*")	2.58	1.11	0.55
800 Foot Case (Alternative 2) ("*Scenario A*")	2.65	1.03	0.48
NOP Project Case ("*Scenario A*")	2.62	1.14	0.58
Proposed Project (Alternative 1) ("*Scenario B*")	3.23	1.40	0.64
800 Foot Case (Alternative 2) ("*Scenario B*")	3.23	1.39	0.61
NOP Project Case ("*Scenario B*")	3.46	1.52	0.71

*Note: These figures include all property within the contour, both north and south of the airport, regardless of use or zoning, including airport property.



ALTERNATIVE 2/"BASE CASE SCENARIO"

EXHIBIT 3-30



NOP PROJECT CASE/"BASE CASE SCENARIO"

EXHIBIT 3-31

60 dB CNEL Contour

The 60 dB CNEL contour is less critical than the 65 dB CNEL contour from a land use policy perspective, because state and local standards consider residential as well as non-residential uses to be compatible within the 60-65 dB CNEL contour zone. The County, the City of Newport Beach and the City of Costa Mesa permit non-residential and residential uses within the 60-65 dB CNEL contour zone. In the case of the County, residential interior noise levels for new construction in that zone may not exceed a level of 45 dB CNEL; and non-residential uses are generally required to achieve interior noise levels between 45 and 65 dB $L_{eq(h)}$.

The pre-demonstration 60 dB CNEL contour included residential uses in the Galaxy Drive neighborhood in Newport Beach, and residential neighborhoods near Backbay Drive and Vista Del Oro (*see* Exhibit 3-35). Implementation of the proposed project (Alternative 1/*Base Case Scenario*) would actually reduce the size of the 60 dB CNEL contour, and that contour would *not* include those two residential areas (*see* Exhibit 3-36). Under pre-demonstration conditions, 2.68 sqare miles of land area surrounding (and including) JWA was included within the 60 dB CNEL contour, compared to 2.46 sqare miles under the proposed project (Alternative 1/*Base Case Scenario*), and 2.53 sqare miles for Alternative 2/*Base Case Scenario* (*see* Table 3-17).[99]

Under the *Base Case Scenario,* Alternative 2 also reduces the size of the 60 dB CNEL contour compared to pre-demonstration conditions - but not to the same degree as the proposed project. As reflected in Exhibit 3-14, the 60 dB CNEL contour for Alternative 2 would impact a small portion of the Galaxy Drive neighborhood, while the proposed project (Alternative 1)/*Base Case Scenario* (Exhibit 3-11) does not.

Using the *Base Case Scenario* operations assumptions, the NOP Project Case results in a 60 dB CNEL contour which is slightly smaller (.02 square miles) than Alternative 2/*Base Case Scenario*, but slightly larger (.05 square miles) than the Alternative 1/*Base Case Scenario* contours. In the case of the difference between the NOP Project Case and Alternative 2, this difference is principally the result of the fact that the NOP Project Case allows for higher maximum permitted noise levels at RMS 1, 2 and 3 than Alternative 2, which in turn results in lower noise levels south of RMS 3.[100] The Alternative 1/*Base Case Scenario* 60 dB CNEL contours are smaller than the Alternative 2/*Base Case Scenario*

---

[99] This comparison helps to illustrate the basic policy choice between the proposed project (Alternative 1) and Alternative 2. While, under the *Base Case Scenario*, *Scenario A* and *Scenario B*, the area within the 65 dB CNEL contour is greater for the proposed project than for Alternative 2, the opposite is consistently true for the 60 dB CNEL contour.

[100] More precisely, the "trade-off" effect between Alternative 2 on the one hand, and Alternatiave 1 and the NOP Project Case on the other hand, can be directly measured at the line which is defined by the points representing RMS 21 and 22. *See* Exhibit 3-1.

contours for the same reason. The NOP Project Case/*Base Case Scenario* 60 dB CNEL contour is slightly larger than the contour for the Alternative 1/*Base Case Scenario* principally because the NOP Project Case contemplated higher maximum permitted noise levels at RMS 1, 2 and 3 for all classes of air carrier aircraft than is proposed as a result of mitigation measures incorporated into the proposed project (Alternative 1).[101]

The 60 dB CNEL contours under the proposed project (Alternative 1), Alternative 2 and the NOP Project Case (again, using *Base Case Scenario* assumptions) are all slightly *wider* near the airport, and would include a larger portion of Santa Ana Heights, than under pre-demonstration conditions. Portions of the Santa Ana County Club, and commercial uses to the north along South Bristol Street, and residential uses along Cypress Street and Riverside Drive would be encompassed by these 60 dB CNEL contours that were not encompassed under pre-demonstration conditions.

As noted in Section 3.1, overall, the *Base Case Scenario* effects of the proposed project (Alternative 1) and Alternative 2 would cause an increase in the noise levels in the Santa Ana Heights area compared to the pre-demonstration conditions. In contrast, residential areas south of the Santa Ana Heights area in Newport Beach would experience a decrease in noise levels from pre-demonstration conditions under the proposed project. Implementation of either the NOP Project Case or of Alternative 2 would also cause a decrease in the noise levels south of the Santa Ana Heights area in Newport Beach, but to a lesser degree than under the proposed project (Alternative 1).

3.2.4.2 *SCENARIO A* ANALYSIS

The *Scenario A* analysis assumes that JWA is operating at the 1985 Settlement Agreement limitation of 8.4 MAP, and it assumes a fleet mix which includes 13.3 ADDs operated by MD-80 series aircraft. As discussed in greater detail in Section 3.1, the fleet mix assumptions for the *Scenario A* analysis is based upon a reasonably conservative estimate of future operations and fleet mix given the current operational trends at JWA.[102] The Phase 2 Access Plan would, however, at least theoretically, permit a maximum of 39 ADDs operated by MD-80 aircraft. This "worst-case" scenario (*Scenario B*) is also analyzed below.

---

[101] *See* the discussion in Section 3.1.5.

[102] Again, as noted in Section 3.1, the use of MD-80's at JWA has shown a marked downward trend in recent years. If this trend continues, the actual number of MD-80 operations may be significantly less than 13.3 ADDs and, if so, this would only improve the single event and cumulative noise environment south of the airport. However, for purposes of the analysis in this EIR, there has not been an assumption of a continuing decrease in MD-80 use at JWA in future years, although current trends indicate that this will almost certainly occur.

The "long-term" (*i.e., Scenario A*) noise effects of the proposed project (Alternative 1) and Alternative 2 are very similar in magnitude to the "short-term" (*i.e.,* the *Base Case Scenario*) impacts. This is due principally to the fact that the assumed number of MD-80 aircraft operations remains at 13.3 ADDs. As discussed in Section 3.1, the number of MD-80 operations defines, to a large extent, the shape and size of the CNEL contours south of JWA.

Avigation Easements

As noted in the discussion of the *Base Case Scenario,* above, neither the proposed project, the NOP Project Case, nor Alternative 2 would result in CNEL levels south of JWA exceeding the CNEL levels specified in those avigation easements which have previously been recorded by the County as a result of the County's prior implementation of the purchase assurance and acoustical insulation programs adopted as mitigation measures as part of the certification of EIR 508/EIS. (*See* Exhibits 3-32, 3-33 and 3-34).

65 dB CNEL Contour

The 65 dB CNEL contour for the proposed project (Alternative 1) under *Scenario A* expands slightly compared to its size under the *Base Case Scenario* (6.0 MAP). An additional 40 residential units would be affected, most of which are in the Pegasus tract and on Riverside Drive and Cypress Street in the Santa Ana Heights area. The 65 dB CNEL contour for the proposed project (Alternative 1/*Scenario A*) would encompass an area smaller than that anticipated by the EIR 508/EIS Year 2005 project case contours (Exhibit 3-35).

Table 3-17 shows that the Alternative 1/*Scenario A* 65 dB CNEL contour would encompass 152 single family residential units and 278 multi-family residential units. This compares to 221 single family residences and 347 multi-family units expected to be within the EIR 508/EIS Year 2005 project case 65 dB CNEL contour.

Again, under *Scenario A*, Alternative 2 would result in a 65 dB CNEL contour which encompasses a slightly smaller area than the proposed project (Alternative 1). The Alternative 2/*Scenario A* 65 dB CNEL contour would include 53 fewer residential units (single and multi-family), but would include the same number of unimproved lots with residential zoning than under the proposed project (Alternative 1). Most of this difference affects properties within the Pegasus tract and near Riverside Drive. The Alternative 2/*Scenario A* 65 dB CNEL contour is shown in Exhibit 3-36, together with the EIR 508/EIS Year 2005 project case contour.

SANTA ANA HEIGHTS AREA

John Wayne Airport

RED HILL

LEAR AV.

AIRWAY

CLINTON ST.

FRWY.

SOUTH AIRPORT

CAMP

QUAIL

WESTERLY

PLACE

NEW

ST.

BOWSPRIT

DR.

JAMBOREE RD.

PLAZA DR.

SPRUCE AV.

DOVE

NORTH BRISTOL ST.

CORONA DEL MAR FREEWAY (73)

SOUTH BRISTOL ST.

RMS 1

RMS 2

RMS 3

CHAMBERS

DELHI

IRVINE

SANTA ANA

ACACIA

STREET

ORCHARD DRIVE

MESA DRIVE

UNIVERSITY DRIVE

REDLANDS DRIVE

RIVERSIDE DRIVE

YELLO LANE

INDUS

PEGASUS

KINGS ROAD

ANNIVERSARY LANE

PAPER LANE

SILVER LANE

GOLDEN CIRCLE

ZENITH AVENUE

AZURE AVENUE

ORCHID

SPRUCE

CYPRESS

BAY VIEW

ORCHARD DR.

ORCHID HILL PLACE

BAY FARM PLACE

UPPER BAY DRIVE

BAYCREST CT.

CRYSTAL BAY PL.

BAYVIEW DR.

BAYVIEW WY.

CORMORANT CIR.

CORMORANT CT.

PL.

LN.

CIR.

EGRET CT.

SHEARWATER

PELICAN CT.

70

69

68

67

66

65

N

0 300 600

Scale in Feet

● Existing Permanent Remote Monitoring Station (RMS)

– – CNEL Contours for Proposed Project (103.0) – 13.3 MD – 80, 6.0 MAP

70 - Recorded Avigation Easements

EXHIBIT 3-32

SANTA ANA HEIGHTS AREA

John Wayne Airport

RMS 1

RMS 2

RMS 3

70

69

68

67

66

65

N

0 300 600

Scale in Feet

- Existing Permanent Remote Monitoring Station (RMS)
- CNEL Contours for Proposed Project (101.5) – 13.3 MD – 80, 8.4 MAP
- 70 - Recorded Avigation Easements

EXHIBIT 3-33

SANTA ANA HEIGHTS AREA

John Wayne Airport

RMS 1

RMS 2

RMS 3

70

69

68

67

66

65

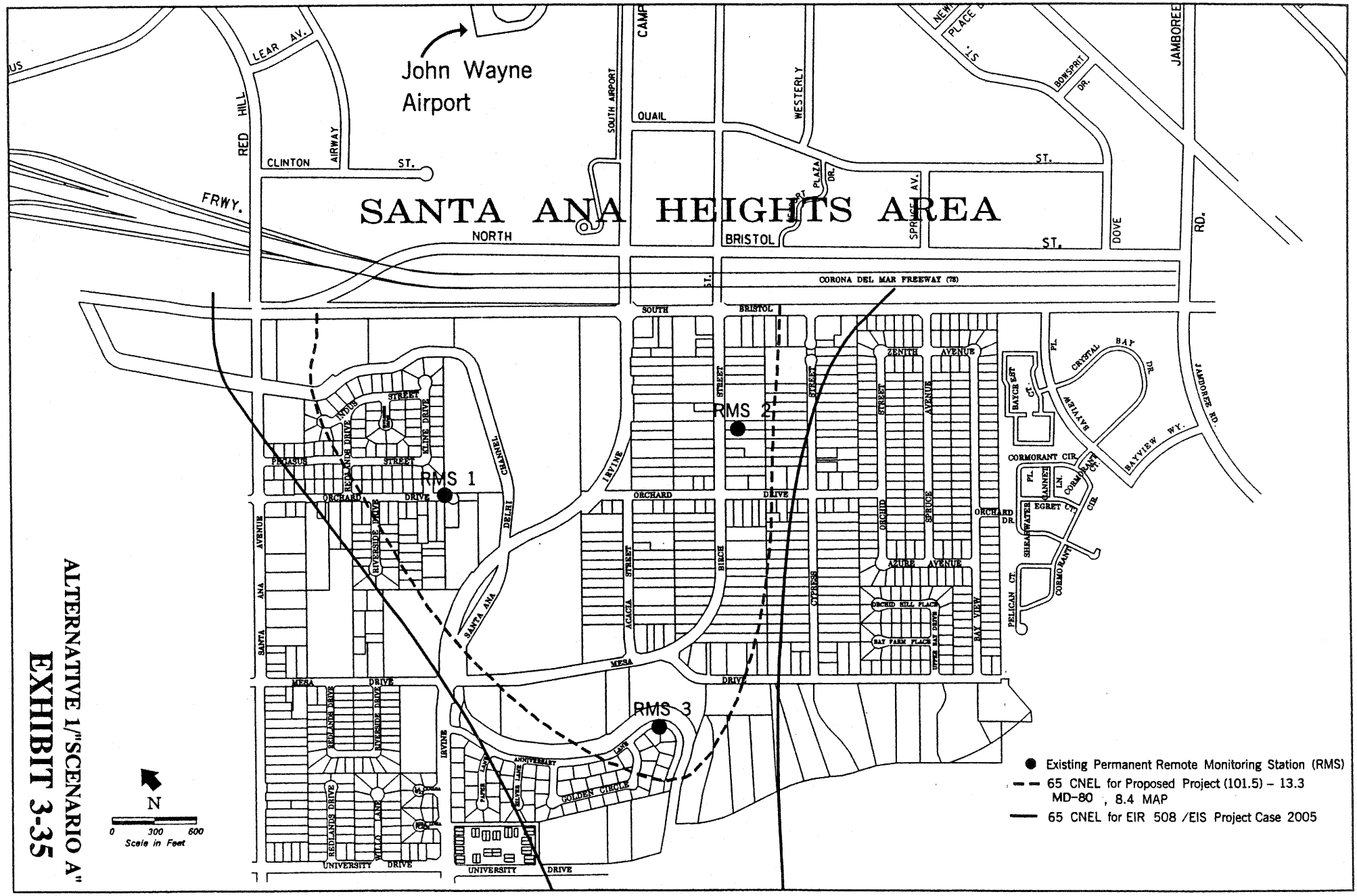
N

0 300 600

Scale in Feet

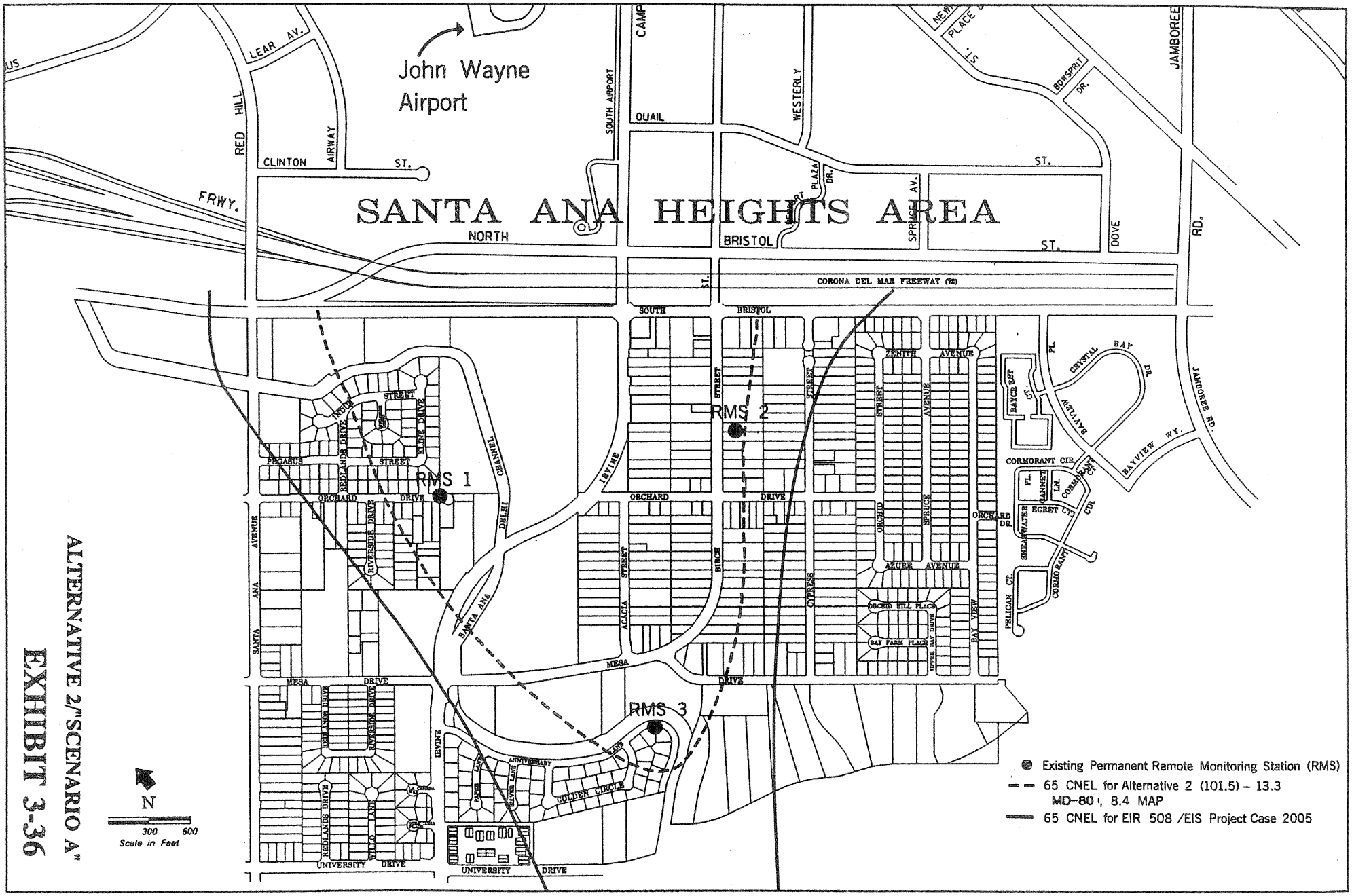
- Existing Permanent Remote Monitoring Station (RMS)
- CNEL Contours for Alternative 2 (101.5) – 13.3 MD – 80, 8.4 MAP
- 70 - Recorded Avigation Easements

EXHIBIT 3-34



ALTERNATIVE 1/"SCENARIO A"

EXHIBIT 3-35



ALTERNATIVE 2/"SCENARIO A"

EXHIBIT 3-36

TABLE 3-17

RESIDENTIAL USES WITHIN THE 65 dB CNEL CONTOUR
(Scenario A)

	EIR 508/EIS Project Case 2005*	NOP Project Case	Proposed Project (Alternative 1)	Alternative 2
Single Family Residential Units	221	165	152	115
Multi-Family Residential Units	347	281	278	262
Unimproved Lots Zoned Residential	5	2	2	2

* The EIR 508/EIS Project Case 2005 contour was based upon an assumed service level of 10.2 MAP.

60 dB CNEL Contour

The bulk of the area encompassed by the proposed project (Alternative 1) 60 dB CNEL contour south of the Santa Ana Heights area would include the Upper Newport Bay (*see* Exhibit 3-12). The contour would not impact residential neighborhoods near Galaxy Drive or Backbay Drive, unlike the 60 dB CNEL contour projected in EIR 508/EIS Project Case for the Year 2005, which impacts most residential neighborhoods west of, and adjacent to, the Upper Newport Bay (Exhibit 3-6). The proposed project (Alternative 1) 60 dB CNEL contour would include most of the Santa Ana Heights area by the time operations have reached 8.4 MAP, as assumed in *Scenario A*. It would encompass properties west of Orchard Street and east of Santa Ana Avenue.

Alternative 2/*Scenario A* (Exhibit 3-15) results in a 60 dB CNEL contour very similar to that of the proposed project (Alternative 1/*Scenario A*), except that it would stretch farther down the Upper Newport Bay to encompass residential uses along Galaxy Drive. Both the proposed project (Alternative 1/*Scenario A*) and Alternative 2/*Scenario A* result in lower noise levels in the Santa Ana Heights area, and farther south in Newport Beach, compared to what was predicted in the EIR 508/EIS project case for the Year 2005.

Under the *Scenario A* assumptions, the NOP Project case 60 dB CNEL contour has essentially the same relationship to the equivalent Alternative 1/*Scenario*

A and Alternative 2/*Scenario A* contours as under the *Base Case Scenario:* it is slightly smaller than the Alternative 2 contour and slightly larger than the Alternative 1 contour. (*See* Table 3-16).

3.2.4.3 *SCENARIO B* ANALYSIS

The "worst-case" analysis (*Scenario B*) considers the maximum number of MD-80 aircraft operations (39 ADDs) allowed under the PHASE 2 ACCESS PLAN. Although impacts of the worst case project are discussed below, this scenario is unlikely because of the recent pattern of use of that aircraft at JWA and current trends in airline fleets.

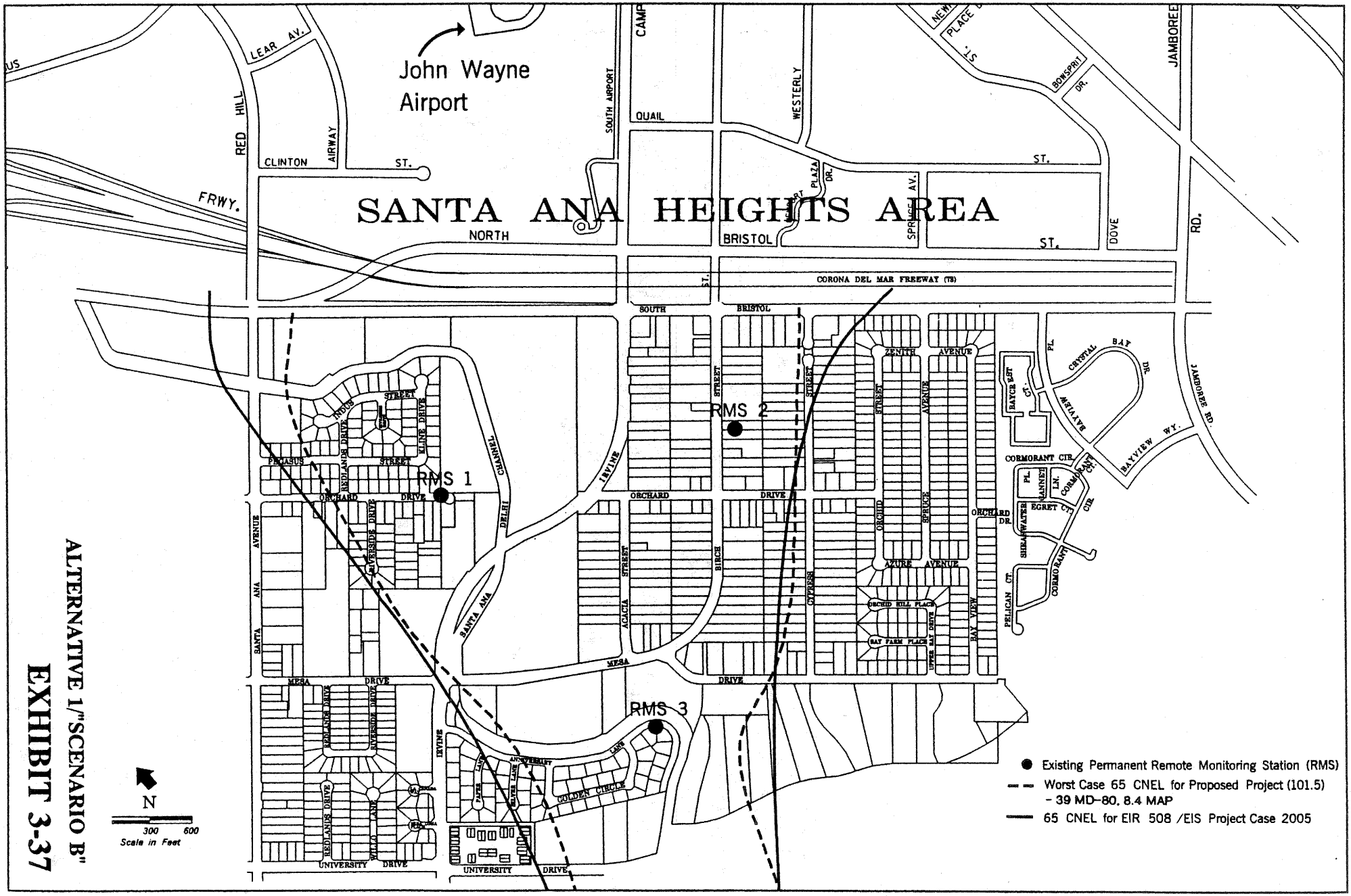
65 dB CNEL Contour

Under *Scenario B*, the 65 dB CNEL contours for the proposed project (Alternative 1) and Alternative 2 are almost identical in size and shape and would, therefore, essentially include the same land areas in Santa Ana Heights. These areas include business park, commercial and residential uses west of Cypress Street and generally east of Irvine Avenue, as well as the Anniversary and Pegasus tracts and the Riverside Drive area. The 65 dB CNEL contour for both alternatives are very similar in area compared to the contour projected in EIR 508/EIS for the Year 2005. (*See* Exhibits 3-37 and 3-38). However, even under this "worst-case" analysis, the proposed project (Alternative 1/*Scenario B*) and Alternative 2/*Scenario B* would actually include fewer residential units than EIR 508/EIS Project Case 2005 contour, which encompasses 568 residential units. (*See* Table 3-18).

With respect to the *Scenario B* contours, the Alternative 2 65 dB CNEL contour would include 15 fewer single family residences than the NOP Project Case and 6 fewer single family residences than the proposed project (Alternative 1). These differences in the contours would occur principally in the Pegasus Tract and the Riverside Drive area.

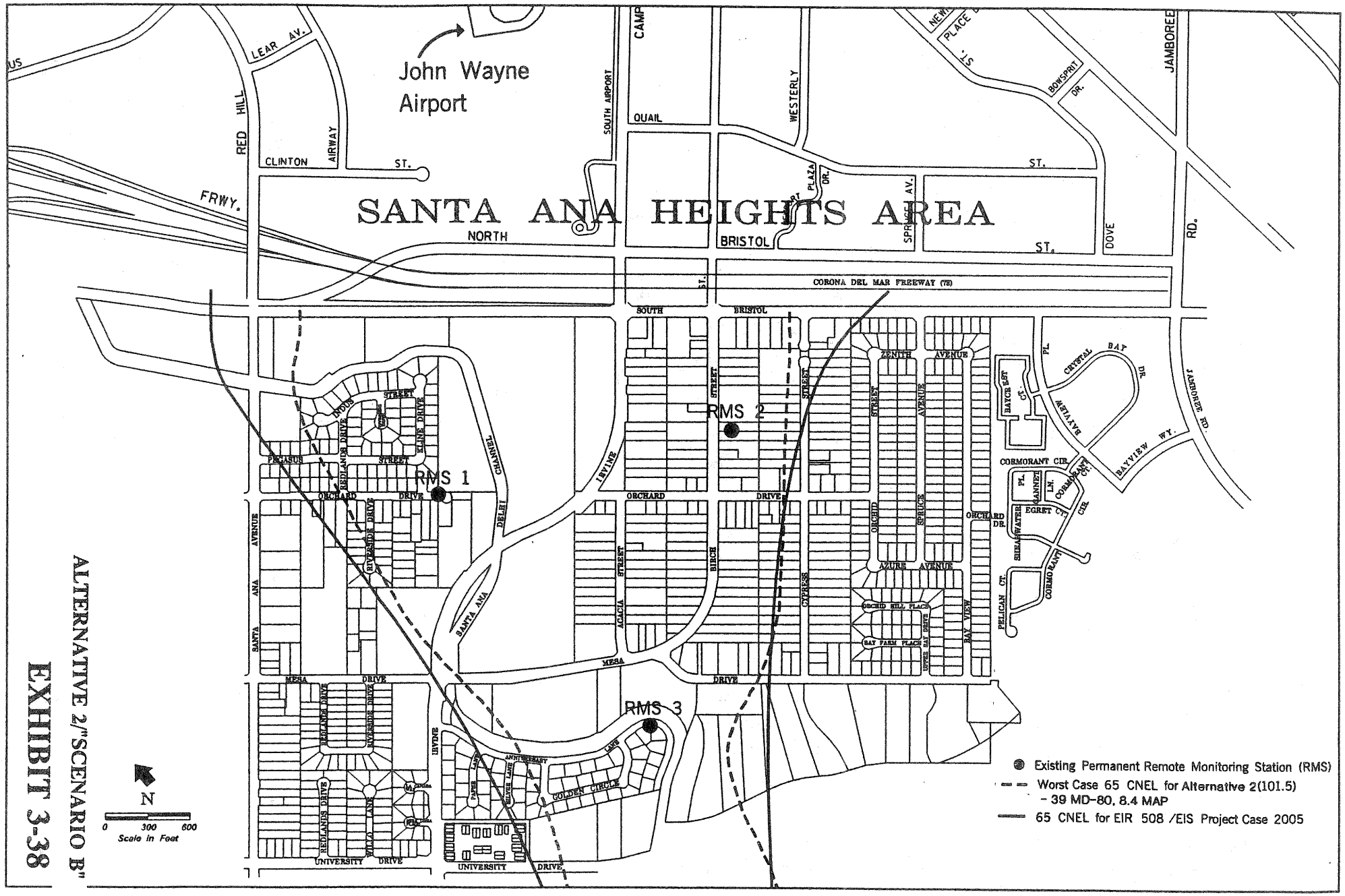
60 dB CNEL Contour

As with the 65 dB CNEL contours, the *Scenario B* 60 dB CNEL contours for both the proposed project (Alternative 1) and for Alternative 2 are nearly identical. As illustrated in Exhibits 3-13 and 3-16, under this scenario, the 60 dB CNEL contour for either alternative would encompass residential neighborhoods adjacent to the Upper Newport Bay near Backbay Drive and Galaxy Drive, as well as the bulk of land uses in the Santa Ana Heights area west of Bayview Avenue.



ALTERNATIVE 1/"SCENARIO B"

EXHIBIT 3-37



ALTERNATIVE 2/"SCENARIO B"

EXHIBIT 3-38

Unlike the other two analysis scenarios (*i.e., "Base Case Scenario"* and *"Scenario A"*), the NOP Project Case/*Scenario B* 60 dB CNEL contour is .23 square miles larger than either the Alternative 1/*Scenario B* or Alternative 2/*Scenario B* 60 dB CNEL contours. (*See* Table 3-16).

TABLE 3-18

RESIDENTIAL USES WITHIN THE 65 dB CNEL CONTOUR
(Scenario B)

	EIR 508/EIS Project Case 2005*	NOP Project Case	Proposed Project (Alternative 1)	Alternative 2
Single Family Residential Units	221	216	207	201
Multi-Family Residential Units	347	315	315	315
Unimproved Lots Zoned Residential	5	5	3	3

* The EIR 508/EIS Project Case 2005 contour was based upon an assumed service level of 10.2 MAP.

3.2.5 SUMMARY

In summary, under the artificial "worst-case" assumptions of *Scenario B,* the proposed project (Alternative 1) and Alternative 2 would result in essentially identical noise and land use impacts and, by the Year 2005, would include essentially the same sized area as the contours predicted for that year in EIR 508/EIS. However, under both the *Base Case Scenario* and *Scenario A,* the cumulative (*i.e.,* CNEL) noise contours would be smaller in all areas south of JWA compared to the noise environment projected in EIR 508/EIS both for the Year 1990 and the Year 2005.

Under both the *Base Case Scenario* and *Scenario A,* the 65 dB CNEL contour for the proposed project (Alternative 1) would enclose a slightly larger area in the Santa Ana Heights area than Alternative 2. The opposite is true for the 60 dB CNEL contour because, in contrast to Alternative 2, the 60 dB CNEL contour for the proposed project (Alternative 1) would not encompass certain residential areas west of the Upper Newport Bay (*e.g.,* the Galaxy Drive neighborhood in Newport Beach).

3.2.6 MITIGATION MEASURES

Although "long-term" (*i.e., "Scenario A"*) land use impacts resulting from implementation either of the proposed project (Alternative 1/*Scenario A*) or Alternative 2/*Scenario A* would be smaller in magnitude than what was anticipated in EIR 508/EIS for the Year 2005, the County proposes to implement certain land use mitigation measures as part of the project.[103] Implementation of these measures would contribute to mitigation of the short-term impacts of the proposed project (Alternative 1) or Alternative 2, and would ensure that land use compatibility in the Santa Ana Heights area is achieved in accordance with state standards and the general plan policies of the relevant local jurisdictions. These mitigation measures will also act to re-initiate and continue implementation of mitigation programs adopted by the County to mitigate the land use impacts of the 1985 JWA Master Plan.

Implementation of these mitigation measures is, however, important for other reasons as well. The change in FAA policy which requires reconsideration of the maximum permitted noise levels south of JWA is, to the people residing south of the airport, a major change in circumstances from the expectations which they developed in 1985 at the time the County approved the 1985 Master Plan; and it is a major change in circumstance from the actual noise environment which those residents have been experiencing on a day-to-day basis since implementation of both Phase I (1985) and Phase II (1990) of the 1985 Master Plan. In this context, the CNEL descriptor is helpful for purposes of the noise analysis but has limited applicability to the day-to-day experience and expectations of the residential communities in Santa Ana Heights. In considering the need for mitigation, the single event noise level increases which would result from implementation of the proposed project (Alternative 1) or Alternative 2 are *at least* as important to the community as the CNEL increases. Certainly, in the numerous public meetings which the County has sponsored as part of the noise demonstration process and the consideration of the environmental effects of possible changes to the PHASE 2 ACCESS PLAN, it has been a consistent theme in the comments of the community that it is the increases in single event noise levels which is of concern to them and which directly impacts their use of their properties, not the CNEL increases.

While the debate over noise descriptors is an ongoing one and one which has had a long history, in this instance the County both understands and agrees with the community that the single event noise level increases which would result if the proposed project (Alternative 1) or Alternative 2 are implemented are of special significance and deserve - under all of the relevant historical circumstances - special consideration.

---

[103] The mitigation measures discussed in this section are proposed for implementation if the Board of Supervisors selects either the proposed project (Alternative 1) or Alternative 2 for implementation. If either the no-project alternative or Alternative 3 (*see* Chapter 4) are selected by the Board, these mitigation measures would not be needed and are not proposed for implementation.

Therefore, although the expected noise level effects of the proposed project (Alternative 1) or of Alternative 2 would not cause the JWA CNEL contours to expand beyond the contours predicted in EIR 508/EIS, that fact alone is not sufficient under the circumstances to conclude that no further land use mitigation actions are required as part of the implementation of this project. As discussed below, what is required is to reconsider the mitigation programs adopted as part of the EIR 508/EIS process to determine whether they are still sufficient mitigation under the circumstances related to this project, or whether some modifications or additional mitigation should be implemented.

As part of the environmental review process, the County's Environmental Management Agency, which has principal County agency responsibilities with respect to the Santa Ana Heights Specific Plan and the LUCP, sent questionnaires to the residents of Santa Ana Heights in December 1992. Those residents had had the opportunity by that time to experience the various noise abatement departure procedures tested during the noise level demonstration program. Essentially, the questionnaire focused on the perceptions of the residents of noise level increases during the noise demonstration period and on their individual preferences for various possible mitigation measures which might be implemented as part of the proposed project. There were a significant number of responses to this questionnaire despite the relatively short period of time the residents had to fill it out and return it to the County. These responses are considered by the County to be important information in analyzing possible mitigation measures - not only for "theoretical" effectiveness, but for acceptance by the affected community as acceptable mitigation measures.

As analyzed in this EIR, the potential land use mitigation measures can be grouped in to two principal categories: (i) mandatory land use actions instituted by the County to convert existing residential uses to other land uses more compatible with JWA operations; and (ii) voluntary programs available to the affected residents of Santa Ana Heights, at their discretion. Each of these mitigation measures is considered in light of, and on the assumption that there will be implementation of the noise mitigation measures discussed in Section 3.1.5 of this EIR. Those noise mitigation measures will act to mitigate some of the noise effects of the proposed project (Alternative 1) or Alternative 2. The question addressed in this section is whether there are reasonable and feasible land use mitigation measures which can also be adopted which will further reduce the noise effects of implementing the proposed project.

3.2.6.1 MANDATORY MITIGATION MEASURES

The principal potential land use mitigation measure evaluated by the County in connection with preparation of this EIR would be a mandatory conversion, by condemnation if necessary, of various areas currently planned to remain residential and which are located within the projected 65 dB CNEL contour for the proposed project (Alternative 1/*Scenario A*) or Alternative 2/*Scenario A*. The properties affected by such a

program would be principally in the Anniversary and Pegasus Tracts and in the Riverside Drive area. However, the County has concluded that this approach to mitigation is not desired by most of the affected community areas in Santa Ana Heights, would cause significant disruption of existing land use planning efforts in Santa Ana heights, and would cause significant upset and disruption of existing communities. This approach would also require the greatest expenditure of funds to implement. Therefore, the County has concluded that this approach to land use mitigation measures is unreasonable and, under the circumstances, infeasible.

A second mitigation measure considered as part of this environmental analysis would be to replan and rezone many of the existing residential areas in Santa Ana Heights, particularly those which will be directly affected by the proposed project. Under this approach, the County would rely upon the market place to make a transition - over time - to business park and/or commercial uses. This too would, in effect, be a "mandatory" mitigation measure in the sense that the County would implement the rezoning on an area-wide basis, including those properties where the current residents do not want their neighborhoods to change.

The County does not believe that a mandatory rezoning program would be a reasonable, fair or effective mitigation measure for this project. First, based upon the results of the December 1992 survey and other information from existing Santa Ana Heights residents, there clearly is no strong sentiment favoring this approach to mitigation. The County interprets this information as indicating that there still is a strong desire among Santa Ana Heights residents to retain the residential character of those neighborhoods designated to remain as residential uses under the LUCP and SAHSP.

Second, this approach was taken under the LUCP and SAHSP in the "Business Park" area of Santa Ana Heights (*see* Exhibits 3-28 and 3-29). This is a resonable approach to land use conversion when reasonable market conditions exist for the purchase and sale of the affected properties. However, the extreme market weakness for business park and commercially zoned properties in Orange County in recent years has significantly delayed the anticipated conversion of the Business Park area in Santa Ana Heights. To attempt at this time to further expand the areas of Santa Ana Heights to be converted through rezoning and market forces would only further weaken the market for this type of property; and under current conditions, the County could not predict when a market based conversion would actually be completed.

In effect, this approach to mitigation at this time, and under current market conditions, would be inconsistent with the wishes of the large majority of the residents of Santa Ana Heights and would not appear to present them with any economic advantages or incentives to convert their properties. A market based conversion which is delayed for an extended period because of weak market conditions can in itself create hardships for remaining residents during the transition process which do not appear to be warranted or justifiable under the present circumstances. Therefore, the County believes

that this mitigation approach also is both unreasonable and infeasible for this project, and that there are superior mitigation approaches, which are discussed below.

3.2.6.2 VOLUNTARY MITIGATION MEASURES

As discussed earlier, the County implemented two voluntary land use mitigation measures in connection with its adoption of the 1985 Master Plan, the LUCP for Santa Ana Heights, and the certification of EIR 508/EIS: the purchase assurance program and the acoustical insulation program. The LUCP purchase assurance program has expired and is no longer available. The acoustical insulation program developed under the LUCP is still available but, as noted above, is presently subject to a moratorium imposed by the Board because of the substantial uncertainties created by the potential change in FAA policy on noise abatement departure procedures and the need to conduct the noise level demonstration in order to assess the potential effects of that change on the Santa Ana Heights and other communities south of JWA. The County believes that appropriate mitigation if the Board of Supervisors selects either the proposed project (Alternative 1) or Alternative 2 would be to: (i) reinstitute a purchase assurance program for a defined period of time; and (ii) to reactivate and accelerate the existing acoustical insulation program. Both of these programs will require, and are subject to the availability of, substantial federal grant funds, under the federal AIP program or otherwise.

Purchase Assurance Program

This program, which would be heavily dependent upon federal funding, would create procedures allowing eligible residents to sell the fee interest in their single family residential properties to the County at the fair market value of the property. Administrative details regarding implementation of the program would be developed if this mitigation measure is approved and adopted by the Board of Supervisors. However, the County anticipates that the basic parameters of the program would be similar to the program as originally implemented under the LUCP:

(i) The program would have an eligibility period of at least one year. The eligibility period would begin when adequate funding commitments have been obtained, and appropriate notices would be given to all eligible property owners when implementation of the program begins.

(ii) The eligibility area would be based upon the *Scenario A* 65 dB CNEL contour for the selected alternative, either the proposed project

(Alternative 1) or Alternative 2.[104] The precise eligibility area would approximate the contour line, but adjustments would be made to include properties on the fringes of the contour in order to maintain neighborhood integrity and to provide basic equity between adjacent landowners. Naturally, the eligibility line will have to be drawn somewhere, and some property owners might be excluded from eligibility who would otherwise desire to participate. However, this program would include *at least* those single family residential properties which are within or touched by the appropriate 65 dB CNEL contour.

(iii) Those properties acquired by the County under this program would be acoustically treated, an avigation easement would then be recorded in the chain of title to the property, and the residence would then be offered for resale on the open market.[105]

(iv) The fact that a specific property had participated in the purchase assurance program implemented under the LUCP would not in and of itself make that property ineligible for this program.[106]

Areas which would be within the eligibility contour would include the legally non-conforming residential uses in the Business Park area and sections of the Pegasus and Anniversary tracts.[107] (*See*, for example, Exhibits 3-27 and 3-28).

Although a significant percentage of the persons responding to the questionnaire sent to Santa Ana Heights residents in December 1992 indicated a desire to participate in a purchase assurance program, it is not possible to estimate with precision

---

[104] Again, if the Board of Supervisors selects either the no project alternative or Alternative 3 (*see* Chapter 4, below), no land use mitigation would be needed, warranted or implemented.

[105] Those residential properties acquired under this proposed program which are currently legally non-conforming uses in the Business Park area would be resold for office development, consistent with the SAHSP, after clearance of the residences from the property.

[106] While a specific property may have been acquired under the earlier purchase assurance program, the current owner of the property would not have previously participated, and that owner purchased the property, in many cases directly from the County, based upon reasonable expectations regarding the noise environment in light of the noise abatement departure procedures then in use and the resulting single event and cumulative noise levels typically experienced in the area. Since adoption of the proposed project (Alternative 1) or Alternative 2 would allow noise levels inconsistent with those expectations, it seems reasonable to allow this group of "subsequent purchasers" to be eligible for the purchase assurance program on equal terms with other eligible residents.

[107] Certain areas along Riverside Drive, Kline Avenue and Cypress Street would also be included.

how many property owners will actually choose to participate.[108] Therefore, the total cost of this program is difficult to estimate at this time with precision. However, in light of past experience and other information developed during the noise demonstration and environmental evaluation process, the County estimates that the initial (or "front-end") cost of such a program could range between $35 and $50 million. As these properties are acoustically insulated and resold by the County, much of these funds would be recaptured. However, the County estimates that the net cost of the program would still be approximately $15 to $20 million.[109]

Intuitively, it seems possible that the costs of this program might be less under if Alternative 2 is selected than if the Board of Supervisors selects the proposed project (Alternative 1) since the noise level increases in Santa Ana Heights would be less under Alternative 2 than under the proposed project (Alternative 1). Therefore, it might be reasonable to expect that fewer people would be sufficiently annoyed by the increased noise levels to choose to participate in the program and relocate their residence under Alternative 2 than under the proposed project. However, any attempted analysis of this difference would be speculative.

In addition, in the past the County managed the purchase assurance program with a limited commitment of staff and consultant resources because of the limited administrative funds available for the program. In order to implement this mitigation program on a more rapid basis, it would be necessary to make special organizational arrangements. A program office devoted specifically to Santa Ana Heights mitigation programs would allow accelerated and timely implementation of these programs. The County wishes to minimize any delay in full implementation of this project, and will seek appropriate funding levels from the federal grant programs to allow a level of staffing consistent with this objective.

---

[108] Specifically, in the Santa Ana Heights area generally, 30% of the respondents indicated that they would favor reinstitution of a purchase assurance program. However, in the Pegasus/Orchard neighborhoods, the Anniversary Tract and the Business Park area (including existing legally non-conforming residential uses), all areas directly affected by departure noise, 44% of the respondents favored reinstitution of the program. Interest in the program did not appear to bear any correlation to the respondents' length of residence in the Santa Ana Heights area.

[109] The County assumes, for purposes of this analysis, that there would be no change in sales price between the purchase and sale. However, there would still be a net cost to the project because of administrative costs, costs associated with clearing acquired Business Park area properties and putting them into a condition appropriate for sale as office property, relocation assistance, and acoustical insulation costs. Obviously, the ultimate "net cost" of the project will be influenced by propety values in the Santa Ana Heights area during implementation of the program. The residential real estate market in the Santa Ana Heights area, like other areas of Southern California, has been depressed for some time. The office building and business park development market in the Santa Ana Heights area is currently even more depressed given the substantial vacancy factor in office buildings in Orange County at the present time.

This program accomplishes a number of objectives and accommodates a number of considerations of fairness and equity with respect to the existing residents of Santa Ana Heights. Based upon the December 1992 survey and other information collected by the County during this environmental process, it is clear that the Santa Ana Heights community does not favor wholesale revisions of the current land use plans for the area. However, under this program, those specific individual residents who feel that the noise level increases resulting from implementation of the proposed project (Alternative 1) or of Alternative 2, exceeds their individual threshold of acceptability will have the opportunity to sell their residences at fair market value and relocate to some other area which they do find acceptable.

Reinitiation of a purchase assurance program is also reasonable under these circumstances, even though the program was previously made available to residents in the Santa Ana Heights area. The decision of the FAA to change its policy on noise abatement departure procedures in a manner which will directly increase noise levels south of JWA is a change in the circumstances under which some of the residents of Santa Ana Heights made their decisions not to participate in the program when it was first offered.[110] Some individuals will find that change in circumstances to be such that they no longer desire to live in Santa Ana Heights, even if a majority of the community wishes to retain its existing residential areas. Unlike the two mandatory programs considered and rejected in the previous section, this program is more responsive to the individual desires, feelings and perceptions of the Santa Ana Heights residents who would be eligible for the program; and it allows the County and the community to preserve existing residential areas of Santa Ana Heights.

Acoustical Insulation Program

This program is currently available to all single family and multi-family residential properties within an eligibility area which is largely coincident with the EIR 508/EIS Year 1990 65 dB CNEL contour.[111] A total of 460 residential units (multi-family

---

[110] Again, these residents made their original choice based principally upon their perception of noise levels and their noise environment after implementation of the 1985 Master Plan and in the context of the various noise abatement procedures which FAA had specifically approved for use at JWA which will no longer be legal after full implementation of AC 91-53A by the FAA. This is not meant as a criticism of the FAA - the County defers to the judgment of that agency regarding minimum safety standards for the operations of commercial aircraft. However, the fact remains that this change in FAA policy will be significant for a number of residents of the Santa Ana Heights area and will be viewed by them as fundamentally inconsistent with their expectations at the time they originally decided to remain in, or to acquire residential property in Santa Ana Heights.

[111] Again, the projected 1990 65 dB CNEL contour under EIR 508/EIS was larger than the projected Year 2005 65 dB CNEL contour, largely because of fleet mix assumptions made for the analysis of those two

(continued...)

and single family) are eligible for participation in the program at the present time. Between February 1986 and July 1991 (when the current program moratorium was imposed) the County completed acoustical insulation of 77 dwelling units. The County proposes to recommend that the Board of Supervisors terminate the program moratorium upon adoption of the proposed project (Alternative 1) or Alternative 2.

Responses to the December 1992 survey of Santa Ana Heights residents indicate that, overall, 30% of the residents in Santa Ana Heights favor the acoustical insulation program as part of the mitigation program for the proposed project. In the Pegasus/Orchard, Anniversary and "Business Park" neighborhoods, 21% of the respondents favored the acoustical insulation program. However, it should be noted that 24% of the residential properties in those neighborhoods have already been acoustically insulated under the existing acoustical insulation program.

However, the speed at which the acoustical insulation program can be reinstituted and effected will be dependant to a large degree on the availability of federal grant funds to support the project. While implementation of the proposed purchase assurance program would be dependent upon the commitment of adequate federal funds, the County would continue to implement this program with or without federal assistance. However, without federal funding assistance, this program will be implemented only as funding and staff are available to implement the program. Nevertheless, as noted earlier in the discussion of the existing acoustical insulation program, there are currently 77 single family units, and 214 multi-family units currently on the "waiting list" for program participation once the program moratorium has been lifted.

The County estimates that the costs of fully implementing the remainder of this program would be between $7.3 and $8.6 million, plus administrative costs and expenses. For reasons discussed under the purchase assurance analysis, above, the FAA's policy decision to change the parameters of permitted noise abatement departure procedures at JWA has changed the circumstances under which the County offered, and residents accepted or declined to participate in, the acoustical insulation program. Therefore, the County believes that it is appropriate to request supporting federal funding for this program so that it can be accelerated and implemented in as timely a manner as possible. This will require additional staffing by the County beyond the staffing levels previously committed to the program. If the necessary federal funding and staffing increases can be obtained, the County believes that it would be possible to complete this mitigation program within a period of 24 months after it is approved and the necessary federal funding has been obtained. If no federal funds are made available to support this mitigation program, it will probably take substantially longer to implement given the interest level

---

[111](...continued)
contours. The eligibility area for this program would not be redefined and it would, therefore, be somewhat larger than the proposed second purchase assurance program, which would be based upon the *Scenario A* 65 dB CNEL contour for the selected alternative discussed in this EIR.

indicated by the size of the current program waiting list and the community responses to the noise level demonstration and the December 1992 questionnaire effort.

3.2.7. Analysis of Significance

CEQA Guidelines, Section 15126(b), requires a discussion of environmental impacts of the proposed project that cannot be mitigated to below a level of significance. Based on the assessment in the Noise section of this EIR (Section 3.1) and in this section of the EIR, and in light of the proposed mitigation measures identified in each of those sections of the EIR, there are no adverse land use environmental impacts that cannot be mitigated to below a level of significance if adequate federal funding is provided to implement fully the proposed purchase assurance and acoustical insulation mitigation measures.

However, if the purchase assurance program cannot be implemented because of a lack of federal funding, both the proposed project (Alternative 1) and Alternative 2 would cause significant unavoidable adverse land use impacts. If federal funding is not made available to support an accelerated implementation of the existing acoustical insulation program, there would be short term unavoidable adverse land use impacts which would exist until the program could be completed.

If both programs receive adequate federal funding and are implemented as part of the project, the impacts would be reduced below the level of significance for a number of reasons. First, the acoustical insulation program will provide an interior noise environment in residential units which meets all state standards for interior residential noise levels. Of course, acoustical insulation does not mitigate increases in noise levels in the outdoor environment. However, to the extent that eligible residents in Santa Ana Heights would find the outdoor noise effects of the proposed project (Alternative 1) or Alternative 2 unacceptable to them, the purchase assurance program will offer them the opportunity to relocate to another area not subject to aircraft noise. With respect to those residents who elect to participate in the acoustical insulation program but not the purchase assurance program, it is reasonable to conclude that they would find the outdoor noise environment after implementation of the project acceptable. This conclusion is also supported by the fact that the proposed increases in the single event noise levels would not be significant for Class A Aircraft, and would only be significant on a relative basis for Class AA Aircraft in the vicinity of RMS 1 and 2 and significant on a relative basis for Class E Aircraft in the vicinity of RMS 1, 2 and 3 under the proposed project (Alternative 1) (*see* Table 3-4 and the accompanying text). If Alternative 2 is selected as the project to be implemented, the single event increases would be significant on a relative basis only for Class E Aircraft in the vicinity of RMS 1 and 2, but not RMS 3.

However, on an "absolute" rather than a relative basis, the proposed Class AA and Class E maximum permitted noise levels are still substantially and significantly lower

than the maximum permitted Class A noise levels. This fact, combined with the clear trend toward reduced use at JWA of the noisiest of the Class A Aircraft, the MD-80, leads to the conclusion that, overall, there continues to be a trend towards reductions in single event noise levels in the Santa Ana Heights area (when considered on a fleet wide basis), even with implementation of the proposed project (Alternative 1) or Alternative 2. In addition, the fact that a majority of the Santa Ana Heights residents still prefer to preserve existing residential areas in Santa Ana Heights supports the conclusions that the outdoor noise effects of the proposed project (Alternative 1) or Alternative 2 are not significant.

Nevertheless, even if the project caused increases in outdoor single event and CNEL levels were to be considered significant, that would be an unavoidable adverse impact of the project which cannot be reduced to a level of insignificance. While indoor noise levels can be controlled by acoustical insulation, and while outdoor noise levels can be controlled to some extent by operational mitigation measures, including those proposed in Section 3.1 of this EIR, there are no reasonable or feasible mitigation measures which could further reduce outdoor single event or cumulative noise levels in the Santa Ana Heights area if the proposed project (Alternative 1) or Alternative 2 are implemented. The unmitigated adverse impacts resulting from outdoor noise levels, if there are any, would be somewhat less under Alternative 2 than under the proposed project (Alternative 1).

3.3 BIOLOGICAL RESOURCES

3.3.1 EXISTING CONDITIONS

The project area selected for analysis includes the general vicinity of JWA, the Santa Ana Heights community and the additional area falling within the 65 dB CNEL noise contour. The project area is characterized by two habitat types: (1) the heavily urbanized airport environs and Santa Ana Heights community, with very little indigenous habitat and fauna; and (2) the predominately natural Upper Newport Bay Ecological Reserve, a 752-acre area, under the management of the California Department of Fish and Game, which is recognized regionally for its abundance and diversity of biological resources. (Adjacent to the ecological reserve is a 138-acre Regional Park that is under the management of the County of Orange.) The southern portion of the study area lies within the Upper Newport Bay Ecological Reserve and Regional Park. The Ecological Reserve and Regional Park have been the focus of many biological surveys and research investigations over the years. The literature developed from this work is surveyed and summarized in Marsh (1990), Gerstenberg (1989), Fulton (1978) and Daugherty (1978). The principal ecological overviews are Frey, *et al.* (1970), California Department of Fish and Game (1983) and Marsh (1990), accompanied by a variety of relatively thorough special studies on vegetation and major flora groups.

The most recent and detailed biological study of the Upper Newport Bay Ecological Reserve and Regional Park is the following: "Upper Newport Bay Regional Park

Existing Biological Resources" (Marsh 1990). A map indicating the sensitive species found in the Upper Newport Bay Ecological Reserve and Regional Park is provided in Exhibit 3-39.

3.3.1.1 Plant Communities And Habitat Types

The habitat types that are found within the project area include: grasslands, coastal chaparral, urban landscaped ornamental, coastal salt marsh, scrublands, riparian habitat and freshwater marsh. The urbanized portion of the project area is characterized by the artificial non-native grasslands and landscaped habitats, whereas the remaining native habitat types are found within the Upper Newport Bay Ecological Reserve. The characteristic floral and fauna composition of each habitat type is described below.

Grasslands

Grassland habitat is typically a replacement community which develops in untended areas where the indigenous habitat has been removed and the natural environmental condition altered. This community is dominated by low-lying, weedy introduced annual plants which are adapted to the rather harsh conditions of compacted or loose soils, high temperatures, intense light, and low moisture. Among the most common species of grasses and forbs are: red brome (*Bromus rubens*), wild oat (*Avena fatua*), foxtail barley (*Hordeum leporinum*), short-podded mustard (*Brassica geniculata*), and white-stemmed filaree (*Erodium moschatum*). Fauna characteristic of this habitat type include a variety of small mammals (such as rodents and rabbits), birds (song birds and raptors), and reptiles (lizards and snakes).

This community stretches in a narrow band from the southern end of the airport to the upper border of Upper Newport Bay. It is also found in a few locations in the Santa Ana Heights region. There are approximately 91.5 acres of grassland habitat found within the Upper Newport Bay Regional Park.

Coastal Chaparral

Coastal chaparral typically inhabits north-facing slopes where taller, woody shrubs are promoted due to diminished evaporation rates and greater water resources. This subhabitat is almost extirpated at Newport Back Bay. There are approximately 1.6 acres of this habitat within the Upper Newport Bay Regional Park. This habitat provides useful cover for a variety of birds and mammals.

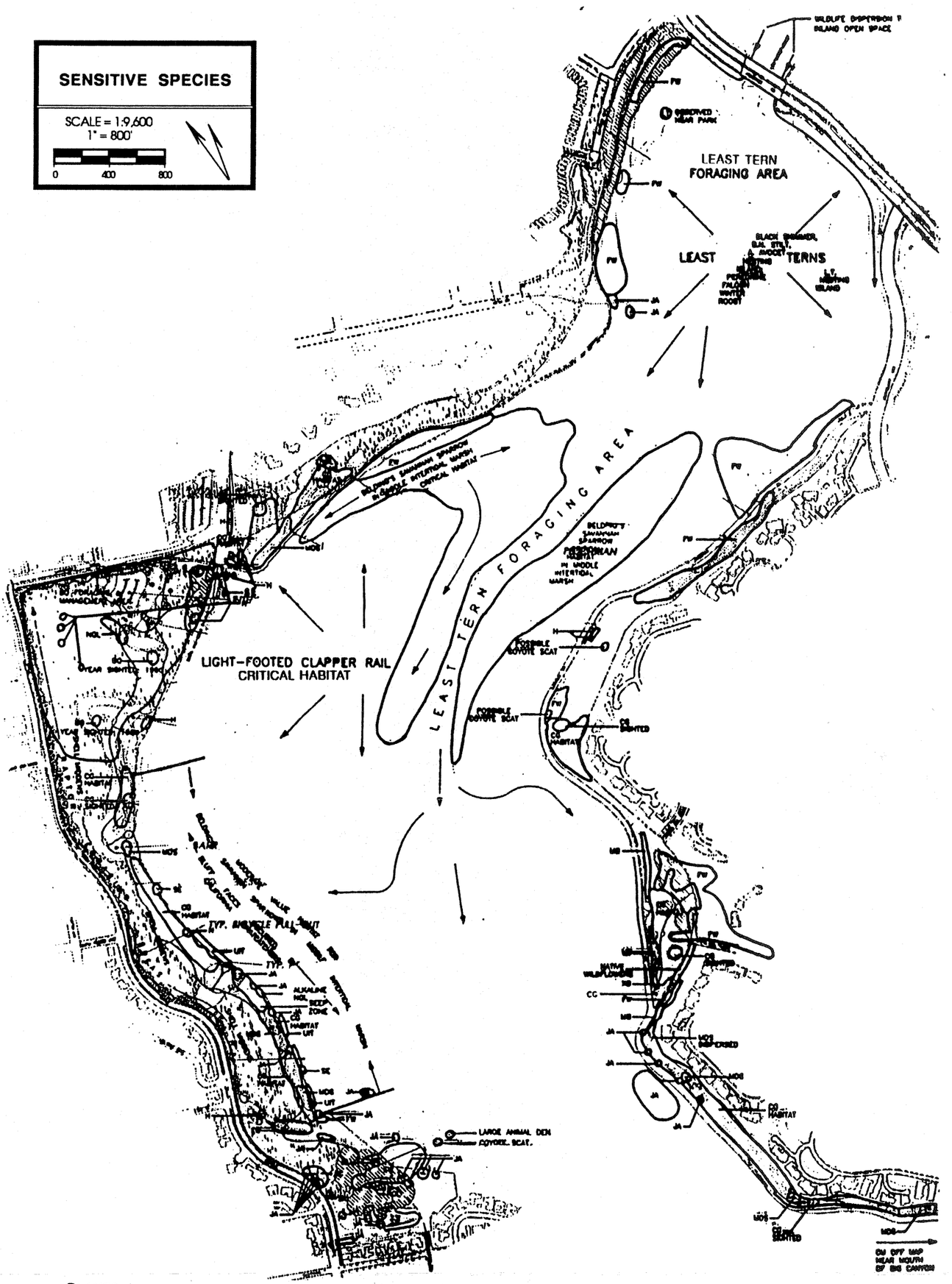

SENSITIVE SPECIES
SCALE = 1:9,600
1" = 800'
0
400
800
LEAST TERN FORAGING AREA
LEAST TERNS
LIGHT-FOOTED CLAPPER RAIL CRITICAL HABITAT
LEAST TERN FORAGING AREA
LARGE ANIMAL DEN
COYOTE SCAT
PLANTS
JA Southwestern Spiny Rush (Juncus acutus)
H Southern Spikeweed (Hemizonia australis)
SE Estuary Sea Blite (Suaeda esteroa)
ANIMALS
CG California Gnatcatcher
BO Burrowing Owl
HABITATS
AC Anemopsis Alkaline Marsh
FW Forested Wetland
MDS Maritime Desert Scrub (Opuntia-Lycium-Isomeris; Potential San Diego Cactus Wren Habitat)
XB Xeric Barren (Camissonia-Cryptantha)
NCL Native Perennial Grassland (Usually Stipa)
(Elymus-Juncus)
SW Vernal Pool-Like Seasonal Wetland
MB Mesic Barren (Dudleya-Moss-Melica-Pityrogramma)
UIT Upper Intertidal Zone Salt Marsh (Potentially Suitable For CM Introduction)

EXHIBIT 3-39

Urban Landscaped Ornamental

This artificially induced and maintained habitat type is found in association with the commercial and industrial establishments surrounding the airport and the residential areas of Santa Ana Heights. The landscaping is comprised of a variety of groundcovers, annual flowering herbs, and ornamental shrubs and trees. Certain songbirds and passerines have adapted well to this artificial habitat, while small mammals ranging from mice and shrews to opossums and raccoons may also be locally common.

Coastal Salt Marsh

Coastal salt marsh is the predominant habitat type in Upper Newport Bay, comprising well in excess of 90 percent of the vegetation found in the Ecological Reserve. There are approximately 10 acres of this habitat within the Upper Newport Bay Regional Park. The vegetation of this community is typically low-growing and adapted to a wide range of environmental conditions, particularly with respect to salinity and desiccation.

The distribution of vegetation within the marsh depends upon the degree of tidal inundation which, in turn, controls salinity and soils aeration. The resultant plant distribution is a gradual shift in species composition and dominance from the lowest levels of the marsh, or littoral zone (constantly submerged, high salinity, low soil aeration), to the highest level, or maritime zone (never submerged, reached by salt spray and moist marine air, greater soil aeration).

The dominant species in this continuum, from lowest highest levels in the marsh, are as follows: (1) cord grass (*Spartina foliosa*); (2) saltwort (*Batis maritima*)--common pickleweed (*Salicornia virginica*); (3) sea arrowgrass (*Triglochin maritima*)--alkali heath--(*Frankenia grandifola*); (4) common pickleweed--shore grass (*Monanthochloe littoralis*)--alkalai heath--salt grass (*Distichlis spicata*); and (5) grasswort (*Salicornia subterminalis*)--sea blite (*Suaeda californica*). Forty-three species of plants have been recorded from the Upper Newport Bay salt marsh.

Coastal salt marsh and adjacent tidal mud flats are regarded as excellent bird habitat, especially for shore birds, wading birds and wintering water fowl. There is also considerable diversity of marine invertebrates and fish found in and around the salt marsh of Upper Newport Bay. Small rodents are resident in the salt marsh as well.

Scrublands

Scrublands include both a coastal phase (generally referred to as Coastal Sage Scrub) and a maritime phase (Maritime Succulent Scrub with cacti such as

Coast Prickly Pear and Cane Cholla and Box Thorn as indicator species). These habitats (comprising approximately 27.2 acres in the Upper Newport Bay Regional Park) are utilized by several sensitive species including the California Gnatcatcher (sighted in 1991 on site) and the coast race of the Cactus Wren (not observed but potentially occurring in the area).

In 1991, the legislature enacted the Natural Community Conservation Planning Act ("the NCCP Act"). Fish and Game Code §§2800 *et seq.* The purpose of the NCCP Act is to provide for "regional protection and preparation of natural wildlife diversity while allowing compatible and appropriate development and growth." This purpose is achieved through the preparation and implementation of natural community conservation plans ("NCCPs"), which are intended to establish land use and management programs for the long-term protection of designated habitat and their component species. The NCCP program is designed to provide an alternative to current "single species" conservation efforts by formulating regional, natural community-based habitat protection programs to protect species inhabiting each of the targeted natural communities. This shift in focus from single species to natural communities is anticipated to enhance the effectiveness of ongoing species protection efforts.

The coastal sage scrub ("CSS") NCCP program is the first effort undertaken pursuant to the NCCP Act. It is a pilot project to develop a process for accelerated conservation planning at a regional scale, and it is intended to serve as a model for other efforts elsewhere in California. The CSS and NCCP program is intended to protect coastal sage scrub habitat and reconcile conflicts between habitat protection and new development within Southern California. The study area established for the CSS and NCCP program includes existing coastal sage scrub habitat in portions of five counties in Southern California. The program contemplates an 18-month planning period from May 1, 1992 to November 1, 1993. Prior to, and during this planning period, landowners and local entities have enrolled in the NCCP program by entering into voluntary agreements with the California Department of Fish and Game. Enrollment protects enrolled coastal sage scrub habitat during the 18-month planning period, and initiates the collaborative planning process which is intended to result in long-term habitat protection through an NCCP. The California resources agency and the California Department of Fish and Game anticipate that approximately ten to twenty functional subregional planning areas will emerge from the CSS and NCCP program. The California resource agency issued "process guidelines" for the Southern California CSS NCCP on September 1, 1992.

As a major landowner in Southern California, the County of Orange has enrolled approximately 20,263 acres of park, open space and landfills in the program. The Upper Newport Bay Regional Park is enrolled in the NCCP program and includes approximately 25 acres of coastal sage scrub habitat.

As specified in the NCCP agreement, the County of Orange will assess and make appropriate findings as part of the CEQA review process regarding whether a proposed project will have: (1) a significant unmitigated impact on coastal sage scrub

habitat; and (2) the potential to preclude the ability to prepare an effective subregional NCCP plan. Additionally, the County will consult with the Department of Fish and Game and the U.S. Fish and Wildlife Service and strongly consider any recommended mitigation measures for a project which affects coastal sage scrub processed during the NCCP planning period.[112]

Riparian Habitat

Several small areas of riparian, or streamside, vegetation are found in the Upper Newport Bay portion of the project area (approximately 18 acres). These areas occur along drainageways above tidal influence, and often contain freshwater marsh vegetation in addition to riparian woodland and/or riparian scrub.

The vegetation of these areas includes an invasive weedy mix of shrubs and suffrutescent herbs under Marsh's "Scrub-Shrub Wetland" with a taller tree component known as "Forested Wetlands." The vegetation is most commonly dominated by willows (*Salix* spp.) and mulefat (*Baccharis glutinosa*). A single male least bells vireo was observed in 1991 in riparian habitat near the edge of Upper Newport Bay.

Freshwater Marsh

Freshwater Marsh is well established at scattered locales around the Bay. Marsh divides these areas into "wet meadow," "moist alkaline meadow," "upper emergent wetland," "lower emergent wetland," "freshwater aquatic," and "vernal pool." Substantial overlap occurs between these groups. Typical freshwater marsh constituents include cattail (*Typha latifolia*), alkali bulrush (*Scirpus californicus*) and sedges (*Carex* spp.). Freshwater marshes near the bay serve as nesting and wintering habitat for several species of dabbling ducks and wading birds. They also support amphibians and aquatic invertebrate population.

3.3.1.2 BIOLOGICAL RESOURCES BY AREA

Airport--Santa Ana Heights Area

Virtually no native habitat is present within the project area outside the Upper Newport Bay Ecological Reserve. Consequently, the fauna in this area consists primarily of several native and introduced species of small rodents and perching

---

[112] According to a recent Los Angeles Times article on February 23, 1993, the deadline for the federal decision on whether the grant endangered species protection to the California gnatcatcher is March 17, 1993.

birds which are tolerant of human disturbance. California ground squirrels are very common in grassy areas and cottontail rabbits frequent places with some brush cover. Skunks and opossums are sighted frequently. A few species of reptiles may also be expected. Coyotes, an occasional gray fox, red-tailed hawks, and whitetailed kites, as well as feral dogs and cats, prey upon the small mammals and reptiles.

Upper Newport Bay Area

The estuarine habitat of Upper Newport Bay is considered regionally significant in that it supports a highly diverse and abundant assemblage of wildlife and represents one of the few relatively large pristine salt marsh ecosystems remaining in southern California. The area is particularly rich in marine and avian fauna. Though surrounded by heavily urbanized land uses, the bay complex itself has largely escaped the severe environmental degradation that typically accompanies such an interface.

Described below are the principal faunal inhabitants of the bay ecosystem. Most major vertebrate groups and some invertebrate groups have been inventoried within the last 15 years by a variety of investigators. The more comprehensive studies include: Barnard and Reisch (1959), Hardy (1970), Daugherty (1978b), Seapy (1980), Horn and Allen (1979), Sexton (1972a), Thompson (1977) Frey, *et al.* (1970), Gerstenberg (1989) and Marsh (1990).

Fish. Numerous species of fish have been recorded in Upper Newport Bay. While several species are common, among the most common are topsmelt (*Artherinops affinis*), deepbody anchovy (*Anchoa compressa*), stripped mullet (*Mugil cephalus*), and round stingray (*Urolophus halleri*). Seasonally, the bay serves as a spawning and nursery ground for many coastal species, including the spotted sand bass (*Paralabrax maculatofasiatus*), yellow fin croaker (*Umbrina roncador*), California halibut (*Paralichthys californicus*), and Pacifica barracuda (*Sphyraena argentea*). Among the several species of fish specially adapted for life in the marsh and on the mudflats are the long-jawed mudsucker (*Gillichthys mirabilis*), California killifish (*Fundulus parvipinnis*) and gobys (*Quietula y-cauda, Clevelandia ios*).

Amphibians and Reptiles: Several species of amphibians have been observed in the freshwater drainage and ponds around the Upper Newport Bay complex. Common species are the Pacific slender salamander (*Batrachoseps attenuatus*), Pacific tree frog (*Hyla regilla*), and western toad (*Buffo boreas*).

Numerous species of reptiles are also expected to occur in the upland portions of the bay area. Among the most common are the side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Gerrhonotus multicarinatus*), and the gopher snake (*Pituophis melanoleucus*).

Mammals. As many as twenty-four species of mammals are known or expected to inhabit the Upper Newport Bay reserve area. Residents of the marsh habitat itself include the western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), and house mouse (*Musmulculus*). Common upland inhabitants are the California ground squirrel (*Spermophilus beechii*) and Audubon cottontail (*Sylvilagus audubonii*). Larger and less abundant upland species include the coyote (*Canis latrans*), raccoon (*Procyon lotor*), and gray fox (*Urocyon cinereoargenteus*). It has been suggested (Thompson, 1977) that feral cat predation may be causing significant reductions in small mammal populations in the bay area.

Birds. The most visible and abundant vertebrate group in Upper Newport Bay are the birds. Over 200 species have been reported from the area, of which approximately 100 are fairly common at some time of the year and about 40 are very common to abundant (occurring regularly in hundreds to thousands of individuals). Fewer than 15 species of birds actually nest in the estuary proper. Upper Newport Bay is considered a significant stopover area for migrant birds along the Pacific Coast Flyway and a significant avian habitat component of the estuary-lagoon system in southern California.

Sensitive Biological Resources

Authorities used for determination of sensitive biological resources within the project area are as follows: plants--USFWS (1982a), CDFG (1982a), and Smith, et al. (1980); wildlife--USFWS (1982b) and CDFG (1980, 1982b).

SENSITIVE PLANTS

The following vignettes address the various sensitive plants known to occur on the study site.

Salt Marsh Bird's-Beak *(cordylanthus maritimus* ssp. *maritimus)*

LISTING:	CNPS List 1E R-E-D Code 2-2-2 State/Fed. Status - CE/FE (California Native Plant Society, Smith and Berg 1988)
DISTRIBUTION:	San Luis Obispo County, south along coast to Baja California, Mexico
HABITAT:	Salt Marsh
SITES:	This species is extremely restricted in southern California. Only two known sites exist in San Diego County: a sizeable population in the Salt Marsh at Imperial Beach and a small group growing in Chula Vista's Sweetwater Marsh. The Imperial Beach population grows in a very precarious location along a commonly used footpath. Orange County populations are highly restricted as well with the largest

populations occurring within the Upper Newport Bay Ecological Reserve. An estimated 2,000 individuals were observed in flower along Back Bay Road in Newport, Orange County during early summer 1989. The plant also occurs in Mugu Lagoon in Ventura County.

STATUS: Approaching extirpation in the Southern California populations.

This species will not be impacted by the proposed project.

Southern Tarplant *(Hemizonia australis)*

LISTING: CNPS List 3 State/Fed. Status -- None

DISTRIBUTION: San Diego, Orange, Ventura, Los Angeles and Santa Barbara counties

HABITAT: Valley and foothill grasslands, peripheral Salt Marsh

SITES: Small colonies exist immediately east of Interstate 5 and south of Via de La Valle near the Del Mar Racetrack on the periphery of the San Dieguito Lagoon, San Diego County. Populations are found around the large vernal pool near the Ramona Airport, San Diego County and reported from several locales in this area in similar habitat. Much of this species' probable habitat no longer exists having been farmed or developed. Recent sites have been discovered near the University of California at Irvine and, along with the Newport Bay populations, are the only known, substantial populations of this species in Orange County.

STATUS: Almost extirpated; the few remaining San Diego sites are threatened by development. Populations around Upper Newport Bay are threatened by the Santa Ana/Delhi Channel flood-control project. Current trail and interpretive center layouts for the proposed GDP that is currently being processed threaten other populations of this plant.

This species will not be impacted by the proposed project.

Southwestern Spiny Rush *(Juncus acutus* var. *sphaerocarpus)*

LISTING: CNPS List 4 R-E-D Code 1-2-2 State/Fed. Status -- None

DISTRIBUTION: San Diego, Los Angeles, Santa Barbara, Ventura, Orange, and San Luis Obispo counties; Baja California, Mexico

HABITAT: Coastal Brackish Marsh locales, Alkaline Meadows, Riparian Marshes

SITES: Common in marshes throughout coastal Southern California. Abundant in the San Diego River flood control channel west of I-5. Common in the Sweetwater River in Bonita; in the Otay River concentrated around old sand mining ponds and in similar habitat on the San Diego River in Mission Gorge. Frequently found on the

eastern periphery of the coastal lagoons such as Agua Hedionda and San Elijo. Seen at a palm oasis in the Coachella Valley in Riverside County and reported around similar springs in San Diego County on the Colorado Desert such as Mountain Springs and Mountain Palm Springs. Scattered old reports inland on the coastal slope such as at Flynn Springs and Barrett Junction. Frequent constituent of alkaline marshes. Common within marshes draining historically grazed lands of coastal Orange County. Relatively widespread around San Joaquin Marsh and Upper Newport Bay.

STATUS: Apparently stable. This species can be readily grown in suitable habitats through active seeding programs and is a tremendously valuable revegetation plant.

This distinctive, large rush occurs at scattered locales around Upper Newport Bay. This species will not be impacted by the proposed project.

Estuary Suaeda *(Suaeda esteroa)*

LISTING: CNPS List 4 R-E-D Code 1-1-1 State/Fed. Status -- None
DISTRIBUTION: San Diego, Ventura, Orange, Los Angeles, Santa Barbara counties; Baja California, Mexico
HABITAT: Periphery of Coastal Salt Marsh

SITE: Found around the salt marshes of San Diego Bay, Batiquitos Lagoon, Agua Hedionda, and the mouth of the Santa Margarita River. In Orange County, known populations occur at few locales with those of the UNBER being of greatest proportion.

STATUS: Declining, more information is needed for this recently described species. As it grows on the periphery of marshes it is usually endangered by high recreational use or "creeping" development.

Occasional, generally growing on the periphery of the salt marsh of the Upper Newport Bay Ecological Reserve at slightly elevated locales. This species will not be impacted by the proposed project.

Small Spikerush *(Eleocharis parvula)*

LISTING: CNPS List 4 R-E-D Code 1-1-1 State/Fed. Status -- None
DISTRIBUTION: Humboldt, Napa, San Luis Obispo, Sonoma, Orange counties
HABITAT: Coastal Salt Marsh
SITE: Reported from Newport Bay; however, site cannot be reconfirmed.

STATUS: If sighting valid, the only known Southern California locale for this species which typically occurs in salt marshes far to the north.

Status of this species is unknown. It is quite cryptic and very difficult to count among the extensive wetland habitats. This species will not be impacted by the proposed project.

SENSITIVE WILDLIFE

Several sensitive animals are known to occur on the study site and they are discussed below. None of these species will be impacted by the proposed project.

Black-shouldered Kite *(Elanus caeruleus)*

LISTING: CDFG (1991a) - Fully Protected

DISTRIBUTION: Central Valley and coastal California; extensions north into Oregon and south into northern Baja California, Mexico. Northeastern mainland Mexico populations often extend north into the United States.

HABITAT: Grasslands, agricultural fields, occasionally shrublands of California's coastal valleys and plains. Marshes and grassy bottomlands where large clumps of trees are adjacent to foraging habitat are favored sites for winter roosts.

STATUS: The centers of abundance for these raptors in Southern California are the coastal valleys and plains of San Diego, Orange, and western Riverside counties, which are the areas which are currently undergoing large-scale and rapid habitat conversion due to residential development. While historic population fluctuations have made their present status difficult to determine, the numbers of breeding individuals are thought to be declining locally in some areas, and wintering populations may be diminishing as well due to loss of winter foraging habitat and roost sites.

The Black-shouldered Kite forages over the open grasslands and upper marsh areas of the Upper Newport Bay Ecological Reserve.

Northern Harrier *(Circus cyaneus)*

LISTING: CDFG (1990b) - Species of Special Concern
Audubon Blue List (Tate 1986)

DISTRIBUTION: Widespread across North America, but a very localized breeder.

HABITAT: Coastal Salt Marsh, Freshwater Marsh, grasslands, and agricultural fields

STATUS: This raptor has greatly declined as a breeder in Southern California due to loss of habitat.

The Northern Harrier flies low over open fields and marshes foraging primarily for rodents. This hawk is still fairly common winter visitor to Southern California and is frequently observed during this season at Upper Newport Bay. High disturbance levels within the area likely limit breeding potential for this species.

Peregrine Falcon *(Falco peregrinus)*

LISTING: USFWS (1989) - Endangered
CDFG (1977, 1988, 1989, 1990a, 1991b) - Endangered
CDFG (1991a) - Fully Protected

DISTRIBUTION: Forages over estuaries, sea coasts, mountains, and coastal scrub in California.

HABITAT: Nests on cliff faces and sometimes buildings or bridges.

STATUS: This falcon has declined as a breeder in California due largely to the use of DDT.

The Peregrine Falcon does not currently breed around Upper Newport Bay; however, individuals do winter here and migrants undoubtedly utilize the area for foraging and other activities during passage through the area.

Light-footed Clapper Rail *(Rallus longirostris levipes)*

LISTING: USFWS (1989) - Endangered
CDFG (1977, 1988, 1989, 1990a, 1991b) - Endangered
CDFG (1991a) - Fully Protected

DISTRIBUTION: This subspecies ranges from Carpenteria Marsh in Santa Barbara County south to San Quintin, Baja California, Mexico.

HABITAT: Restricted to Coastal Salt Marshes with a predominance of Cordgrass

STATUS: The Light-footed Clapper Rail is one of the most endangered birds in the United States with only 277 pairs found in a 1984 survey of California marshes (Zembal and Massey 1985). Recent estimates for the Sweetwater Marsh complex are 5 pairs (Zembal 1989, pers. comm.)

The largest population of this subspecies in the United States occurs in Upper Newport Bay. Over 71% of the entire United States population was recorded here in 1989. (Steinhart 1990), making the salt marshes of this area of great significance to this rail.

California Least Tern *(Sterna antillarum browni)*

LISTING:	USFWS (1989) - Endangered CDFG (1977, 1988, 1989, 1990a, 1991b) - Endangered CDFG (1991a) - Fully Protected
DISTRIBUTION:	Coastal breeder from San Francisco Bay south to San Quintin in Baja California, Mexico. Winters along Pacific Coast of Mexico to Central America, although little is known about their wintering grounds.
HABITAT:	Generally, colonially nests on sandy areas with a high concentration of crushed shells, close to foraging areas. Shallow water along coastal shores are preferred foraging areas, where they feed exclusively on small fish, such as topsmelt and anchovy, although some feeding has been observed on mudflats.
STATUS:	Breeding colonies are limited in extent, and fledgling rates are highly variable and recently very low, primarily due to heavy predation from domestic cats, dogs, horses, ravens, crows, and small raptors. Off-road vehicles have also had deleterious effects on the nesting areas.

The California Least Tern breeds at Upper Newport Bay within the Upper Newport Bay Ecological Reserve. These terns generally arrive on their breeding grounds in April and depart by late August.

Burrowing Owls *(Athene cunicularia)*

LISTING:	CDFG (1990b) - Species of Special Concern
DISTRIBUTION:	Western United States
HABITAT:	Open plains, grasslands, fields
STATUS:	Declining due to conversion of grasslands and pasturelands to agriculture and urban development.

The Burrowing Owl is now quite common along the coastal zone of Southern California. A small breeding population may occur in the northwestern portion of the park (McCrary 1990 *in* Marsh 1990). Evidence of this species was also found along the Santa Ana/Delhi Channel although no active burrows were identified.

California Gnatcatcher *(Polioptila californica)*

LISTING:	USFWS (1989) - Category II CDFG (1990b) - Species of Special Concern
DISTRIBUTION:	San Diego County, Riverside County, and Orange County; Baja California, Mexico.

HABITAT: Diegan and Riversidean Sage Scrub. Also occurs in Maritime Succulent Scrub.

STATUS: Seriously declining due to loss of habitat. It has already been extirpated from Ventura, San Bernardino and most of Los Angeles counties. This bird is non-migratory. The United States population is currently estimated to be between 1,800 and 2,300 pairs (USFWS 1991). The California subspecies *(P. c. californicus)* has a narrow coastal range in Baja California, Mexico from the United States border south to the vicinity of El Rosario. San Diego County appears to be the center of abundance within the United States for this species. Petitioned in September 1990 for Federal Endangered Species status. The State Department of Fish and Game considered listing this species as endangered. In August, 1991, the State Fish and Game Commission voted not to accept the petition to list the California gnatcatcher as a candidate species for threatened or endangered status. However, the United States Fish and Wildlife Service (USFWS) proposes to list the species *(Poliopotila californica californica)* as endangered. The USFWS is expected to make their decision whether or not to list the species as endangered in March, 1993.

The California Gnatcatcher occurs in the upland areas of the Upper Newport Bay Regional Park in small numbers. (*See* footnote 61, above).

Cactus Wren *(Campylorynchus bruneicapillus couesi)*

LISTING: USFWS - Category II
CDFG - Species of Special Concern

DISTRIBUTION: Throughout California deserts and in coastal valleys

HABITAT: Coastal Sage Scrub

STATUS: Seriously declining due to loss of habitat. This bird is non-migratory. Cactus wren are distributed from southern Orange County into Coastal San Diego County and extreme northwestern Baja California. A petition has been made to list the coastal cactus wren as an endangered subspecies. The cactus wren is considered a federal C2 species and a CDFG species of special concern.

The cactus wren has the potential for occurring in the Upper Newport Bay Ecological Reserve in small numbers.

Least Bell's Vireo *(Vireo bellii pusillus)*

LISTING: USFWS (1986, 1989) - Endangered

	CDFG (1977, 1988, 1989, 1990, 1991a, 1991b) - Endangered
DISTRIBUTION:	Southern California; Baja California Norte, Mexico
HABITAT:	Riparian Woodland
STATUS:	Declining due to habitat destruction

In mid-May through early-June 1991 surveys in the Upper Newport Bay Ecological Reserve revealed the presence of a single male Least Bell's Vireo *(Vireo bellii pusillus)* occupying a series of small riparian groves on the north side of the marshlands. The bird was resident in the area for at least the approximate 3 week period during which surveys were conducted at this site. The occurrence was unexpected in that it was the first recent record of this species occurrence in the area and the habitat is not what would be considered classical for this species. The bird was also of interest in that it constructed at least two bachelor nests and was a bird which was previously banded as a fledgling in the San Luis Rey River (L. Hayes, pers. comm.). Unfortunately, surveys in the area were not conducted throughout the breeding season so it is not possible to know whether this bird remained in the area or successfully attracted a mate. Overall, 1991 was a good breeding season for vireos. Birds were observed in several locations where they were not previously noted and numbers were up in several population centers. Orange County results were most encouraging with the first successful fledgling in Orange County since the species listing as endangered being reported at William Mason Regional Park (Hayes, pers. comm.).

Belding's Savannah Sparrow *(Passerculus sandwichensis beldingi)*

LISTING:	USFWS (1989) - Category II
	CDFG (1977, 1988, 1989, 1990a, 1991b) - Endangered
DISTRIBUTION:	Southern California coastal lagoons
HABITAT:	Well developed salt marshes
STATUS:	Declining due to habitat losses

This subspecies is still common in the pickleweed marshes of the Upper Bay.

3.3.2 IMPACT ANALYSIS

Upon reviewing the existing biological data as it relates to the proposed project (Alternative 1) and its alternatives, potential biological impacts have been identified relating to the effect of noise on sensitive wildlife and their behavior patterns.

Potential impacts of project implementation upon biological resources relate to aircraft overflight disturbance of wildlife by noise. The general subject of noise effects on wildlife has been reviewed by Brattstrom (1982), Memphis State University (1981), Fletcher and Busnel (1978), National Academy of Sciences (1970). Noise may affect wildlife

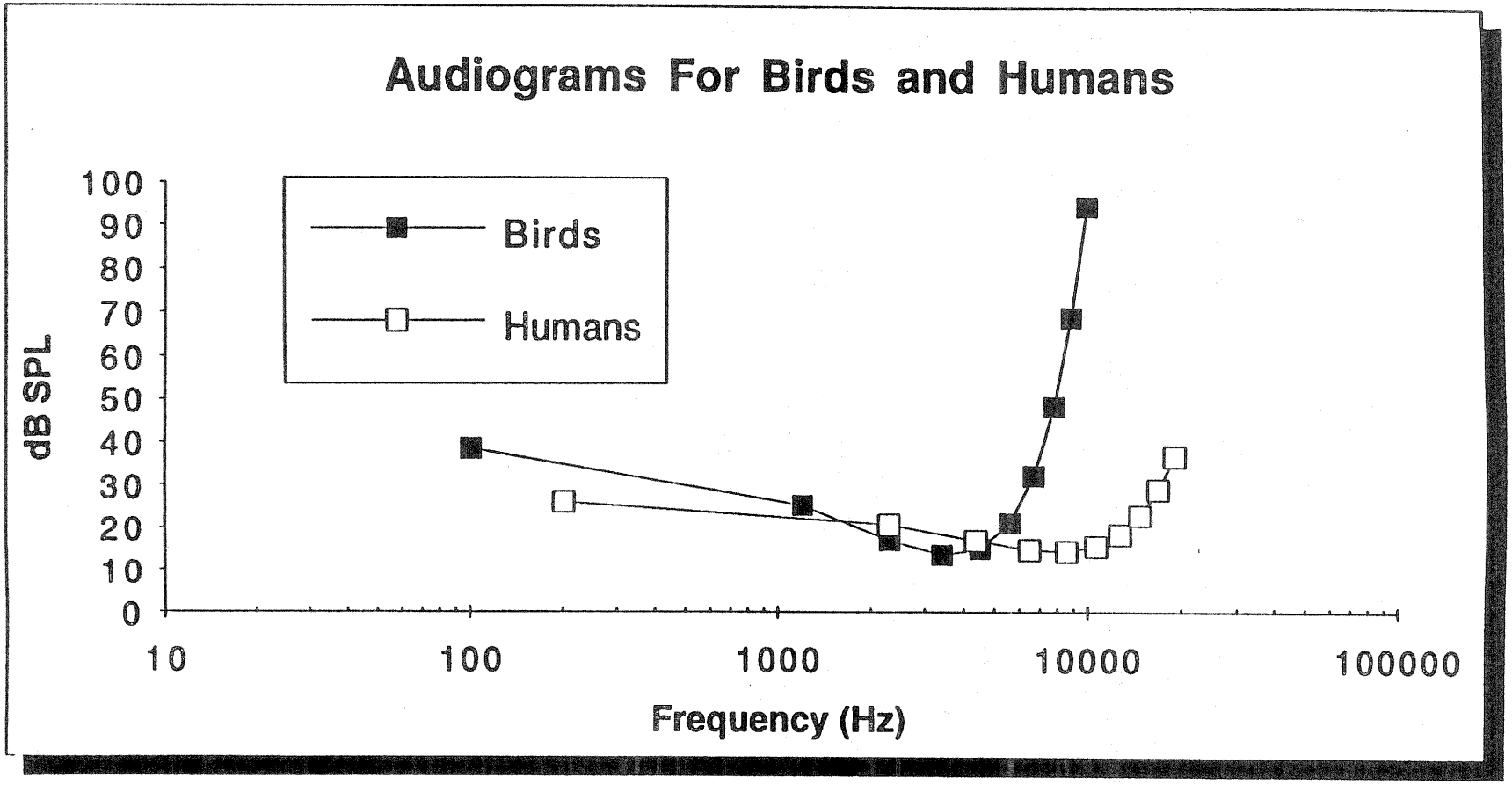
through three principal avenues: signal masking, hearing loss, or neuroendocrine system changes. Signal masking and hearing loss may adversely affect species which rely upon auditory signals for such activities as mate acquisition, territory establishment and defense, young recognition, prey detection and predator evasion. Neuroendocrine system effects include changes in blood chemistry, sexual function, auditory function and seizure susceptibility. The extent and nature of noise-induced effects depends upon a variety of variables, including intensity, frequency spectrum, duration, rest intervals, exposure pattern and species susceptibility.

The reaction of sensitive species to noise is not easy to define or predict. These reactions can be extremely dependent on the season, ecological niches, animal population density, stages of life, physical activities and physical parameters of the noise (Fletcher and Bushel 1978). It is helpful to establish some type of noise criteria when assessing noise impacts on the animal species found in the Upper Newport Bay Ecological Reserve.

For purposes of the proposed project, the noise criterion used for assessing the noise impacts on sensitive species within the project study area is the A-Weighted L_{eq}. A-weighting and L_{eq} is described in the noise section of this document, section 3.1. Human and bird ear frequency responses have been compared to support the use of the A-weighted scale in assessing noise impacts on birds. The results of ear frequency response studies for humans and birds were obtained from "Hearing in Vertebrates: a Psychophysics Databook", by Richard R. Fay. The results were presented in the form of audiograms (Frequency vs. dB SPL) as shown in Exhibit 3-40. The data indicate that both humans and birds are most sensitive to noise in the 1,000 Hz to 5,000 Hz frequency range. However, for frequencies less than 1,000 Hz, bird hearing is slightly less sensitive. Aircraft noise components are highest for frequencies less than 1,000 Hz as shown in Exhibit 3-41. Thus, birds will be slightly less sensitive than humans to aircraft noise. With this in mind, the L_{eq} scale in conjunction with A-weighting, although most appropriate for assessing noise impacts on humans, can effectively be used to quantify "worst case" noise impacts on birds, as well as other sensitive species, in the Upper Newport Bay Ecological Reserve.

The use of the 60 L_{eq} criteria was developed for use in assessing traffic noise. Traffic noise, however, is generally a steady state or near steady state noise. In contrast, the noise from aircraft operating at an airport such as JWA, particularly in the Upper Newport Bay, is marked by high single event noise peaking in an event with a duration on the order of 45 seconds, followed by rather low ambient noise levels. Thus, for an aircraft exposure of 60 L_{eq}, there will be a substantial amount of time in which the noise level will be less than 60 dBA.

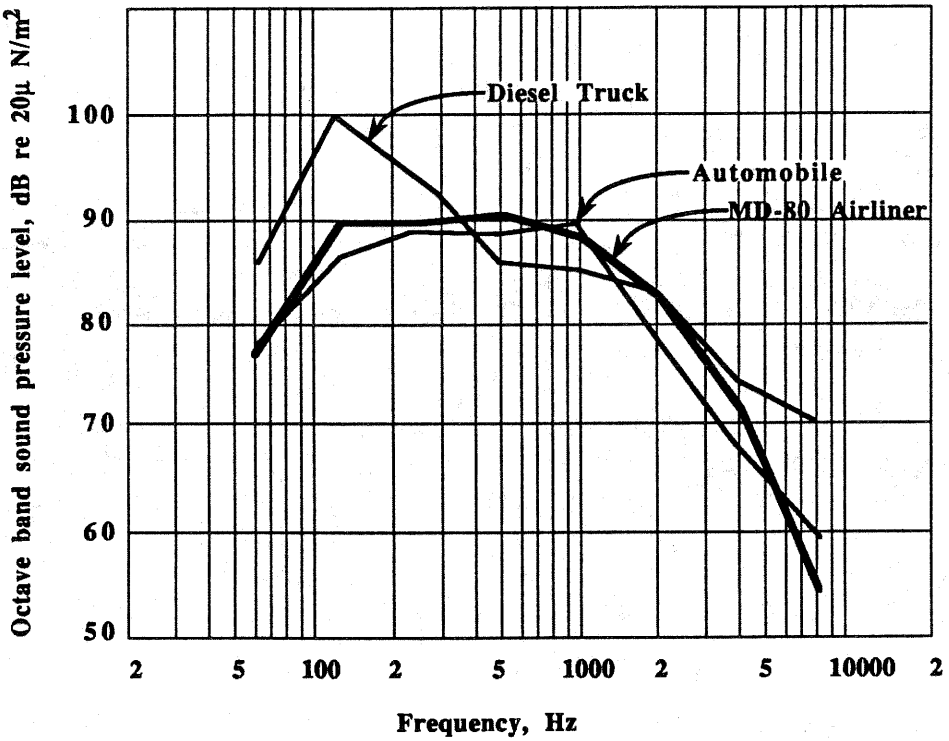
Relatively few investigations have been conducted specifically addressing the effects of aircraft-related noise upon wildlife, and many of these have concentrated upon the effects of traffic and sonic booms. Much of the information presented in the investigation is anecdotal in nature, and few controlled or systematic studies are available.



Ref: "Hearing in Vertebrates: a Psychophysics Databook"
(Audiogram for starling and three finches) Figure B6-0
(Audiogram for Homosapiens) Figure M2-0

EXHIBIT 3-40

Audiograms For Birds and Humans

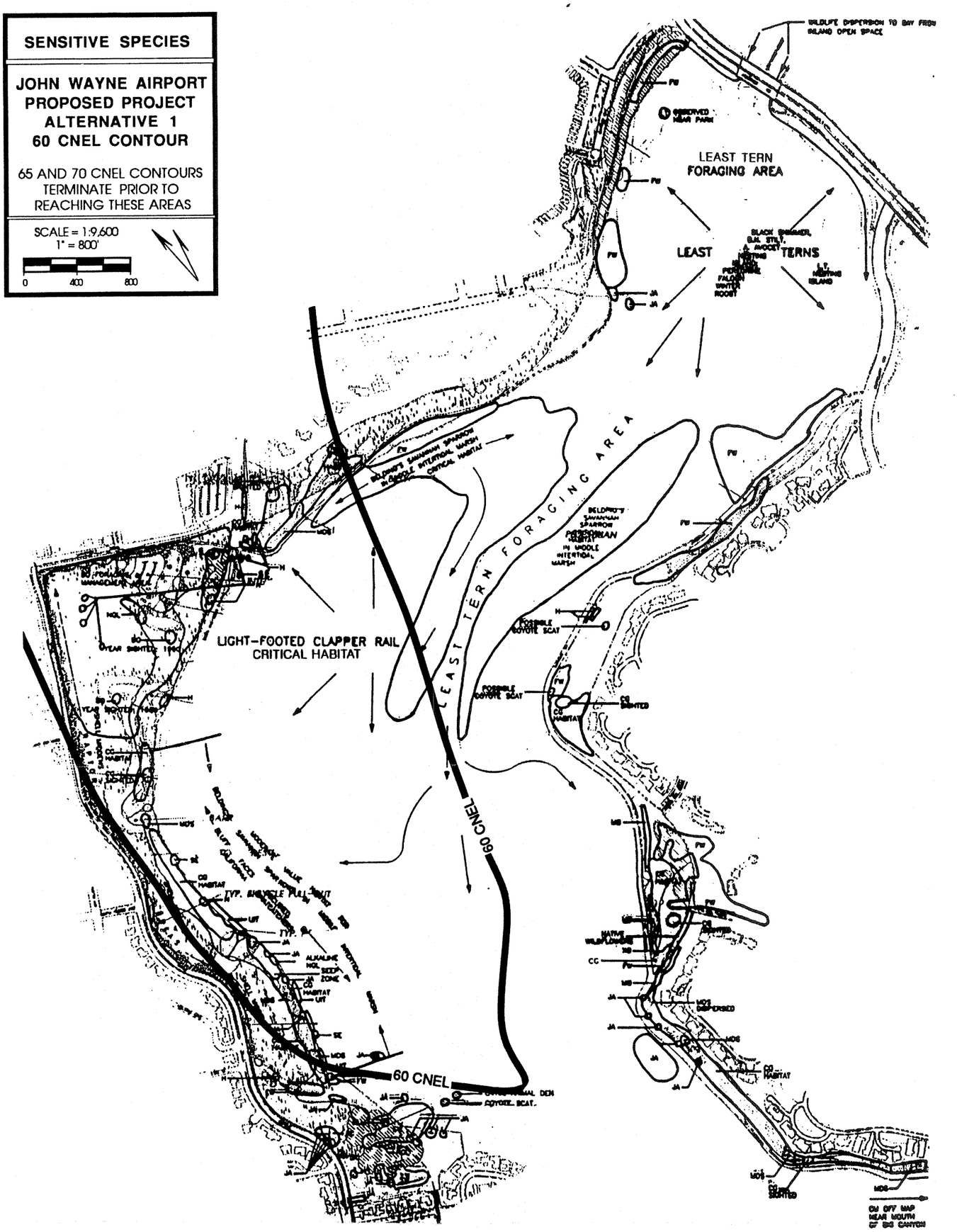


Ref: "Environmental Impact Analysis Handbook"
By John G. Rau and David C. Wooten
(Typical octave band spectra for diesel truck and automobile) Figure 4.7
Note: All three noise sources have an A weighted noise level of approximately 92 dBA

Although there are exceptions reported in the literature, the general conclusion reached by investigators is that both subsonic flight noise and sonic booms have very little effect upon wildlife behavior or survival, and that behavioral effects manifested are almost always short-term in nature, followed by rapid and complete recovery and resumption of normal behavior. (Casidy and Lehmann, 1967; Bond, 1970; Welch and Welch; 1970; Cottereau, 1972; Espmark, *et al,* 1974, Ewbank, 1977; Busnell, 1978). Species and taxonomic groups examined generally exhibit a high degree of habituation to non-threatening noise sources. Moreover, even in a noisy environment, many species possess highly developed discriminatory capabilities, allowing them to circumvent the adverse effects of signal masking. Burger (1981) reported no effects of subsonic aircraft overflights on nesting gulls at Jamaica Bay Recreational area, located within two kilometers of Kennedy National Airport. Dunnet (1977) examined the effects of helicopter and fixed wing aircraft overflights on breeding seabirds in the North Sea and found that breeding and incubating birds were unaffected. Kushlan (1978) reported similar results with wading birds in southern Florida. Jehl and Cooper (1980), investigating the potential effects of space shuttle sonic booms upon seabirds, experimentally exposed Brandt's cormorants and western gulls on the California Channel Islands to explosions in excess of 130 dB (the maximum expected JWA overflight-generated noise at Upper Newport is 90 dB). No significantly negative results were encountered. Ellis (1981), working with several species of raptors, reported considerable tolerances to flight noise and sonic booms produced by low level subsonic military jets. Though alarm reactions were often elicited by aircraft closer than 300 meters, the negative responses were brief and never productivity limiting.

EIR 102, examining alternative futures for the Orange County Airport (Orange County, 1978), reported the results of an attempt to measure and quantify the reactions of several species of birds in the Upper Newport Bay to overflights of commercial jets taking off from the airport (page 3-677). Short-term behavioral changes were noted in some individuals in response to visual intrusion and/or flight generated noise. However, observed residual responses were reported as virtually nonexistent, with resumption of normal activity occurring almost immediately after departure of the stimulus. EIR 508/EIS came to similar conclusions.

The proposed project will result in increases in single event and cumulative noise levels in certain areas south of JWA, particularly the Santa Ana Heights area, including the Anniversary Tract, which is currently within the boundaries of the City of Newport Beach. *See,* Section 3.1. The rest of the areas which are affected by potentially greater aircraft noise levels are located within the unincorporated areas of Santa Ana Heights. One of the benefits of the proposed project is that, in many cases, and certainly on average, the single event noise levels of commercial aircraft will actually decrease from existing conditions south of Santa Ana Heights, primarily in areas of Newport Beach. Therefore, noise impacts on the Upper Newport Bay Ecological Reserve may actually decrease. Exhibit 3-42 shows the proposed project's (Alternative 1) 60 dB CNEL noise contour plotted on a map of Upper Newport Bay identifying the sensitive species in the area. The 65 and 70 dB CNEL noise contours for the proposed project terminate prior to



PLANTS

- JA — Southwestern Spiny Rush (*Juncus acutus*)
- H — Southern Spikeweed (*Hemizonia australis*)
- SE — Estuary Sea Blite (*Suaeda esteroa*)

ANIMALS

- CG — California Gnatcatcher
- BO — Burrowing Owl

HABITATS

- AC — Anemopsis Alkaline Marsh
- FW — Forested Wetland
- MDS — Maritime Desert Scrub (*Opuntia-Lycium-Isomeris*; Potential San Diego Cactus Wren Habitat)
- XB — Xeric Barren (*Camissonia-Cryptantha*)
- NGL — Native Perennial Grassland (Usually *Stipa*)
- (*Elymus-Juncus*)
- SW — Vernal Pool-Like Seasonal Wetland
- MB — Mesic Barren (*Dudleya-Moss-Melica-Pityrogramma*)
- UIT — Upper Intertidal Zone Salt Marsh (Potentially Suitable For CM Introduction)

EXHIBIT 3-42

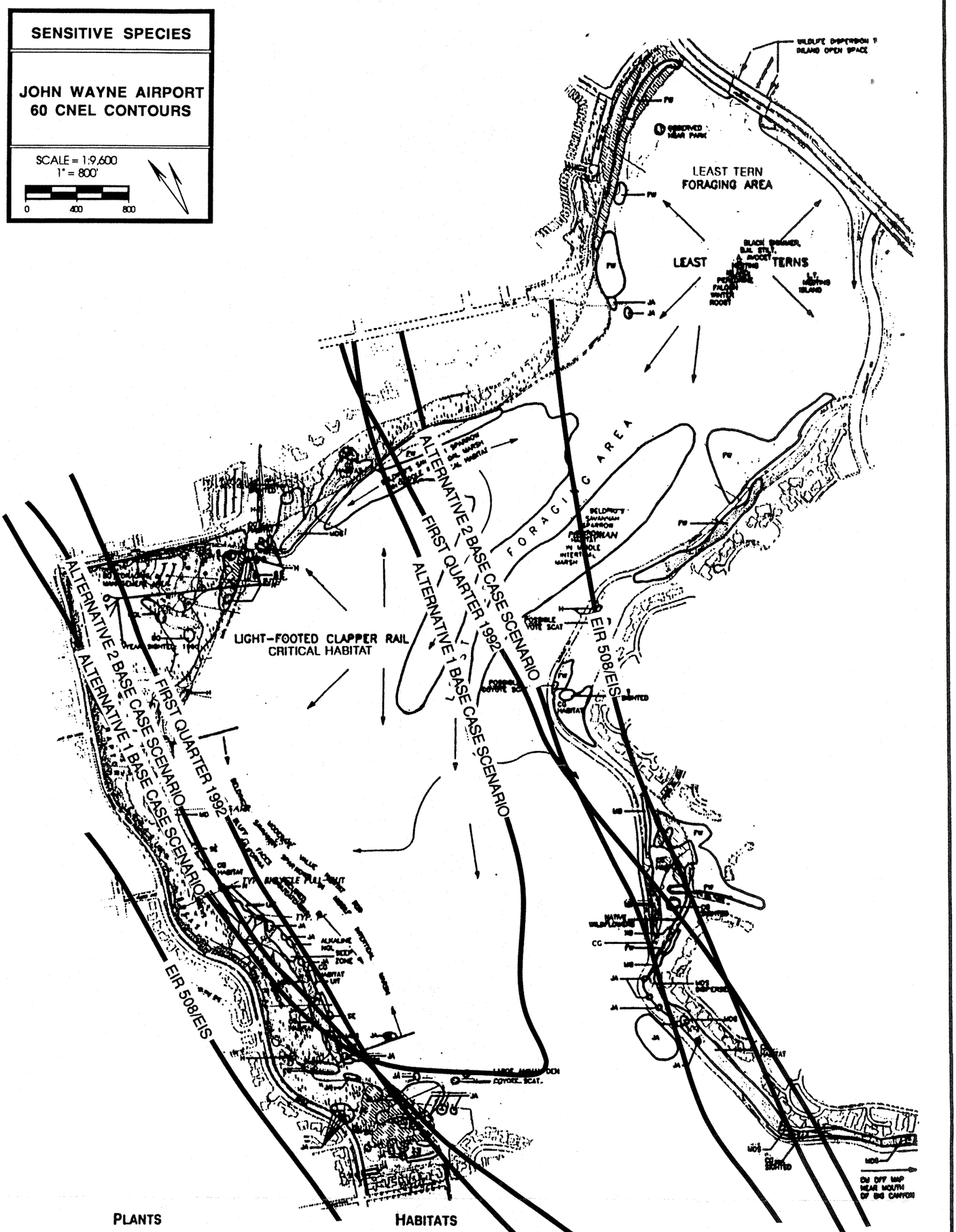

SENSITIVE SPECIES
JOHN WAYNE AIRPORT
60 CNEL CONTOURS
SCALE = 1:9,600
1" = 800'
0
400
800
LEAST TERN
FORAGING AREA
LEAST
TERNS
LIGHT-FOOTED CLAPPER RAIL
CRITICAL HABITAT
ALTERNATIVE 2 BASE CASE SCENARIO
FIRST QUARTER 1992
ALTERNATIVE 1 BASE CASE SCENARIO
EIR 508/EIS
PLANTS
JA Southwestern Spiny Rush (Juncus acutus)
H Southern Spikeweed (Hemizonia australis)
SE Estuary Sea Blite (Suaeda esteroa)
ANIMALS
CG California Gnatcatcher
BO Burrowing Owl
HABITATS
AC Anemopsis Alkaline Marsh
FW Forested Wetland
MDS Maritime Desert Scrub (Opuntia-Lycium-Isomeris; Potential San Diego Cactus Wren Habitat)
XB Xeric Barren (Camissonia-Cryptantha)
NGL Native Perennial Grassland (Usually Stipa)
(Elymus-Juncus)
SW Vernal Pool-Like Seasonal Wetland
MB Mesic Barren (Dudleya-Moss-Melica-Pityrogramma)
UIT Upper Intertidal Zone Salt Marsh (Potentially Suitable For CM Introduction)

EXHIBIT 3-43

reaching the mapped area. Exhibit 3-43 provides a comparison of the proposed project (Alternative 1), Alternative 2, EIR 508/EIS and the first quarter 1992 60 dB CNEL contours.

Judging from the existing knowledge of the effects of subsonic aircraft overflights on wildlife, it would not be expected that noise associated with implementation of the proposed project would significantly affect wildlife in the airport vicinity or in Upper Newport Bay. In light of present understanding, it is reasonable to conclude that, given the long history of the airport, area wildlife are by now well habituated to aircraft overflight, and that any unusually sensitive species would have long since undergone consequent population adjustments or extirpation.

Although overflight studies have not been conducted specifically on any of the rare or endangered birds in Upper Newport Bay, it is strongly indicated that the above reasoning holds true for these species and that they would not experience significant impacts from project implementation. This opinion was expressed by the U.S. Fish and Wildlife Services (USFWS, 1981) in a consultation memorandum to the Civil Aeronautics Board addressing the potential effects upon the California least tern and light-footed clapper rail of overflights from JWA over Upper Newport Bay with respect to EIR 508/EIS. Additionally, specific studies at Vandenberg Air Force Base on the effects of missile launches on a nearby nesting colony of California least terns (HDR, 1981) disclosed no unusual response behavior. Furthermore, though strict comparisons cannot be drawn because of site-specific differences, several situations generally analogous to JWA exist wherein the California least tern and/or the light-footed clapper rail are known to breed or to have bred in close proximity to airports in California (USFWS, 1971): Imperial Beach Naval Air Station, Point Mugu Pacific Missile Range, Santa Barbara Airport, Alameda Naval Air Station, North Island Naval Air Station, and San Diego International Airport.

The proposed project will not have a significant impact on biological resources. The proposed project will not have a significant impact on coastal sage scrub habitat and will not have the potential to preclude the ability of the County of Orange to prepare an effective subregional NCCP plan.

Another potential impact of the proposed project and its alternatives relates to the potential for bird strikes. A search of historical records of collisions between birds and aircraft indicates very few incidences. FAA records show that from 1972 through 1978, there were 14 reported bird strikes at JWA. This is an average of 0.3 bird strikes per hundred thousand operations. Using this figure, 1.4 bird strikes would be projected in 1983 and 1.7 bird strikes in 2005. In terms of commercial operations, Air California stated that less than 10 bird strikes have occurred since their commercial jet operation began in 1969. Less than half of these incidences have caused an aircraft to return to JWA. The only apparent significant incident that has occurred in the vicinity of JWA in recent years was an incident involving an aircraft taking off from JWA. The incident occurred within the confines of airport property and the aircraft was able to abort the flight. Because the

CHAPTER 4

Alternatives

4.1 INTRODUCTION

In this chapter of the EIR, three alternatives to the proposed project (Alternative 1) are described and evaluated. However, comparison of the various project alternatives, and particularly the no project alternative and Alternative 2, have already been discussed extensively, particularly in Sections 3.1 and 3.2, the two sections which discuss the potential project impacts in detail. In addition, Sections 3.1 and 3.2 also provide a comparison to the NOP Case, although that is not a proposed alternative to the project, but rather represents the proposed project without consideration of the recommended mitigation measures contained in Section 3.1.5.

This approach to analyzing the project alternatives is particularly appropriate in the case of this project which presents real and significant public policy choices, particularly between Alternative 1 (the mitigated project) and Alternative 2. This section will not repeat that comparative analysis, but will, instead, summarize the principal comparative features of the identified alternatives to the proposed project (Alternative 1).

4.2 NO PROJECT ALTERNATIVE

Under the no project alternative, no amendments would be made to the PHASE 2 ACCESS PLAN allowing an increase in the maximum permitted noise levels at the airport. In addition, no new noise monitoring stations would be added south of the airport. Thus, the maximum permitted noise levels for Class A aircraft would remain at 100.8 dB SENEL at RMS 1, 100.9 dB SENEL at RMS 2, and 98.5 dB SENEL at RMS 3. The maximum permitted noise levels for Class AA aircraft would remain at 90.3 dB SENEL at RMS 1, 90.4 dB SENEL at RMS 2, and 89.5 dB SENEL at RMS 3-RMS 6. Finally, the maximum permitted noise levels for Class E aircraft would remain at 86.8 dB SENEL at RMS 1, 86.9 dB SENEL at RMS 2, and 86.0 dB SENEL at RMS 3 - RMS 6.

When the anticipated adoption of AC 91-53A occurs, and when FAA makes those limitations and standards regulatory by amending the operating specifications of the air carriers (or by any other regulatory means), the no project alternative would, among other results: (i) eliminate the MD-80 as an aircraft qualified to serve JWA in some of the markets it served before the noise level demonstration; (ii) substantially reduce the circumstances under which certain aircraft, particularly the Boeing 737 and 757 series aircraft and the Airbus A-320 could operate as a Class AA aircraft with a probable reduction in airport passenger service capacity; and (iii) substantially reduce, if not eliminate entirely, the Class E capacity for air carrier operations at JWA. This would, in turn, effectively impose

proposed project will not affect departure procedures within the confines of the airport, it is not expected to result in an increase in bird strikes.

Although occasional bird strikes involving both private and commercial aircraft are reported at JWA, there is no evidence to indicate that these occurrences are of any significance to local bird populations or to migrating birds utilizing the Pacific Flyway. The height at which departing commercial aircraft pass over Upper Newport Bay is such that bird strikes related to the Ecological Reserve would be expected to occur only very infrequently. A review of the literature on the subject indicates that airport-related bird strikes are almost never of any ecological significance.

3.3.3 Mitigation Measures

No significant impacts to biological resources are expected to result from project implementation; therefore, no mitigation measures beyond current airport operation practices are required.

3.3.4 Analysis Of Significance

No significant unavoidable adverse impacts to biological resources will result from the proposed project.

CHAPTER 4

Alternatives

4.1 INTRODUCTION

In this chapter of the EIR, three alternatives to the proposed project (Alternative 1) are described and evaluated. However, comparison of the various project alternatives, and particularly the no project alternative and Alternative 2, have already been discussed extensively, particularly in Sections 3.1 and 3.2, the two sections which discuss the potential project impacts in detail. In addition, Sections 3.1 and 3.2 also provide a comparison to the NOP Case, although that is not a proposed alternative to the project, but rather represents the proposed project without consideration of the recommended mitigation measures contained in Section 3.1.5.

This approach to analyzing the project alternatives is particularly appropriate in the case of this project which presents real and significant public policy choices, particularly between Alternative 1 (the mitigated project) and Alternative 2. This section will not repeat that comparative analysis, but will, instead, summarize the principal comparative features of the identified alternatives to the proposed project (Alternative 1).

4.2 NO PROJECT ALTERNATIVE

Under the no project alternative, no amendments would be made to the PHASE 2 ACCESS PLAN allowing an increase in the maximum permitted noise levels at the airport. In addition, no new noise monitoring stations would be added south of the airport. Thus, the maximum permitted noise levels for Class A aircraft would remain at 100.8 dB SENEL at RMS 1, 100.9 dB SENEL at RMS 2, and 98.5 dB SENEL at RMS 3. The maximum permitted noise levels for Class AA aircraft would remain at 90.3 dB SENEL at RMS 1, 90.4 dB SENEL at RMS 2, and 89.5 dB SENEL at RMS 3-RMS 6. Finally, the maximum permitted noise levels for Class E aircraft would remain at 86.8 dB SENEL at RMS 1, 86.9 dB SENEL at RMS 2, and 86.0 dB SENEL at RMS 3 - RMS 6.

When the anticipated adoption of AC 91-53A occurs, and when FAA makes those limitations and standards regulatory by amending the operating specifications of the air carriers (or by any other regulatory means), the no project alternative would, among other results: (i) eliminate the MD-80 as an aircraft qualified to serve JWA in some of the markets it served before the noise level demonstration; (ii) substantially reduce the circumstances under which certain aircraft, particularly the Boeing 737 and 757 series aircraft and the Airbus A-320 could operate as a Class AA aircraft with a probable reduction in airport passenger service capacity; and (iii) substantially reduce, if not eliminate entirely, the Class E capacity for air carrier operations at JWA. This would, in turn, effectively impose

a limitation on the number of passengers which can be served through JWA to a level substantially below the 10.2 MAP service level contemplated by EIR 508/EIS and the 8.4 MAP service level permitted by the 1985 Settlement Agreement.[113] Since the exact service capacity would be determined by the aircraft equipment and route changes which would be made by the airlines under those circumstances, the exact passenger capacity cannot be predicted with certainty, but it seems apparent that it would be substantially less than the current service capacity.

The environmental effects of the no project alternative have been described throughout this EIR since "no project" conditions are the same as existing conditions. The no project alternative would avoid the noise impacts associated with the proposed project. However, as stated above, under the no project alternative, the objective of the proposed project would not be met. In addition, this alternative would probably result in a significant diversion of passengers anticipated to be served at JWA to other Los Angeles Basin airports, increasing regional air quality emissions and impacts. Under all of the circumstances discussed in this EIR, this alternative is neither reasonable nor feasible.

4.3 Alternative 2: 800 Foot Power Cutback For All Aircraft Including Class AA And Class E Aircraft

Alternative 2 is identical to the proposed project (including the proposed mitigation measures), except that the new maximum permitted noise limits for Class AA and Class E aircraft at Monitoring Stations RMS 1, RMS 2 and RMS 3 would be set at noise levels which would accommodate an 800 foot power cutback procedure by those aircraft, but not a 1500 foot power cutback procedure. This would result in slightly lower maximum permitted noise levels at Monitoring Stations RMS 1, RMS 2 and RMS 3, but would result in slightly higher noise levels at all monitoring stations south of RMS 3 than would occur under the proposed project.[114] The 60 dB CNEL contour south of JWA would also be larger under Alternative 2 than under the proposed project.

In addition, this alternative presents practical problems for the air carriers. A 1500 foot power cutback procedure could have wide application at a number of different air

---

[113] Again, the agreement by the County to limit the passenger service level at JWA to 8.4 MAP through the Year 2005 was additional project mitigation for the 1985 Master Plan which was adopted by the Board of Supervisors as part of the settlement agreement with the City of Newport Beach, SPON and AWG.

[114] In effect, the 800 foot power cutback procedure is a procedure which, within the parameters of proposed AC 91-53A, is "optimized" to produce the lowest noise levels in the Santa Ana Heights area (the area where RMS 1, 2 and 3 are located) at the expense of noise levels further south of the airport. The 1500 foot procedure is a procedure designed by Boeing Aircraft Company which optimizes noise levels for its aircraft from the line defined by TMS 21 and 22 (*see* Exhibit 3-1, in Section 3.1 for the location of these monitoring stations) south, at the expense of slightly higher noise levels at RMS 1, 2 and 3.

carrier airports in the United States. However, the County is not aware of any airport or community which would select or urge the air carriers to use an 800 foot power cutback procedure at their airports. The reason for this is JWA's relatively short air carrier runway (5700 feet) and the close proximity of residential uses in Santa Ana Heights. At most air carrier airports in this country, which typically have runways between 9000 and 11000 feet in length, RMS 1, 2 and 3 would still be on the runway or airport property. Since AC 91-53A will permit each air carrier to select two, and no more than two, NADPs for use by each of its aircraft types throughout the domestic United States, an alternative which requires the air carriers to define one of their two permitted NADPs in a manner which is useful or of benefit *only* at JWA presents obvious problems and issues relating to equitable treatment of other noise affected communities around the United States. This is particularly true since, compared to the residential communities around JWA, there are a large number of communities with substantially greater populations around other air carrier airports which are subject to substantially higher noise levels than those experienced in the vicinity of JWA.

Nevertheless, this alternative is a viable regulatory alternative for the County under the circumstances affecting the proposed project. The principal issue is the extent to which noise level increases will be permitted in Santa Ana Heights in return for noise reductions south of RMS 3. The proposed project would result in lower noise levels south of RMS 3, including major areas of the Upper Newport Bay, but higher noise levels in Santa Ana Heights than would occur under Alternative 2. This issue (or choice) is one on which the County is particularly interested in receiving public comments during the EIR circulation period.

4.4 ALTERNATIVE 3: MAINTAIN PRE-TEST 65 dB CNEL NOISE CONTOURS

Alternative 3 would accommodate whatever aircraft can be accommodated *within the existing 65 dB CNEL contour* at JWA (*i.e.,* Exhibit 3-5), but would not allow that contour to expand from its current size, even though the current contour is significantly smaller than the "project case" contour predicted in EIR 508/EIS. This alternative would also result in a substantially reduced level of service, although, again, the exact level cannot be predicted precisely since it would be determined in part by choices within the discretion of the air carriers serving JWA.

This regulatory approach to airport noise regulation is sometimes referred to as a "noise budget." While it has been implemented at a few airports under special agreements with the carriers, it is a regulatory approach inconsistent with the history of JWA and the expectations of the local community.

For example, under this approach, a carrier would be allocated a "CNEL share" rather than ADDs. The carrier would have the discretion to use any aircraft type it wished, at any level of service, so long as it did not exceed its allocated CNEL share. One of the major difficulties of this regulatory approach is that it would give a carrier the discretion, for

example, to use its CNEL share with relatively few Boeing 727 aircraft (extremely noisy Stage 2 airplanes which have never been permitted to engage in regular service at JWA), or a significantly larger number of flights with quieter Stage 3 aircraft of the type presently serving JWA. A choice by a carrier to exercise the first option - if it were advantageous to the carrier to make that choice - would significantly reduce the passenger service capacity of JWA. Since JWA's passenger service capacity is already predicted to be below the level of local demand within this decade, this would be a particularly irresponsible approach to managing JWA as a public asset for the local community. In any case, the higher single event noise levels which will certainly occur once FAA implements AC 91-53A (whether the County acts on this project or not) will require a reduction in the permitted number of ADDs under this alternative, even if the carriers use the same aircraft types they use now at JWA.

Aside from the inevitable reduction in service, implementation of this alternative would present two other major problems: First, it is unlikely that this alternative could be implemented without first complying with the study, notice and FAA approval requirements of the Airport Noise and Capacity Act of 1990 ("ANCA") and the implementing regulations at FAR Part 161. Given the statutory criteria which FAA is required to consider under ANCA in evaluating any proposed regulatory program which affects Stage 3 aircraft (in this case, an amendment to a "grandfathered" program which reduces Stage 3 service levels), it is highly unlikely that FAA could, under these circumstances, make the necessary statutory findings to allow implementation of this radically revised regulatory approach at JWA.

Second, effective implementation of this alternative would require virtually a complete restructuring of the County's historical regulatory approach to managing JWA and a complete restructuring of the PHASE 2 ACCESS PLAN. Particularly in light of the long and controversial history leading to the current regulatory structure at JWA, a change of this magnitude would be a serious undertaking and probably could not be implemented effectively until sometime in 1994. Under these circumstances, this alternative is neither reasonable nor feasible.

CHAPTER 5

Growth Inducing Impacts and Long-Term Implications

5.1 GROWTH INDUCEMENT

Section 15126(g) of the CEQA Guidelines requires an analysis of the growth-inducing impacts of the proposed project. The discussion must address ways the project could encourage economic or population growth or construction of additional housing in the surrounding area, either directly or indirectly. Also required is an assessment of the project that could foster other activities which could affect the environment, individually or cumulatively.

The proposed project is not expected to have any significant growth-inducing impacts. This conclusion is based upon the analyses summarized and discussed in this EIR, including the following facts:

- There are no approved or pending projects whose construction is contingent upon the proposed project.

- Although the existence of an adequate airport is one of many factors which contribute to an area's economic vitality, there are no data which suggest that the proposed project would lead to future area growth. In other words, this project alone would not induce new businesses or residents to locate in Orange County. Other more critical factors include the availability of housing, general economic conditions, labor pool and proximity to universities and research centers. On the other hand, failure to implement the proposed project might induce some existing air carriers that are currently operating at JWA to consider pulling out of JWA.

- The proposed project will have no growth-inducing effect upon domestic airline service at JWA. The limiting factors on air carrier operations at JWA will remain: (i) the permitted number of regulated ADDs; and (ii) the 8.4 MAP restriction. Neither of these restrictions is proposed to be changed by this project.

The proposed project is necessary to: (i) accommodate the FAA's concerns regarding the safety, and potential proliferation of, airport specific noise abatement departure procedures; and (ii) preserve the operational capacity at JWA contemplated by the PHASE 2 ACCESS PLAN. The proposed project will not result in any supplemental growth-inducing impacts.

5.2 Relationship Between Short-Term Uses And Long-Term Productivity

Section 15126(e) of the CEQA Guidelines requires an analysis of the effects of the proposed project on the short-term use of the environment at the expense of the maintenance of long-term productivity. As discussed in Section 7 of this EIR, Cumulative Impacts, the proposed project will not result in any potentially significant cumulative impacts to the environment. Thus, the long-term productivity of the area would not be precluded by the approval of the proposed project.

Although several regionally important biological habitats exist in the Upper Newport Bay Regional Park and Ecological Reserve which support sensitive plant and animal species, the proposed project will not affect the long-term viability of these biological resources and the viability of individual species. *See* Section 3.3.

The County of Orange, the project proponent, believes that the proposed project is necessary, appropriate and timely. As discussed in Section 2 of this EIR, the proposed project is necessary to accommodate the FAA's concerns regarding the safety of, and potential proliferation of, airport specific noise abatement departure procedures. In addition, the proposed project is necessary in order to preserve the operational capacity at JWA contemplated by the Phase 2 Access Plan.

5.3 Significant Irreversible Environmental Changes

Section 15126(f) of the CEQA Guidelines requires the identification of significant irreversible environmental changes associated with implementation of a proposed project. As discussed in Sections 3.1, 3.2, and 3.3, there will not be any significant irreversible changes to the existing environment. The proposed project will also not result in the irretrievable commitment or loss of important environmental resources.

5.4 Unavoidable Significant Environmental Impacts

There are two environmental impacts which may result from the implementation of the proposed project. These impacts are noise and land use. Table 1-1 identifies the potential impacts and recommended mitigation measures associated with the implementation of the proposed project. As the "Level of Significance After Mitigation" column in this table indicates, there will be no unavoidable significant impacts associated with the proposed project, and with implementation of the recommended mitigation measures, the noise and land use impacts will be reduced below the level of significance. **[Need to revise per §3.2]**

CHAPTER 6

Effects Found Not to be Significant

6.1 EARTH

The proposed project would not involve any construction activities that require earth movement. Therefore, the proposed project would not result in unstable earth conditions or in changes in geological substructures. The project would also not result in exposure of people or property to geologic hazardous such as earthquakes, landslides, mudslides, ground failure or similar hazards.

6.2 LANDFORM ALTERATION

The proposed project would not involve construction activities that require changes in topography or modification of geologic physical features. Therefore, the proposed project would not result in a change in topography or ground surface relief features. The proposed project would also not result in a destruction, covering or modification of any unique geologic or physical feature or result in any increase in wind or water or erosion of soils, on or off-site.

6.3 AIR QUALITY

The proposed project would not result in increased air emissions or deterioration of ambient air quality beyond projections by the South Coast Air Quality Management Plan. The proposed project would also not result in exposure of persons to locally elevated levels of air pollution or result in the creation of objectionable odors. Finally, the proposed project would not result in the alteration of air movement, moisture or temperature, or any change in climate, either locally (adjacent to the proposed project) or regionally (in the county).

6.4 WATER QUALITY

The proposed project would not result in any changes to surface water (quality and conveyance), water bodies, aquifers, water hazards or public water supplies. The proposed project would not result in changes in currents, or the course or direction of water movements, in either marine or freshwaters. The proposed project would not result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff. The proposed project would not result in changes in deposition or erosion of beach sands, or changes in saltation deposits or erosion which may modify the channel of a river

or stream or the bed of the ocean or any bay, inlet or lake. The proposed project would not result in any changes in the amount of surface water in any water body. The proposed project would not result in any discharge into surface waters, or any alteration of surface water quality, including, but not limited to, temperature, dissolved oxygen or turbidity. The proposed project would not result in alteration of the direction or rate of flow of groundwater. The proposed project would not result in any change in the quantity or quality of groundwater, in or through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations. The proposed project would not result in exposure of people or property to water related hazards such as flooding or title waves. The proposed project would not result in alterations to the course, flow or magnitude of floodwaters. The proposed project would not result in a substantial reduction in the amount of water otherwise available for public water supplies.

6.5 CULTURAL/SCIENTIFIC RESOURCES

The proposed project would not require any earth movement and therefore is not expected to impact any cultural or scientific resources. Specifically, the proposed project would not result in an alteration of a significant archeological or historic site, structure, object, or building, paleontological site or other important cultural or scientific resource. In addition, the proposed project would not have the potential to cause any physical change which would affect unique ethnic cultural values or restrict existing religious or sacred uses within the potential impact area.

6.6 AESTHETICS

The proposed project is not expected to impact or change any viewshed or scenic vista or create any aesthetic incompatibility. The proposed project may, in fact, decrease the amount of perceived aesthetic incompatibility in the area in light of the fact that the airlines will be flying at higher altitudes over the areas surrounding JWA. In addition, the proposed project would not result in the obstruction of any scenic vista or view opened to the public nor will the proposed project result in a creation of an aesthetically offensive site opened to public view. The proposed project would also not result in any aesthetic incompatibility with other uses within the project vicinity.

6.7 ENERGY/NATURAL RESOURCES

The proposed project would not involve any unusually high fuel or energy consumption that would necessitate the development of a new energy source. In addition, the proposed project would not result in the use of abnormally high amounts of fuel or energy or result in an increased demand upon existing sources of energy or require the development of new sources of energy. The proposed project would also not result in any

significant increase in the rate of use of any natural resource or preclude the extraction of natural resources.

6.8 TRANSPORTATION/CIRCULATION

The proposed project would not have any impacts on transportation or circulation. Specifically: (i) the proposed project would not result in the generation of additional vehicular movement beyond regional analysis; (ii) the proposed project would not result in effects on existing parking facilities or creation of a significant demand for new parking; (iii) the proposed project would not result in an impact upon existing or planned transportation systems; (iv) the proposed project would not result in the alteration of present patterns of circulation or movement of people and/or goods; (v) the proposed project would not result in the alteration of waterborne, rail, or air traffic; (vi) the proposed project would not result in traffic hazardous to equestrians, motor vehicles, bicyclists or pedestrians; and (vii) the proposed project would not result in the creation of internal circulation problems.

Although the Notice of Preparation for this EIR identified impacts that may result with respect to the circulation and transportation system, those impacts were in connection with potential effects on surface transportation planning in the Santa Ana Heights development area. As Section 3.2, Land Use, indicates, however, this EIR has determined that the potential noise and land use impacts, and the proposed mitigation for those impacts, will not result in any impacts to transportation or circulation.

6.9 RECREATION

The proposed project would not result in an impact upon the quality or quantity of existing recreational opportunities. The Upper Newport Bay Regional Park was designed after the airport was functioning as a commercial air carrier airport, and that fact was taken into account in the design of the park. The intended uses of the park are largely passive in nature and are consistent with airport use.

6.10 PUBLIC HEALTH AND SAFETY

The proposed project would not involve the risk of explosion or release of hazardous substances, including oil, pesticides, chemicals or radiation in the event of an accident or disruption of conditions. The proposed project would also not expose persons or property to wild and fire hazards or expose persons who may occupy the site to hazardous substances, including, but not limited to, oil, pesticides, chemicals or radiation from the previous use of the site. The proposed project would also not place present or future surrounding residents at risk of exposure to toxic or radioactive gas, explosions or industrial fire or interfere with

an emergency response plan or excavation plan or use or dispose of potentially hazardous materials such as toxic, flammable or explosive substances.

6.11 Light And Glare

The proposed project would not produce new light or glare.

6.12 Public Services And Utilities

The proposed project would not have any impacts on public services and utilities. Specifically: (i) the proposed project would not have adverse physical impacts on existing fire protection facilities or create the need for new fire protection facilities; (ii) the proposed project would not have adverse physical impacts on existing police protection facilities or create the need for new police protection facilities; (iii) the proposed project would not have adverse physical impacts on existing school facilities or create the need for new school facilities; (iv) the proposed project would not have adverse physical impacts on existing parks and/or other recreational facilities or create the need for new parks and/or other recreational facilities; (v) the proposed project would not have adverse impacts on existing public facilities, including roads, or create the need for new public facilities, including roads; (vi) the proposed project would not have adverse physical impacts on existing electrical power or natural gas facilities or create the need for new electrical power or natural gas facilities; (vii) the proposed project would not have adverse physical impacts on existing communications systems facilities or create the need for new communications systems facilities; (viii) the proposed project would not have adverse physical impacts on existing water facilities or create the need for new water facilities; (ix) the proposed project will not have adverse physical impacts on existing sewer septic tank facilities or create the need for new sewer or septic tank facilities; (x) the proposed project would not have adverse physical impacts on existing storm water drainage facilities or create the need for new storm water drainage facilities; (xi) the proposed project would not have adverse physical impacts on existing solid waste and disposal facilities or create the need for new solid waste and disposal facilities; and (xii) the proposed project would not have adverse physical impacts on other existing facilities or create the need for new services.

CHAPTER 7

Cumulative Impacts

CEQA Guidelines section 15130 requires an EIR to discuss cumulative impacts when those impacts are significant. The discussion must include a list of past, present and reasonably anticipated future projects that are likely to produce cumulative impacts or a summary of projections of areawide growth contained in adopted general plans or related planning documents. In addition, this discussion must include a summary of the expected environmental effects of such projects and a reasonable analysis of all of the relevant projects' cumulative impacts, with an examination of reasonable options for mitigating or avoiding such effects, if significant. The following discussion describes the potential cumulative impacts that may be associated with the proposed project and its alternatives.

This EIR may be reviewed in connection with an FAA project that contemplates approval of modifications to the existing flight tracks for jet and propeller aircraft making instrument approaches over JWA on their decent into Long Beach, Fullerton and Los Alamitos airports and increase in the approval of a permanent departure ceiling on Runway 19R departures at JWA to 5000 feet. This FAA project is the subject of a separate environmental assessment which is currently being conducted under the requirements of NEPA and its implementing regulations and relevant implementing regulations of the Department of Transportation ("DOT") and the FAA, including FAA/DOT Orders 5050.4A and 1050.1D. There would be no significant cumulative impacts associated with the proposed project with regard to the flight track changes.

On March 5, 1993, after the draft EIR was finalized for printing and production, the FAA issued a finding of no significant impact ("FONSI") on the environmental assessment prepared by FAA. The airspace change has now been finalized and implemented by FAA. [See the response to Comment No. 72 to the draft EIR].

In the past, various elements of the community have suggested that an extension of the air carrier runway at JWA (Runway 19R/01L) to the north (*i.e.,* towards the I-405 freeway) might be a noise mitigating element of proposed airport projects. This measure was most recently considered in EIR 508/EIS, but was rejected as mitigation for the 1985 Master Plan project because it would provide relatively small noise reduction benefits but would be expensive to implement. In addition, various geographical, infrastructure, funding and other factors may limit the feasibility of this possible mitigation measure. However, because of the controversial nature of this proposed project, the County believes that re-examination of this possible mitigation measure is warranted. In order to expedite the necessary engineering feasibility analysis, the County has selected a qualified consultant to perform a feasibility study of such a runway extension. An analysis of the possible noise

reduction benefits of a northerly extension of Runway 19R/O1L is presented in Section 3.1 of this EIR.

Prior to actual implementation of a runway extension mitigation measure, three things would need to be considered: (i) whether a determination can be made that the extension is feasible in light of engineering and other constraints; (ii) whether there is a consensus in the airport influenced areas that the mitigation should be implemented; and (iii) whether there are adequate federal funds to implement the project. Therefore, the County is not proposing this measure as direct or immediate mitigation, but has made a commitment to complete the feasibility study so that a complete analysis of the benefits and possible impacts of this possible mitigation measure can be reviewed and discussed by the interested and affected parties. If, in fact, the County decides to proceed with this project, the County will conduct the necessary environmental documentation to determine the potential environmental effects that may be associated with the possible northerly extension of Runway 19R/O1L. While the environmental documentation for this project may identify significant environmental impacts which could result from implementation of that project, those impacts, if any, will not be cumulatively greater to any degree of significance if this project is implemented. Thus, there would be no significant cumulative impacts associated with the proposed project with regard to the potential northerly extension of Runway 19R/O1L.

There are no other projects that may cause potentially significant cumulative impacts associated with the proposed project. Thus, it is concluded that there would be no significant cumulative impacts associated with the proposed project (or its alternatives) and other past, present, and reasonably anticipated future projects.

CHAPTER 8

Consultation

John Wayne Airport, County of Orange

Janice M. Mittermeier, Airport Director
O.B. Schooley, Assistant Airport Director
Courtney C. Wiercioch, Manager, Government/Community Relations
John S. Leyerle, Airline Access/Noise Officer
Chris B. Caliendo, Chief, Facilities/Environmental Planning

County of Orange, Environmental Management Agency

Environmental Planning Division

Tim Neely, Manager of Environmental Planning
Kari Rigoni, Senior Planner
Gary Medeiros, Senior Planner
Leon Kolankiewicz, Planner
Romi Archer, Planner

Project Planning Division

George Britton, Manager of Project Planning
Steve Riley, Planner

Federal Aviation Administration

Herman Bliss, Manager of Airports Division
Bill Johnstone, Airport Planner
Joe Davies, Specialist in Air Traffic Division

Mestre Greve Associates

Vince Mestre, Principal
Ron Reeves, Staff Engineer

City of Newport Beach

Robert H. Burnham, City Attorney
Ken J. Delino, Deputy City Manager

City of Santa Ana

Maya DeRosa, Environmental Coordinator

City of Costa Mesa

Kristen Caspers Petras, Associate Planner

City of Irvine

Peter Hersh, Manager of Planning Services

United States Department of Fish and Game

Fred Worthley, Regional Manager, Region 5

Wildlife Society

W. Douglas Padley, President

United States Marine Corps

L.R. Fuchs, Jr., Colonel, US Marine Corps.

Back Bay Community Association

Nancy Kaufman

Concerned Homeowners of Sherwood Estates

Edwin C. Hall

United States Department of the Interior, Fish and Wildlife Service

Jeffrey D. Opdycke, Field Supervisor

Airport Working Group of Orange County, Inc. (AWG)

E. Clement Shute, Jr.
Barbara Lichman
Thomas Edwards

Stop Polluting Our Newport (SPON)

E. Clement Shute, Jr.
Alan Beek

In addition, this EIR has been reviewed for legal adequacy by attorneys representing JWA. Communications on the Draft EIR involving attorneys representing the County of Orange are privileged under applicable lawyer-client privileges established under state and federal law.

APPENDIX A

INITIAL STUDY
AND
NOTICE OF PREPARATION

APPENDIX A

INITIAL STUDY
AND
NOTICE OF PREPARATION

ENVIRONMENTAL MANAGEMENT AGENCY
P.O. BOX 4048
SANTA ANA, CALIFORNIA 92702-4048

NOTICE OF PREPARATION

Date: November 10, 1992

Subject: Notice Of Intent To Prepare A Draft Environmental Impact Report # 546

Project Title: John Wayne Airport Access Plan Amendments

Applicant: County of Orange/John Wayne Airport

The Orange County Environmental Management Agency has conducted an Initial Study for the subject project and has determined that an Environmental Impact Report is necessary. The County of Orange will be the Lead Agency for the subject project and will prepare the EIR. In order for the concerns of your agency to be incorporated into the Draft EIR, we need to know the views of your agency as to the scope and content of the environmental information relevant to your agency's statutory responsibilities in connection with the proposed project. Your agency must consider the EIR prepared by the County of Orange when considering your permit or approval for the project. The project description, location, and an analysis indicating the probable environmental effects of the proposed action are contained in the attached materials.

Pursuant to Section 21080.4 of CEQA, your response must be sent as soon as possible but not later than 30 days after receipt of this notice.

If any significant changes in the proposed project occur, we will advise you. If you have need for additional information, contact Kari Rigoni of the Environmental Planning Division at 834-2109.

Submitted by:

Kari A. Rigoni

Attachment: Initial Study

ENVIRONMENTAL MANAGEMENT AGENCY
P.O. BOX 4048
SANTA ANA, CALIFORNIA 92702-4048

I.S.# IP 92-70

PROJECT REF. JWA Access Plan Amendments

ENVIRONMENTAL ANALYSIS CHECKLIST

I ACCORDANCE WITH THE POLICIES OF THE ORANGE COUNTY BOARD OF SUPERVISORS REGARDING IMPLEMENTATION OF THE CALIFORNIA ENVIRONENTAL QUALITY ACT OF 1970, THIS DOCUMENT COMBINED WITH THE ATTACHED "ENVIRONMENTAL INFORMATION" FORM AND SUPPORTING DATA ONSTITUTES THE INITIAL STUDY ON THE SUBJECT PROJECT. THIS INITIAL STUDY PROVIDES THE BASIS FOR THE DETERMINATION AS TO WHEHER THE PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT. IF IT IS DETERMINED THAT THE PROJECT MAY HAVE A SIGNIFIANT EFFECT ON THE ENVIRONMENT, AN ENVIRONMENTAL IMPACT REPORT (EIR) WILL BE PREPARED WHICH WILL ADDRESS AREAS OF CONCERN DENTIFIED BY THIS INITIAL STUDY, PLUS OTHER AREAS IDENTIFIED DURING THE EIR PROCESS.

	YES	MAYBE	NO
EARTH - WILL THE PROPOSAL RESULT IN OR BE AFFECTED BY:			
A. **SAFETY**			
1) UNSTABLE EARTH CONDITIONS OR IN CHANGES IN GEOLOGIC SUBSTRUCTURES?	___	___	X
2) EXPOSURE OF PEOPLE OR PROPERTY TO GEOLOGIC HAZARDS SUCH AS EARTHQUAKES, LANDSLIDES, MUDSLIDES, GROUND FAILURE, OR SIMILAR HAZARDS?	___	___	X
B. **LANDFORM ALTERATION**			
1) CHANGE IN TOPOGRAPHY OR GROUND SURFACE RELIEF FEATURES?	___	___	X
2) THE DESTRUCTION, COVERING, OR MODIFICATION OF ANY UNIQUE GEOLOGIC OR PHYSICAL FEATURES?	___	___	X
3) ANY INCREASE IN WIND OR WATER EROSION OF SOILS, ON OR OFF-SITE?	___	___	X
AIR - WILL THE PROPOSAL RESULT IN:			
A. INCREASED AIR EMISSIONS OR DETERIORATION OF AMBIENT AIR QUALITY BEYOND PROJECTIONS BY THE SOUTH COAST AIR QUALITY MANAGEMENT PLAN?	___	___	X
B. EXPOSURE OF PERSONS TO LOCALLY ELEVATED LEVELS OF AIR POLLUTION?	___	___	X
C. THE CREATION OF OBJECTIONABLE ODORS?	___	___	X
D. ALTERATION OF AIR MOVEMENT, MOISTURE OR TEMPERATURE, OR ANY CHANGE IN CLIMATE, EITHER LOCALLY (ADJACENT TO PROJECT) OR REGIONALLY (IN COUNTY)?	___	___	X
WATER - WILL THE PROPOSAL RESULT IN:			
A. CHANGES IN CURRENTS, OR THE COURSE OR DIRECTION OF WATER MOVEMENTS, IN EITHER MARINE OR FRESH WATERS?	___	___	X
B. CHANGES IN ABSORPTION RATES, DRAINAGE PATTERNS, OR THE RATE AND AMOUNT OF SURFACE WATER RUN-OFF?	___	___	X
C. CHANGES IN DEPOSITION OR EROSION OF BEACH SANDS, OR CHANGES IN SILTATION, DEPOSITION OR EROSION WHICH MAY MODIFY THE CHANNEL OF A RIVER OR STREAM OR THE BED OF THE OCEAN OR ANY BAY INLET OR LAKE?	___	___	X
D. CHANGE IN THE AMOUNT OF SURFACE WATER IN ANY WATER BODY?	___	___	X
E. DISCHARGE INTO SURFACE WATERS, OR IN ANY ALTERATION OF SURFACE-WATER QUALITY, INCLUDING BUT NOT LIMITED TO TEMPERATURE, DISSOLVED OXYGEN, OR TURBIDITY?	___	___	X
F. ALTERATION OF THE DIRECTION OR RATE OF FLOW OF GROUND WATERS?	___	___	X
G. CHANGE IN THE QUANTITY OR QUALITY OF GROUND WATERS, EITHER THROUGH DIRECT ADDITIONS OR WITHDRAWALS, OR THROUGH INTERCEPTION OF AN AQUIFER BY CUTS OR EXCAVATIONS?	___	___	X
H. EXPOSURE OF PEOPLE OR PROPERTY TO WATER-RELATED HAZARDS SUCH AS FLOODING OR TIDAL WAVES?	___	___	X
I. ALTERATIONS TO THE COURSE, FLOW OR MAGNITUDE OF FLOOD WATERS?	___	___	X
J. SUBSTANTIAL REDUCTION IN THE AMOUNT OF WATER OTHERWISE AVAILABLE FOR PUBLIC WATER SUPPLIES?	___	___	X
4. **BIOLOGICAL RESOURCES** - WILL THE PROPOSAL RESULT IN:			
A. CHANGES IN THE DIVERSITY OF SPECIES, CHANGES OR DETERIORATION TO FLORA AND FAUNA HABITAT, CHANGES IN THE NUMBER OF ANY SPECIES OF PLANTS OR ANIMALS, OR THE INTRODUCTION OF NEW SPECIES OF PLANTS OR ANIMALS INTO AN AREA?	___	X	___
B. THE REDUCTION OF THE NUMBERS OF ANY UNIQUE, SENSITIVE, AESTHETICALLY SIGNIFICANT, RRE, THREATENED, OR ENDANGERED SPECIES OF PLANTS OR ANIMALS?	___	X	___
C. THE INTRODUCTION OF A BARRIER TO THE NORMAL REPLENISHMENT OR MIGRATION OF EXISTING SPECIES?	___	___	X
5. **CULTURAL/SCIENTIFIC RESOURCES** - WILL THE PROPOSAL:			
A. RESULT IN AN ALTERATION OF A SIGNIFICANT ARCHAEOLOGICAL OR HISTORICAL SITE, STRUCTURE, OBJECT, OR BUILDING, PALEONTOLOGICAL SITE, OR OTHER IMPORTANT CULTURAL/SCIENTIFIC RESOURCE?	___	___	X
B. HAVE THE POTENTIAL TO CAUSE A PHYSICAL CHANGE WHICH WOULD AFFECT UNIQUE ETHNIC CULTURAL VALUES?	___	___	X
C. RESTRICT EXISTING RELIGIOUS OR SACRED USES WITHIN THE POTENTIAL IMPACT AREA?	___	___	X
6. **AESTHETICS** - WILL THE PROPOSAL RESULT IN:			
A. THE OBSTRUCTION OF ANY SCENIC VISTA OR VIEW OPEN TO THE PUBLIC OR WILL THE PROPOSAL RESULT IN THE CREATION OF AN AESTHETICALLY OFFENSIVE SITE OPEN TO PUBLIC VIEW?	___	___	X
B. AESTHETIC INCOMPATIBILITY WITH OTHER USES WITHIN THE PROJECT VICINITY?	___	___	X
7. **ENERGY/NATURAL RESOURCES** - WILL THE PROPOSAL RESULT IN:			
A. USE OF ABNORMALLY HIGH AMOUNTS OF FUEL OR ENERGY?	___	___	X
B. INCREASED DEMAND UPON EXISTING SOURCES OF ENERGY, OR REQUIRE THE DEVELOPMENT OF NEW SOURCES OF ENERGY?	___	___	X
C. AN INCREASE IN THE RATE OF USE OF ANY NATURAL RESOURCES?	___	___	X
D. PRECLUDE THE EXTRACTION OF NATURAL RESOURCES?	___	___	X
8. **LAND USE** - WILL THE PROPOSAL:			
A. CONFLICT WITH ZONING OR GENERAL PLAN DESIGNATION/POLICIES FOR THE PROPERTY?	___	X	___
B. CONFLICT WITH ADJACENT, EXISTING OR PLANNED, LAND USES?	___	X	___

	YES	MAYBE	NO
C. INDUCE URBAN GROWTH, INCLUDING POPULATION AND HOUSING, BEYOND PROJECTED GROWTH LEVELS?			X
D. RESULT IN CONVERSION OF VALUABLE AGRICULTURAL LAND TO DEVELOPMENT?			X
9 TRANSPORTATION/CIRCULATION - WILL THE PROPOSAL RESULT IN:			
A. GENERATION OF ADDITIONAL VEHICULAR MOVEMENT BEYOND REGIONAL ANALYSIS?			X
B. EFFECTS ON EXISTING PARKING FACILITIES OR CREATION OF DEMAND FOR NEW PARKING?			X
C. IMPACT UPON EXISTING OR PLANNED TRANSPORTATION SYSTEMS?		X	
D. ALTERATION OF PRESENT PATTERNS OF CIRCULATION OR MOVEMENT OF PEOPLE AND/OR GOODS?		X	
E. ALTERATION OF WATERBORNE, RAIL, OR AIR TRAFFIC?			X
F. TRAFFIC HAZARDS TO EQUESTRIANS, MOTOR VEHICLES, BICYCLISTS, OR PEDESTRIANS?			X
G. CREATION OF INTERNAL CIRCULATION PROBLEMS?			X
10. RECREATION - WILL THE PROPOSAL RESULT IN AN IMPACT UPON THE QUALITY OR QUANTITY OF EXISTING RECREATIONAL OPPORTUNITIES?			X
11. PUBLIC HEALTH AND SAFETY - WILL THE PROPOSAL:			
A. INVOLVE THE RISK OF EXPLOSION OR THE RELEASE OF HAZARDOUS SUBSTANCES, INCLUDING OIL, PESTICIDES, CHEMICALS, OR RADIATION IN THE EVENT OF AN ACCIDENT OR DISRUPTION OF CONDITIONS?			X
B. EXPOSE PERSONS OR PROPERTY TO WILDLAND FIRE HAZARDS?			X
C. EXPOSE PERSONS WHO MAY OCCUPY THE SITE TO HAZARDOUS SUBSTANCES, INCLUDING BUT NOT LIMITED TO OIL, PESTICIDES, CHEMICALS OR RADIATION FROM PREVIOUS USE OF THE SITE?			X
D. PLACE PRESENT OR FUTURE SURROUNDING RESIDENTS AT RISK OF EXPOSURE TO TOXIC OR RADIOACTIVE GAS, EXPLOSIONS OR INDUSTRIAL FIRE?			X
E. INTERFERE WITH AN EMERGENCY RESPONSE PLAN OR EVACUATION PLAN?			X

	YES	MAYBE	NO
F. USE OR DISPOSE OF POTENTIALLY HAZARDOUS MATERIALS SUCH AS TOXIC, FLAMMABLE OR EXPLOSIVE SUBSTANCES?			X
12. NOISE - WILL THE PROPOSAL RESULT IN:			
A. AN INCREASE IN EXISTING NOISE LEVELS?	X		
B. EXPOSURE OF PEOPLE TO NOISE LEVELS IN EXCESS OF COUNTY STANDARDS?	X		
13. LIGHT AND GLARE - WILL THE PROPOSAL PRODUCE NEW LIGHT OR GLARE?			X
14. PUBLIC SERVICES AND UTILITIES - WILL THE PROPOSAL HAVE ADVERSE PHYSICAL IMPACTS ON EXISTING FACILITIES OR CREATE THE NEED FOR NEW FACILITIES FOR THE FOLLOWING:			
A. FIRE PROTECTION?			X
B. POLICE PROTECTION?			X
C. SCHOOLS?			X
D. PARKS AND/OR OTHER RECREATION FACILITIES?			X
E. PUBLIC FACILITIES, INCLUDING ROADS?			X
F. ELECTRICAL POWER OR NATURAL GAS?			X
G. COMMUNICATIONS SYSTEMS?			X
H. WATER?			X
I. SEWER OR SEPTIC TANKS?			X
J. STORM WATER DRAINAGE?			X
K. SOLID WASTE AND DISPOSAL?			X
L. OTHER SERVICES?			X
15. OTHER CONCERNS:			

OTHER AGENCIES AND PERSONS CONSULTED: John Wayne Airport, Environmental Management Agency Project Planning Division; Federal Aviation Administratic

FINDINGS

	YES	MAYBE	NO
J POTENTIAL TO DEGRADE: DOES THE PROJECT HAVE THE POTENTIAL TO DEGRADE THE QUALITY OF THE ENVIRONMENT, SUBSTANTIALLY REDUCE THE HABITAT OF A FISH OR WILDLIFE SPECIES, CAUSE A FISH OR WILDLIFE POPULATION TO DROP BELOW SELF-SUSTAINING LEVELS, THREATEN TO ELIMINATE A PLANT OR ANIMAL COMMUNITY, REDUCE THE NUMBER OR RESTRICT THE RANGE OF A RARE, THREATENED, OR ENDANGERED PLANT OR ANIMAL OR ELIMINATE IMPORTANT PALEONTOLOGICAL RESOURCES OR EXAMPLES OF THE MAJOR PERIODS OF CALIFORNIA HISTORY OR PREHISTORY?		X	
I SHORT TERM: DOES THE PROJECT HAVE THE POTENTIAL TO ACHIEVE SHORT-TERM, TO THE DISADVANTAGE OF LONG-TERM, ENVIRONMENTAL GOALS? (A SHORT-TERM IMPACT ON THE ENVIRONMENT IS ONE WHICH OCCURS IN A RELATIVELY BRIEF, DEFINITE PERIOD OF TIME; LONG-TERM IMPACTS WILL ENDURE WELL INTO THE FUTURE.)			X
(CUMULATIVE: DOES THE PROJECT HAVE IMPACTS WHICH ARE INDIVIDUALLY LIMITED, BUT CUMULATIVELY CONSIDERABLE? DOES THE PROJECT IMPACT TWO OR MORE SEPARATE RESOURCES WHERE THE IMPACT ON EACH RESOURCE IS RELATIVELY SMALL, BUT WHERE THE EFFECT OF THE TOTAL OF THOSE IMPACTS ON THE ENVIRONMENT IS SIGNIFICANT? DOES THE PROJECT, WHEN CONSIDERED IN CONJUNCTION WITH OTHER NEARBY PROJECTS OR SIMILAR PROJECTS, HAVE SIGNIFICANT CUMULATIVE IMPACTS?		X	
I SUBSTANTIAL ADVERSE: DOES THE PROJECT HAVE ENVIRONMENTAL EFFECTS WHICH WILL CAUSE SUBSTANTIAL ADVERSE EFFECTS ON HUMAN BEINGS, EITHER DIRECTLY OR INDIRECTLY?		X	

DETERMINATION

(THE BASIS OF THIS INITIAL EVALUATION:

_____ I FIND THE PROPOSED PROJECT COULD NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT, AND A NEGATIVE DECLARATION WILL BE PREPARED.

_____ I FIND THAT ALTHOUGH THE PROPOSED PROJECT COULD HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT, THERE WILL NOT BE A SIGNIFICANT EFFECT IN THIS CASE BECAUSE THE MITIGATION MEASURES DESCRIBED ON ATTACHED SHEET(S) HAVE BEEN ADDED TO THE PROJECT. A NEGATIVE DECLARATION WILL BE PREPARED.

_____ I FIND THAT THE PROPOSED PROJECT IS COVERED BY PREVIOUSLY CERTIFIED ENVIRONMENTAL DOCUMENTATION. A DISCUSSION OF THIS DOCUMENT AND A LISTING OF RELEVANT MITIGATION MEASURES ARE ATTACHED TO THE CHECKLIST.

XX I FIND THE PROPOSED PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT, AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED.

ENVIRONMENTAL MANAGEMENT AGENCY BY: _____ DATE: 11/9/92

I.S.# IP 92-70

PROJ. REF. JWA Access Plan Amendments

ENVIRONMENTAL MANAGEMENT AGENCY
P.O. BOX 4048
SANTA ANA, CALIFORNIA 92702

ENVIRONMENTAL ANALYSIS

EXPLANATIONS/MITIGATION DISCUSSION

SUPPLEMENT TO CHECKLIST FORM NO. F0250-338

I. INTRODUCTION

This project description and supplemental analysis has been prepared for use in connection with the environmental analysis/checklist initial study IP92-70 which has been conducted under requirements of the California Environmental Quality Act ("CEQA") (Cal.Pub.Res.Code §§21000, *et seq.*) and its implementing regulations, the "CEQA Guidelines" (14 Cal.Code Regs. §§15000, *et seq.*) ("the Guidelines"). Specifically, this document, together with the environmental analysis checklist, meets the requirements of GUIDELINES §15063(d)(1)-(6).

II. PROJECT PROPONENT

The project proponent is the County of Orange, in its capacity as the proprietor of John Wayne Airport, Orange County (SNA) ("JWA").

III. PROJECT LOCATION

The project area includes the County owned property which comprises JWA. The project area also encompasses areas in the vicinity of JWA, including: (i) the unincorporated residential and commercial areas located generally to the southeast of the airport which is commonly referred to as "Santa Ana Heights;" (ii) residential and other areas further to the south of the airport located within the jurisdictional boundaries of the City of Newport Beach; (iii) commercial and residential areas to the west and southwest of the airport located within the jurisdictional boundaries of the City of Costa Mesa; (iv) commercial areas to the east of the airport located within the jurisdictional boundaries of the City of Irvine; and (v) residential and commercial areas located generally to the north of the airport and within the jurisdictional boundaries of the cities of Orange, Santa Ana, Villa Park, and Tustin. A vicinity map showing the project area is attached as Attachment "A."

I.S.# IP 92-70

The project area is predominantly urban in character. An extensive highway and local street system surrounds the area. The project area includes industrial, commercial, and residential land uses, as well as certain special purpose noise sensitive uses, such as
schools and churches. The project area also includes a natural reserve and habitat to the south of the airport, commonly known as the "Upper Newport Bay Ecological Reserve" and the "Upper Newport Bay Regional Park."

IV. PROJECT SUMMARY AND BACKGROUND

Project Objectives

The principal objective of the proposed project is to allow the project proponent to establish new maximum permitted noise levels for the three classes of aircraft at the monitoring stations located in the Santa Ana Heights area in order to: (i) preserve the operational capacity at JWA contemplated by the Phase 2 Access Plan; and (ii) accommodating the FAA's concerns regarding the safety of, and potential proliferation of, airport specific noise abatement departure procedures.

General Nature of the Project

As discussed more completely below, the project evaluated in this initial study ((i) access plan amendments modifying maximum permitted noise levels on departure in areas south of JWA; and (ii) the addition of three regulatory monitoring stations south of JWA, and the possible future elimination of two existing noise departure monitoring stations) arises as a result of certain actions taken, and anticipated to be taken, by the Federal Aviation Administration ("FAA") which would prohibit the use of certain noise abatement departure procedures which have been used by certain aircraft types operating at JWA for a number of years with prior FAA review and approval. The County is the proprietor of JWA and operates the airport under appropriate permits and certificates from the California Department of Transportation, Division of Aeronautics, and the FAA. Since at least 1969, the County has operated JWA under a series of restrictions implemented by lease agreements, regulations and ordinances which have the primary purpose of controlling and minimizing any adverse noise or other environmental effects resulting from aircraft operations at the airport.

In 1985, the Orange County Board of Supervisors ("the Board") adopted a master plan for the development and operation of JWA through the year 2005, and other

related projects, including a land use compatibility plan for a residential area immediately to the south of the airport, which is commonly known as "Santa Ana Heights" (collectively, "the 1985 Master Plan"). An Environmental Impact Report ("EIR") prepared under CEQA, and an Environmental Impact Statement ("EIS") prepared under the requirements of the National Environmental Policy Act ("NEPA") (42 USC §§4330, *et seq.*), were reviewed and considered by the Board and by the Federal Aviation Administration prior to their respective approvals of the 1985 Master Plan projects ("EIR 508/EIS").

A major mitigation measure of EIR 508/EIS was the continued implementation of pre-existing airport use regulations and limitations and the adoption of additional project mitigation implemented through an airport "access plan." This mitigation included: (i) the simultaneous adoption by the Board of a "Commercial Airline Access Plan and Regulation" ("the Phase 1 Access Plan"), intended to be in effect through the period characterized in the 1985 Master Plan as "Phase I" (1985-1990); and (ii) a commitment to continue to implement similar regulations and restrictions for "Phase II" of the 1985 Master Plan (1990-2005).[1] On August 29, 1990, the Board adopted a "PHASE 2 COMMERCIAL AIRLINE ACCESS PLAN AND REGULATION" ("THE PHASE 2 ACCESS PLAN") consistent with the project mitigation commitments made in connection with the County's approval of the 1985 Master Plan. The PHASE 2 ACCESS PLAN was expressly made effective immediately upon its adoption by the Board. Both the Phase 1 Access Plan and the PHASE 2 ACCESS PLAN were, in turn, successor regulations to earlier "access plans" and other similar agreements, rules and restrictions previously implemented and enforced by the County.

The FAA is currently considering new noise abatement departure procedure policies. These policies would invalidate certain departure procedures previously

---

[1] Beginning in 1980, the County adopted a series of "Commercial Airline Access Plans." The primary function of these "plans" (which were adopted in regulatory form, and which, beginning with the Phase 1 Access Plan, were expressly incorporated into the lease and operating agreements of the scheduled commercial users of JWA), was to establish maximum permitted single event departure noise levels south of the airport; to limit by regulation the maximum permitted number of scheduled commercial flights in various noise and user classes; and to regulate and allocate operating privileges among scheduled air carriers and commuter airlines regularly serving JWA. Most recently, the Board, on August 29, 1990, approved and adopted the PHASE 2 ACCESS PLAN.

On December 12, 1990, the Board considered and approved various administrative (*i.e.*, non-substantive) amendments to the PHASE 2 ACCESS PLAN. The Phase 1 Access Plan (Board Resolution No. 85-256 (February 26, 1985)) was adopted to implement various mitigation measures for the 1985 Airport Master Plan until 1990. The PHASE 2 ACCESS PLAN continues the implementation and enforcement of those mitigation measures through December 31, 2005.

approved by FAA for use at JWA. A principal objective of this FAA initiative is to achieve "standardization" of noise abatement departure procedures at domestic commercial airports. It appears to be the concern of FAA that a "proliferation" of airport specific noise abatement departure procedures, like those approved for use at JWA, could create significant safety concerns because of the extra "workload" imposed on flight deck crew members (*i.e.,* the pilot and co-pilot) by requiring them to be familiar with, and to execute properly, a wide range of departure procedures with the same aircraft depending upon which airport the aircraft was departing.

The PHASE 2 ACCESS PLAN maximum permitted noise levels were established, in part, based upon the demonstrated capability of the scheduled airlines to use certain noise abatement departure procedures at JWA. Therefore, unless certain amendments are made to the PHASE 2 ACCESS PLAN to accommodate noise abatement departure procedures which are consistent with the FAA initiative, FAA's anticipated actions may result in a reduction in commercial airline capacity and operations at JWA significantly below the levels contemplated by the 1985 Master Plan and a related settlement agreement entered into in 1985 by the County, the City of Newport Beach, and two citizens groups, "Stop Polluting Our Newport" ("SPON") and the Airport Working Group of Orange County, Inc. ("AWG").

Background Discussion

Since at least 1990, FAA has received various suggestions, complaints and input from certain airline pilots unions (principally, but not exclusively, the Air Line Pilots Association ["ALPA"]) to the effect that certain (but not all) of the noise abatement departure procedures previously approved by FAA for use by certain airlines and aircraft types at JWA are not consistent with the views of those organizations regarding the operation of commercial aircraft with a desirable margin of safety. ALPA and the other commercial pilots organizations have also expressed strong concern to FAA regarding the safety implications of a possible proliferation of airport specific noise abatement departure procedures being implemented (or "encouraged") by various other commercial airports in the United States. ALPA and the other commercial pilot organizations have suggested that FAA take advisory and, if necessary, regulatory action to establish minimum operational standards and criteria for noise abatement departure procedures which would be implemented on a uniform basis nationwide.

In response to the suggestions of the pilot organizations and subsequent FAA working group recommendations, FAA has taken certain actions in order to discharge its statutory obligation to ensure the safe operation of aircraft in flight. Specifically:

(a) FAA formed advisory working groups to study and advise FAA on:

(i) appropriate parameters for noise abatement departure procedures which would provide a reasonable margin of safety in such operations to protect the best interests of the air travelling public. This led to the preparation of a draft FAA Advisory Circular ("AC") which has been published for comment in the Federal Register (57 FR 34990 [August 7, 1992]), and is presently designated for comment purposes as AC 91-53A ("First Working Group"); and

(ii) the noise and other environmental consequences of the contemplated change in permitted noise abatement departure procedures ("Second Working Group"); and

(b) Based upon the results and recommendations of the First Working Group, and subject to various other legal and regulatory requirements, FAA is considering adopting AC 91-53A and, perhaps, amending operating certificates of all certificated commercial airlines operating in the United States, to impose limitations consistent with the proposed operational parameters and minimums specified in proposed AC 91-53A.

The first working group was formed before the County became aware of this activity at the federal level. Members of the first working group generally consisted of airline representatives, representatives of ALPA, other pilots' unions, and other industry participants. The County is an active member of the Second Working Group. The County has advised FAA that: (i) the changes suggested in proposed AC 91-53A could adversely affect the ability of certain air carriers using JWA to continue to operate within their previously approved noise classification; (ii) the changes suggested in proposed AC 91-53A could adversely affect the operational capacity of JWA in light of the terms and limitations of the 1985 stipulation and confirming judgment; (iii) the County understands FAA's responsibilities in respect of regulating aircraft operating procedures to ensure safe aircraft operations, and the safety of the air travelling public; and (iv) the County wishes to cooperate in the processes by which FAA will consider and may implement advisory circular amendments and/or regulatory actions implementing new noise abatement departure limitations.

As part of its cooperation with FAA, in order to provide relevant information to the Second Working Group, of which the County is a member, and in order to obtain relevant noise data upon which the County could consider possible necessary

amendments to the Phase 2 Access Plan, the County volunteered, with the consent and cooperation of the City of Newport Beach, SPON, AWG, the airlines and FAA, to conduct a noise demonstration test at JWA in three phases, beginning April 1, 1992. The test was originally scheduled to continue through December 31, 1992. However, for reasons discussed below, the interested and affected parties have agreed to extend Phase III of the test to March 31, 1993.

Phase I of the test occurred from April 1, 1992 to June 30, 1992. During this period, aircraft which were initiating power reductions at altitudes below 800 feet, or which were cutting back power below the power necessary to maintain a 1.2% engine-out climb gradient, were exempted from the noise restrictions of the PHASE 2 ACCESS PLAN. Phase I of the test also served as a "base quarter" for the other aircraft types using JWA.[2]

Phase II of the test occurred from July 1, 1992 to September 30, 1992, and involved all scheduled commercial aircraft using JWA in a variety of different departure procedures and profiles. This was the main data gathering phase of the noise demonstration test. The principal purpose of this phase was to identify maximum noise levels at the regulatory monitoring stations which would require adjustment to accommodate the change in FAA's limitations on noise abatement departure profiles and still provide the lowest reasonable noise limits south of JWA.

Phase III of the test began on October 1, 1992, and will continue until March 31, 1993. The principal purpose of extending the test to March 31, 1992, was to allow collection of additional noise data during the month of October 1992. During Phase III, generally, the carriers agreed to fly only those departure procedures identified after analysis of the preliminary Phase II noise data as being procedures which could operate within the lower range of single event noise levels south of the airport. Phase III was also extended to March 31, 1993, in order to allow sufficient time for environmental analysis and other administrative processes necessary to permit amendments to the PHASE 2 ACCESS PLAN.

Finally, Phase III of the noise demonstration test also focuses on one of the primary policy issues raised as a result of the anticipated change in FAA policy. Each of the major aircraft types using JWA, including the MD-80 series aircraft, the Boeing 737-300 and 400 series aircraft, and the Boeing 757 series aircraft are being operated

---

[2] A "base quarter," in this context, means a quarter during which operations were conducted without use of the departure procedures designed specifically for the test. This provided a basis for comparing the results using the test procedures with the pre-test noise levels.

by some of the airlines using a noise abatement departure procedure which initiates power reduction at an altitude of 800 feet above field elevation ("AFE") (*i.e.,* the altitude of the air carrier runway [19R/01L] at JWA).[3] Another group of airlines are operating with departure procedures where power reduction is initiated at an altitude of 1500 feet AFE (1200 feet in the case of the MD-80 series aircraft). Generally, the 800 foot procedures result in lower noise level increases in Santa Ana Heights and lesser noise level reductions in areas south of Santa Ana Heights. The 1500 (or 1200) foot procedure, on the other hand, is designed to maximize the noise level reductions in residential areas south of Santa Ana Heights, but appears to result in greater noise increases in some areas of Santa Ana Heights.

For purposes of this test, the County used the six permanent remote monitoring stations ("RMS") south of the airport (RMS 1 through RMS 6). The County also installed eight temporary monitoring stations ("TMS") in areas south of Santa Ana Heights during the test period, which are presently designated as TMS 21 through TMS 28. Attachment "B" to this document is a map of the area south of JWA and identifies the current locations of RMS 1 through 6 and TMS 21 through 28. During the test period, the County also rented and installed a flight tracking system called PASSUR. The PASSUR system allows passive radar tracking of aircraft departing JWA and facilitates correlation of noise level information with specific flights, specific aircraft types, and specific noise abatement departure procedures. An extensive computerized data base has also been developed and used to track relevant variables in noise level generation. Mestre, Greve & Associates has acted as the noise consultant to the County for this test.

The County has obtained and conducted its preliminary review of the data from Phase I and Phase II of the test, and from the month of October 1992. This information provides a satisfactory data base to permit consideration of, and an environmental analysis of, possible changes to the maximum permitted noise levels, as presently defined in the PHASE 2 ACCESS PLAN.

[3] Although the Boeing 757, 737 and McDonnell Douglas MD-80 series aircraft are the principal aircraft types currently using JWA, other commercial aircraft types using the airport during the test period, including the Airbus A-320 and the BAe-146 have also been involved in the test, and their noise characteristics under alternative noise abatement departure procedures is also being analyzed.

V. THE ENVIRONMENTAL SETTING

The Nature and Role of JWA

At the present time, JWA is the only airport located in Orange County which provides regularly scheduled commercial air service. The total airport area (including portions of a golf course to the south of the airport, which is separated from the airport itself by a major roadway, and which is not available for aeronautical uses) includes a total of approximately 504 acres. The area of the airport available for aeronautical uses and activities is approximately 400 acres.

JWA serves both general aviation and scheduled commercial passenger airline operations. The use of JWA is heavily regulated because of the limited facilities available at JWA to support commercial passenger activities, and because of the environmental sensitivity of the local area and a long history of airport related litigation extending back, at least, to 1969. Both as a result of local environmental concerns and limited facilities, JWA may not serve more than 8.4 million annual passengers ("MAP") through December 31, 2005 (a limitation which is also incorporated into a judgement of the United States District Court for the Central District of California entered in 1985).

History of Regulation of Airport Use and Operations at JWA

The essential character of JWA as an airport facility, both operationally and environmentally, is defined by the significant and substantial physical and environmental constraints affecting public use of the facility. Regularly scheduled commercial service was first initiated at JWA in 1967, and since the late 1960s, the County has regulated the use and operation of JWA by a variety of means in an effort to control and reduce any adverse environmental impacts caused by aircraft operations to and from JWA.

These regulations have included such restrictions as: (i) strict noise based limitations on the type of aircraft which are permitted to use JWA - including both commercial and general aviation aircraft; (ii) a nighttime "curfew" on aircraft operations exceeding certain specified noise levels; and (iii) limitations on the number of average daily commercial departures which can occur at the facility. The controlled nature of the airport's operation, arising from a wide range of political, social and economic considerations, has become institutionalized to the extent that the regulated nature of the airport is a definitional component of its character as an air transportation facility.

One of the principal means of controlling aircraft noise at JWA has been limitations placed upon the number of average daily departures ("ADDs") by regularly scheduled air carriers using JWA. These restrictions have been adopted in resolutions of the Board of Supervisors and incorporated into various agreements between the County (as the proprietor) and its airline tenants. After 1980, these restrictions also became elements of various "access plans" adopted by the County, including the PHASE 2 ACCESS PLAN. Prior to 1985, the maximum number of permitted ADDs was 41. One of the significant project elements of the 1985 Master Plan was to increase the permitted number of ADDs in two phases: Phase I (1985-1990) increased the total number of *regulated* (*i.e.,* "Class A" and "Class AA") flights to 55 ADDs, and Phase II permitted an increase in the number of *regulated* flights to 73 ADDs.

These ADDs are allocated among the regularly scheduled commercial airlines by a formula and process described in the PHASE 2 ACCESS PLAN (and in the staff reports prepared in connection with the consideration and adoption of the PHASE 2 ACCESS PLAN by the Board). The ADDs are, in turn, divided into separate "classes" based upon the noise characteristics of the aircraft permitted to operate within those "classes." The "noisiest" class of ADD is designated in the PHASE 2 ACCESS PLAN as "Class A ADDs." Under the terms of the plan (and under the settlement agreement between the County, the City of Newport Beach, SPON and AWG, and the confirming judgment of the United States District Court for the Central District of California), the County may not allocate more than a total of 39 of these ADDs during the "Phase 2" period. The next quietest class of ADDs is designated in the plan as "Class AA ADDs." During the Phase 2 period, the County may not allocate more than a total of 73 Class A and Class AA ADDs; and since the County has allocated 39 Class A ADDs, this means that a total of 34 Class AA ADDs may be (and have been) allocated.

The PHASE 2 ACCESS PLAN (and the settlement agreement) defines a third "class" of commercial aircraft operation based upon the noise characteristics of the aircraft, "Class E" aircraft. Aircraft which can operate within the noise limits permitted by the Phase 2 Access Plan for Class E aircraft are not regulated by the number of flights. For purposes of Class E operations by passenger air carriers and commuter carriers, the number of flights is limited by "seat allocations" and "passenger capacity allocations," respectively.

Class A ADDs are the most valuable operating rights for scheduled commercial carriers using JWA. The importance of these ADDs arises largely because the maximum permitted noise levels for Class A operations are the highest of the three classes. This, in turn, allows the aircraft to depart with more weight, principally additional fuel, which allows the aircraft a greater non-stop range from JWA. Class

A ADDs are essential for medium and long-haul service out of JWA, principally on east-west routes. The existing maximum permitted noise levels are discussed in thefollowing section under the heading, *"Detailed Summary of the Project.*[4]

History of Environmental Controversies Involving the Airport

JWA has a long history of environmental controversies which continue to the present day. A more detailed history of those controversies through 1984 is contained in Volume I of EIR 508/EIS. However, the County has been a defendant in numerous and substantial noise damage litigation initiated by residential property owners living generally to the south of the airport in Santa Ana Heights and in Newport Beach. The City of Newport Beach has also initiated a number of lawsuits against the County since 1969 in an attempt to preclude any expansion of airport facilities or operations.

In 1985, the County initiated declaratory relief litigation in the United States District Court for the Central District of California (*County of Orange v. Air California, et al., etc.,* USDC C.D.Cal. Civ. No. 85-1542 (TJH)(MCx)) in respect of EIR 508/EIS. On December 15, 1985, the United States District Court entered a final judgment ("the confirming judgment") between the County, the City, SPON and AWG ("the settling parties") based upon a stipulation executed and submitted to the Court in November 1985 ("the 1985 stipulation" or "the settlement stipulation"). In addition, the FAA and various other parties, including various certificated commercial airlines, were also parties to this action.

The 1985 stipulation and the confirming judgment (which incorporated the terms of the 1985 stipulation) contained certain provisions binding upon, among others, the County, from the date of the Court's entry of the confirming judgment through December 31, 2005. The settling parties agreed, among other things, that: (i) during Phase I and Phase II, no aircraft generating noise levels greater than those permitted for Class A Aircraft would be permitted to engage in regularly scheduled commercial service at JWA; (ii) during Phase II, no more than 73 ADDs by Class A Aircraft and Class AA Aircraft would be permitted to operate at JWA; (iii) during Phase II, no more than 39 of the permitted 73 ADDs would be allocated to, and operated by, aircraft

---

[4] "Maximum Permitted Noise Levels" established at the regulatory monitoring stations for scheduled c ımercial operations (air carrier and commuter) are defined in terms of energy averaged SENEL levels measured over each calendar quarter. "SENEL" is a single event noise descriptor which takes into account the d ation of the noise event, as well as its peak noise levels, and is more completely (and technically) defined in t California Noise Standards (tit. 21 Cal.Code Regs. §§5001 *et seq.*).

operating at JWA as Class A Aircraft; (iv) during Phase II, the permitted number o operations by Exempt Aircraft is unlimited, except that the combined number o passengers served by Exempt Aircraft, Class A Aircraft and Class AA Aircraft may not exceed 8.4 MAP; and (v) Class A Aircraft, Class AA Aircraft and Exempt Aircraft are defined in the 1985 stipulation in terms of certain specified noise levels, as measured at defined "Criterion Noise Monitoring Stations" and "Departure Noise Monitoring Stations." These maximum permitted noise levels are consistent with the maximum permitted noise levels defined in the PHASE 2 ACCESS PLAN.

V. DETAILED SUMMARY OF THE PROJECT

Existing Noise Level Limitations

The proposed project consists of two principal components. The first project component contemplates Board adoption of amendments to the Phase 2 Access Plan which would be required to allow the proposed noise abatement departure procedures. These possible amendments are described in more detail below. Generally, however, the maximum permitted noise levels for Class A, Class AA and Class E aircraft would have to be increased. The preliminary analysis of the noise test data, which will be more completely analyzed in connection with the preparation of the EIR, seems to indicate at the present time that the maximum permitted noise levels would have to be increased for Class A, AA and E aircraft at RMS 1, 2 and 3 (Santa Ana Heights). It presently appears that the existing maximum permitted noise levels would not have to be increased for Class AA and E aircraft at RMS 4, 5 or 6, and that the maximum permitted noise levels at TMS 21, 22 and 24, if they become permanent monitoring stations as proposed by this project, could be set at the existing levels established for RMS 4, 5 and 6.[5]

The second - and related - project component would be amendments to the Phase 2 Access Plan to add three new noise monitoring stations south of the airport to the definition of maximum permitted noise levels for Class AA and E aircraft.[6] This would

---

[5] The settlement stipulation and the PHASE 2 ACCESS PLAN define Class A Aircraft only in terms of monitoring stations RMS 1, 2 and 3. There are no "Class A limits" defined for monitoring stations RMS 4, 5 and 6, although since those stations are all further south (and, in the case of RMS 4 and 5, further from the nominal flight track) than RMS 1, 2 and 3, the energy average SENEL levels for Class A aircraft will be lower south of Santa Ana Heights than the levels generated at RMS 1, 2 and 3.

[6] Generally, these noise monitoring stations consist of a pole secured to the ground. A microphone, (continued...)

assist in monitoring compliance with the revised noise limits for the entire flight track from Santa Ana Heights to the Pacific Ocean. These three new monitoring stations would be located at or near the location of the present TMS 21, 22 and 24 (*see* Attachment "B"). With the addition of these three stations as regulatory monitoring stations, the County also proposes eventually to remove existing monitoring stations RMS 4 and RMS 5 and to eliminate RMS 4 and 5 as regulatory monitoring stations. RMS 4 and 5 were part of the original JWA noise monitoring system implemented in the early 1970s. With the complete change in the fleet mix using JWA to Stage 3 aircraft in the early 1980s, these two stations became largely irrelevant since the quieter Stage 3 aircraft register at those two stations only infrequently.[7] TMS 21, 22 and 24 are all located closer to the nominal aircraft flight track than RMS 4 and 5 and would provide more consistent and reliable noise data than RMS 4 and 5. However, if the County does eventually remove RMS 4 and 5, it would first conduct "side-by-side" monitoring with TMS 21, 22 and 24 fully operational for at least six months. This would protect the consistency and integrity of the long-term and extensive noise level data base which is available to the County based upon its continuous noise monitoring for almost 20 years in areas south of JWA.

The existing sections of the Phase 2 Access Plan that regulate noise levels for scheduled commercial operations are Sections 2.11 (Class A ADDs), 2.12 (Class AA ADDs) and 2.13 (Class E ADDs). As they currently exist, those sections of the PHASE 2 ACCESS PLAN are set forth below.

Class A Aircraft are defined in the PHASE 2 ACCESS PLAN as follows:

"**2.11 CLASS A AIRCRAFT**

Class A Aircraft means aircraft which: (i) operate at gross takeoff weights at *JWA* not greater than the *Maximum Permitted Gross Takeoff Weight* for the individual aircraft main landing gear configuration, as set forth in Section

---

[6](...continued)
dedicated telephone line, and related hardware which connect directly to the central noise monitoring computer at the airport noise abatement office are also located on, or as part of, the monitoring pole.

[7] "Stage 3 aircraft" are defined in Part 36 of the Federal Aviation Regulations (14 CFR §§36.1, *et seq.*). Generally, "Stage 3 aircraft" incorporate the most advanced noise reduction technology, and, all other factors being equal, are the quietest aircraft in the commercial aviation fleet.

2.26;[8] and which (ii) generate actual energy averaged *SENEL* levels, averaged during each *Noise Compliance Period,*[9] as measured at the *Criterio Monitoring Stations,* which are not greater than the values:

MONITORING STATION	ENERGY AVERAGED DECIBELS
M3:	98.5 *Db SENEL*
M1:	100.8 *dB SENEL*
M2:	100.9 *dB SENEL*[10]

In determining whether an aircraft is a *Class A Aircraft,* its noise performance at the *Criterion Monitoring Stations* shall be determined at each individual monitoring station, and the aircraft must meet each of the monitoring station criteria, without "trade-offs," in order to qualify as a *Class A Aircraft.*"

Class AA Aircraft are defined in the PHASE 2 ACCESS PLAN as follows:

"2.12 CLASS AA AIRCRAFT

Class AA Aircraft means aircraft which: (i) operate at gross takeof weights at *JWA* not greater than the *Maximum Permitted Gross Takeoff Weigh* for the individual aircraft main landing gear configuration, as set forth in Section 2.26; and which (ii) generate actual energy averaged *SENEL* levels, averaged during each *Noise Compliance Period,* as measured at the *Departure Monitorin Stations,* which are not greater than the values:

---

8 This project would not amend the maximum permitted gross takeoff weight limitations of Section 2.26 of the PHASE 2 ACCESS PLAN.

9 A *Noise Compliance Period* is defined in Section 2.28 of the plan as a calendar quarter.

10 When originally adopted in 1985, the maximum permitted noise levels for Class A aircraft at RMS 1 and 2 were 100.0 dB SENEL. However, in the late 1980s, the County lost its rights of occupancy with respect to the land where RMS 1 and 2 were located. The monitoring stations were relocated closer to the nominal flight track. Tests were conducted before the old RMS 1 and 2 were relocated to determine the appropriate noise level adjustments required by the relocation in order to maintain comparable regulation. The study indicated that the maximum permitted noise levels (for all classes of aircraft) needed to be increased by .8 dB SENEL at RMS 1 and .9 dB SENEL at RMS 2, and the Board approved related amendments to the Phase 1 Access Plan.

MONITORING STATION	ENERGY AVERAGED DECIBELS
M3, M4, M5 & M6:	89.5 *dB SENEL*
M1:	90.3 *dB SENEL*
M2:	90.4 *dB SENEL*[11]

In determining whether an aircraft is a *Class AA Aircraft,* its noise performance at the *Departure Monitoring Stations* shall be determined at each individual monitoring station, and the aircraft must meet each of the monitoring station criteria, without "trade-offs," in order to qualify as a *Class AA Aircraft.*"

Finally, Class E Aircraft are defined in the PHASE 2 ACCESS PLAN as follows:

"***2.13 Class E Aircraft***

Class E Aircraft means aircraft which: (i) operate at gross takeoff weights at *JWA* not greater than the *Maximum Permitted Gross Takeoff Weight* for the individual aircraft main landing gear configuration, as set forth in Section 2.26; and which (ii) generate actual energy averaged *SENEL* levels, averaged during each *Noise Compliance Period,* as measured at the *Departure Monitoring Stations,* which are not greater than the values:

MONITORING STATION	ENERGY AVERAGED DECIBELS
M3, M4, M5 & M6:	86.0 *dB SENEL*
M1:	86.8 *dB SENEL*
M2:	86.9 *dB SENEL*[12]

In determining whether an aircraft is a *Class E Aircraft,* its noise performance at the *Departure Monitoring Stations* shall be determined at each individual monitoring station, and the aircraft must meet each of the monitoring station criteria, without "trade-offs," in order to quality as a *Class E Aircraft.*"

---

[11] Again, when originally adopted, the maximum permitted noise level was 89.5 db SENEL at all *Departure onitoring Stations*, and was adjusted upward at RMS 1 and 2 at the time those stations were relocated.

[12] When originally adopted, the maximum permitted noise level was 86.0 db SENEL at all *Departure onitoring Stations*, and was adjusted upward at RMS 1 and 2 at the time those stations were relocated.

Proposed Project - Access Plan Amendments

Project Component 1

Increased Maximum Permitted Noise Levels at RMS 1, 2 and 3

Under this proposed project, the County would amend the relevant sections of the PHASE 2 ACCESS PLAN (those sections quoted above) to increase the maximum permitted noise levels for each class of aircraft at RMS 1, 2 and 3 to accommodate the 1500 foot noise abatement departure procedures currently being tested for Boeing 757 and Boeing 737-300 and -400 aircraft, and to accommodate the 800 foot noise abatement procedure for the MD-80 series aircraft. Other commercial aircraft types currently using JWA are expected to be able to operate within these revised noise limits at "classes" consistent with the use and operation of those aircraft types prior to the beginning of the noise demonstration test. Although the exact level of increase necessary to maintain expected and appropriate levels of air carrier service is subject to further and more precise definition in the EIR itself, the increases would appear to be in the following ranges:

Class A Aircraft

The noise level definition of Class A Aircraft is controlled primarily (if not exclusively) by the operation of MD-80 series aircraft. In order to accommodate an 800 foot noise abatement departure procedure for these aircraft, the maximum permitted noise levels might have to be raised as high as 103.0 dB SENEL at RMS 1 and 2, and 100.5 dB SENEL at RMS 3. This represents an increase of 2.5 dB SENEL or less at each of these three noise monitoring stations.

Class AA Aircraft

The noise level definition of Class AA Aircraft would be controlled by the use of a 1500 foot noise abatement departure procedure by the Boeing 737 and 757 aircraft currently using the airport. In order to accommodate those flights, the maximum permitted noise levels might have to be raised as high as 94.5 dB SENEL at RMS 1 and 2 and as high as 91.5 dB SENEL at RMS 3. This represents and increase of 4.2 dB SENEL or less at each of these three noise monitoring stations. No change would be made to the current limit of 89.5 dB SENEL at monitoring stations RMS 4, 5 and 6.

Class E Aircraft

The noise level definition of Class E Aircraft would again be controlled principally by the use of a 1500 foot noise abatement departure procedure by the Boeing 737 and 757 aircraft currently using the airport[13] - although at lower gross takeoff weights than could be used for Class AA Aircraft. In order to accommodate those flights, the maximum permitted noise levels might have to be raised as high as 92.5 dB SENEL at RMS 1 and 2, and as high as 89.5 dB SENEL at RMS 3. This represents an increase of 3.5 dB SENEL at RMS 3 and an increase of approximately 5.7 dB SENEL at RMS 1 and 2. There would be no change to the current limit of 86.0 dB SENEL at RMS 4, 5 and 6.

Project Component 2

Action to make TMS 21, 22 and 24 Permanent Regulatory Monitoring Stations, and the Removal of RMS 4 and 5.

This second component of the project would add (and renumber appropriately) TMS 21, 22 and 24 as permanent regulatory noise monitoring stations for Class AA and Class E Aircraft. The maximum permitted noise levels for TMS 21, 22 and 24 would be set at 89.5 dB SENEL for Class AA aircraft and 86.0 dB SENEL for Class E Aircraft. These levels are identical to existing regulatory limits in the general areas where TMS 21, 22 and 24 are located. The County does not anticipate that any aircraft now using JWA in the Class AA or Class E category would be unable to meet these maximum permitted noise levels.

In addition, after at least six months of "side-by-side" monitoring after TMS 21, 22 and 24 are made permanent regulatory monitoring stations, the County would remove RMS 4 and 5 and make administrative amendments to the PHASE 2 ACCESS PLAN at that time to eliminate references to RMS 4 and 5. For reasons discussed earlier, this will provide enhanced monitoring and enforcement capability for the County in the general area where RMS 4 and 5, and TMS 21 and 22 are located.

---

[13] Both the 737 and 757 series aircraft currently using the airport have been qualified as Class E Aircraft under the terms of the PHASE 2 ACCESS PLAN. The 737-300 has been regularly used as a Class E Aircraft by America West throughout the Phase 2 period (and before).

Actions Which are a Necessary Precondition to Implementation of the Project

There are two related actions which would have to occur before the County would implement the proposed project. First, the City, SPON and AWG would have to agree to execute a supplemental stipulation permitting amendments to the settlement stipulation and the confirming order of the United States District Court which would be consistent with these proposed changes, and the Court would have to accept the stipulation and execute a new confirming order.

Second, the County would have to enter into a binding written agreement with the FAA confirming that these amendments would not alter or jeopardize in any manner the "grandfathered" status of the PHASE 2 ACCESS PLAN under the Airport Noise and Capacity Act of 1990 (49 USC §§2153, *et seq.*).

Finally, the County may condition its action approving any access plan amendments upon action by the FAA to make permanent the increase in the departure ceiling on Runway 19R departures to 5000 feet, and the related airspace change. Since FAA's processes in complying with its NEPA obligations in respect of any such permanent action may take longer than the CEQA processes initiated by this initial study and any related notice of preparation, the access plan amendments may initially be made temporary, subject to final FAA action on the departure corridor ceiling.

VI. IDENTIFICATION OF POTENTIAL ENVIRONMENTAL EFFECTS

The following is a summary of the conclusions reached in the environmental analysis checklist. Each of the areas analyzed in the checklist are listed below and a brief explanation summarizing the reasons for the conclusions reached in the checklist is provided for those potential impacts which have been identified so far during the environmental review process.

1. EARTH

A. SAFETY

1) The proposed project *will not* result in unstable earth conditions or in changes in geologic substructures.

2) The proposed project *will not* result in exposure of people or property to geologic hazardous such as earthquakes, landslides, mud slides, ground failure or similar hazardous.

The proposed project is not expected to involve construction activities that require earth movement.

B. LANDFORM ALTERATION

1) The proposed project *will not* result in a change in topography or ground surface relief features.

2) The proposed project *will not* result in the destruction, covering or modification of any unique geologic or physical feature.

3) The proposed project *will not* result in any increase in wind or water erosion of soils, on or off-site.

The proposed project is not expected to involve construction activities that require changes in topography or modification of geologic physical features.

2. AIR

A. The proposed project *will not* result in increased air emissions or deterioration of ambient air quality beyond projections by the South Coast Air Quality Management Plan.

B. The proposed project *will not* result in exposure of persons to locally elevated levels of air pollution.

C. The proposed project *will not* result in the creation of objectionable odors.

D. The proposed project *will not* result in the alteration of air movement, moisture or temperature, or any change in climate, either locally (adjacent to project) or regionally (in county).

3. WATER

A. The proposed project *will not* result in changes in currents, or the course or direction of water movements, in either marine or fresh waters.

B. The proposed project *will not* result in changes in absorption rates, drainage patterns, or the rate and amount of surface water run-off.

C. The proposed project *will not* result in changes in deposition or erosion o beach sands, or changes in siltation depositions or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay inlet or lake.

D. The proposed project *will not* result in any changes in the amount o surface water in any water body.

E. The proposed project *will not* result in any discharge into surface waters, or in any alteration of surface water quality, including, but not limited to, temperature, dissolved oxygen, or turbidity.

F. The proposed project *will not* result in alteration of the direction or rate of flow of groundwater.

G. The proposed project *will not* result in any change in the quantity or quality of groundwater, in or through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations.

H. The proposed project *will not* result in exposure of people or property to water-related hazardous such as flooding or tidal waves.

I. The proposed project *will not* result in alterations to the course, flow or magnitude of flood waters.

J. The proposed project *will not* result in a substantial reduction in the amount of water otherwise available for public water supplies.

The proposed project is not expected to result in any changes to surface water (quality and conveyance), water bodies, aquifers, water hazardous or public water supplies.

4. BIOLOGICAL RESOURCES

A. The proposed project *may* result in changes in the diversity of species, changes or deterioration to the flora and fauna habitat, changes in the number of any species of plants or animals, or the introduction of new species of plants or animals into an area.

B. The proposed project *may* result in the reduction of the numbers of any unique, sensitive, aesthetically significant, rare, threatened, or endangered species of plants or animals.

The proposed project will result in an increase in the permitted noise levels in the areas surrounding JWA. The California gnatcatcher is a species that may exist in areas adjacent to JWA. Some studies indicate that noise levels may have a negative impact on the breeding habits of this species. In addition, there are other endangered, threatened, or species of special concern in the Upper Newport Bay Ecological Reserve which *may* be affected by increased noise levels, particularly in the upper back bay area.

C. The proposed project *will not* result in the introduction of a barrier to the normal replenishment or migration of existing species.

The proposed project is not expected to result in any changes to the biological resources in the area.

5. CULTURAL/SCIENTIFIC RESOURCES

A. The proposed project *will not* result in an alteration of a significant archeological or historical site, structure, object, or building, paleontological site or other important cultural/scientific resource.

B. The proposed project *will not* have the potential to cause a physical change which would affect unique ethnic cultural values.

C. The proposed project *will not* restrict existing religious or sacred uses within the potential impact area.

The proposed project will not require any earth movement and therefore is not expected to impact any cultural/scientific resources.

6. AESTHETICS

A. The proposed project *will not* result in the obstruction of any scenic vista or view open to the public nor will the proposed project result in the creation of an aesthetically offensive site open to public view.

B. The proposed project *will not* result in any aesthetic incompatibility with other uses within the project vicinity.

The proposed project is not expected to impact or change any viewshed or scenic vista or create any aesthetic incompatibility. The proposed project may, in fact, decrease the amount of perceived aesthetic incompatibility in the area in light of the fact that the airlines would be flying at higher altitudes over the area surrounding JWA.

7. ENERGY/NATURAL RESOURCES

A. The proposed project *will not* result in the use of abnormally high amounts of fuel or energy.

B. The proposed project *will not* result in an increased demand upon existing sources of energy or require the development of new sources of energy.

C. The proposed project *will not* result in any significant increase in the rate of use of any natural resources.

D. The proposed project *will not* preclude the extraction of natural resources.

The proposed project *will not* involve any unusually high fuel or energy consumption that would necessitate the development of a new energy source.

8. LAND USE

A. The proposed project *may* conflict with zoning or general plan designations/policies for certain property located in Santa Ana Heights.

The proposed project is inconsistent with terms of the PHASE 2 ACCESS PLAN, which currently regulates and governs all types of scheduled commercial aircraft operations at the airport.

B. The proposed project *may* conflict with adjacent, existing or planned land uses.

The proposed project will increase single event and cumulative noise levels in adjacent existing residential and commercial areas located generally to the southeast of the airport which is commonly referred to as Santa Ana Heights. The extent of the conflict and impacts resulting from the proposed changes in noise levels will depend on the final SENEL levels set for RMS 1, 2 and 3, and requires a detailed analysis. In addition, this area was subject to various mitigation programs implemented as part of the 1985 Master Plan and EIR 508/EIS. A reexamination of those programs and the potential impact of this proposed project on prior mitigation programs should be analyzed.

C. The proposed project *will not* induce urban growth, including population and housing, beyond projected growth levels.

The proposed project does not involve any urban growth generator, therefore the project is not expected to induce urban growth beyond projected growth levels.

D. The proposed project *will not* result in conversion of valuable agricultural land to development.

There is no agricultural land within the project area. Therefore, the proposed project will not impact agricultural land.

9. TRANSPORTATION/CIRCULATION

A. The proposed project *will not* result in the generation of additional vehicular movement beyond regional analysis.

B. The proposed project *will not* result in effects on existing parking facilities or creation of a significant demand for new parking.

C. The proposed project *may* result in an impact upon existing or planned transportation systems.

D. The proposed project *may* result in the alteration of present patterns o circulation or movement of peoples and/or goods.

The potential impacts on patterns of circulation and existing or planned transportation systems arise in conection with potential effects on surface transportation planning in the Santa Ana Heights Development Area. This project does not propose any increases in the number of ADDs permitted by the settlement stipulation, the confirming order, or the PHASE 2 ACCESS PLAN. Therefore, there are no anticipated effects on surface transportation in the immediate vicinity of the airport itself.

E. The proposed project *will not* result in the alteration of waterborne, rail, or air traffic.

F. The proposed project *will not* result in traffic hazardous to equestrians, motor vehicles, bicyclists or pedestrians.

G. The proposed project *will not* result in the creation of internal circulation problems.

10. RECREATION

The proposed project *will not* result in an impact upon the quality or quantity of existing recreational opportunities. The regional park was designed after the airport was functioning as a commercial air carrier airport, and that fact was taken into account in the design of the park. The intended uses of the park are largely passive in nature, and are consistent with airport use.

11. PUBLIC HEALTH AND SAFETY

A. The proposed project *will not* involve the risk of explosion or the release of hazardous substances, including oil, pesticides, chemicals or radiation in the event of an accident or disruption of conditions.

B. The proposed project *will not* expose persons or property to wildland fire hazards.

C. The proposed project *will not* expose persons who may occupy the site to hazardous substances, including but not limited to, oil, pesticides, chemicals or radiation from the previous use of the site.

D. The proposed project *will not* place present or future surrounding residents at risk of exposure to toxic or radioactive gas, explosions or industrial fire.

E. The proposed project *will not* interfere with an emergency response plan or evacuation plan.

F. The proposed project *will not* use or dispose of potentially hazardous materials such as toxic, flammable or explosive substances.

12. NOISE

A. The proposed project *will* result in an increase in existing noise levels.

B. The proposed project *will* result in the exposure of people to noise levels in excess of existing County standards.

13. LIGHT AND GLARE

A. The proposed project *will not* produce new light or glare.

14. PUBLIC SERVICES AND UTILITIES

A. The proposed project *will not* have adverse physical impacts on existing fire protection facilities or create the need for new fire protection facilities.

B. The proposed project *will not* have adverse physical impacts on existing police protection facilities or create the need for new police protection facilities.

C. The proposed project *will not* have adverse physical impacts on existing school facilities or create the need for new school facilities.

D. The proposed project *will not* have adverse physical impacts on existing parks and/or other recreational facilities or create the need for new parks and/or other recreational facilities.

E. The proposed project *will not* have adverse physical impacts on existing public facilities, including roads, or create the need for new public facilities, including roads.

F. The proposed project *will not* have adverse physical impacts on existing electrical power or natural gas facilities or create the need for new electrical power or natural gas facilities.

G. The proposed project *will not* have adverse physical impacts on existing communications systems facilities or create the need for new communications systems facilities.

H. The proposed project *will not* have adverse physical impacts on existing water facilities or create the need for new water facilities.

I. The proposed project *will not* have adverse physical impacts on existing sewer or septic tank facilities or create the need for new sewer or septic tank facilities.

J. The proposed project *will not* have adverse physical impacts on existing storm water drainage facilities or create the need for new storm water drainage facilities.

K. The proposed project *will not* have adverse physical impacts on existing solid waste and disposal facilities or create the need for new solid waste and disposal facilities.

L. The proposed project *will not* have adverse physical impacts on other existing facilities or create the need for new services.

15. OTHER CONCERNS

In addition to the previously identified impacts of the proposed project, the County will address with FAA what environmental analysis must be performed for this project under the National Environmental Policy Act ("NEPA"). If it is necessary to

prepare NEPA documentation in connection with this project, the County will coordinate the environmental analysis with the FAA.

VI. ALTERNATIVES

The County will consider the following alternatives to the proposed project:

1. The "no-project" alternative.

2. An alternative which would establish maximum permitted noise levels at RMS 1, 2 and 3 for Class AA and Class E aircraft which are premised upon the objective of accommodating an 800 foot power reduction procedure for the Boeing 737 and 757 aircraft currently using the airport, rather than the 1500 foot procedure. Under this alternative, the maximum permitted noise levels for Class AA and Class E aircraft at RMS 1, 2 and 3 would be approximately 1.0 to 2.0 dB SENEL below those contemplated for the proposed project. However, it appears that under this alternative, noise levels at TMS 21 and 22, and all affected areas south of those stations, would be higher than under the project case, although still below the current maximum permitted noise levels for that area. This alternative would not affect the proposed project redefinition of maximum permitted noise levels for Class A aircraft.

3. An alternative which would increase single event noise levels as contemplated by the proposed project, but which would reduce flights to a level necessary to maintain the current 65 dB CNEL contours, which "close" in the Santa Ana Heights area at the present time. The feasibility of this alternative, however, is questionable since it would probably first be necessary for the County to comply with various provisions of the Airport Noise and Capacity Act of 1990, including the study and approval provisions of Subpart D of FAR Part 161 (14 CFR 161.301, *et seq.*).

FINDINGS

A. POTENTIAL TO DEGRADE:

The project *may* have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare, threatened, or endangered plant or animal or eliminate important paleontological resources or examples of the major periods of California history or prehistory.

B. SHORT-TERM:

The project *does not* have the potential to achieve short-term, to the disadvantage long-term, environmental goals. (A short-term impact on the environment is one which occurs in a relatively brief, definite period of time; long-term impacts will endure well into the future.)

C. CUMULATIVE:

The project *may* have impacts which are individually limited, but cumulatively considerable. The project *does not* impact two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant. The project *may,* when considered in conjunction with other nearby projects or similar projects, have significant cumulative impacts. The following discussion describes the potential cumulative impacts associated with the proposed project:

Historically, the FAA has imposed a 3000 foot "ceiling" on aircraft departures from JWA to the south until the aircraft reached the coastline (or until instructed otherwise by FAA). As part of the noise demonstration test, FAA raised this ceiling to 5000 feet. Since some aircraft are not cutting back power as soon during their departure profile under the modified test procedures, some of the aircraft types are able to perform their noise abatement departure procedure and still climb past 3000 feet before reaching the coastline. When it is feasible to attain higher altitudes, there is a potential noise reduction benefit, particularly in areas south of TMS 21 and 22, because the aircraft have, by that point, initiated their power reduction (under either the 800 or 1500 foot procedures) and may be at higher altitudes than before the test began.

In order to make this airspace change permanent, FAA would have to reroute aircraft approaching Long Beach Airport for landing from a coastline approach (which was the reason for the original 3000 foot ceiling) to an approach which proceeds inland and crosses JWA slightly to the north of the airport. This change has also been tested during the noise demonstration test and noise studies have been performed to determine the effects, if any, of this change on community noise levels.

Since control and regulation of the airspace is under the *exclusive* regulatory authority of the FAA, an Environmental Assessment ("EA") will be prepared and reviewed by FAA under NEPA and relevant implementing orders of the FAA. The County expects that the EA will be prepared prior to or at the same time that the draft EIR for this project is circulated, and the EIR will discuss that related federal project and any potential cumulative impacts of this proposed project and the proposed route change when considered together.

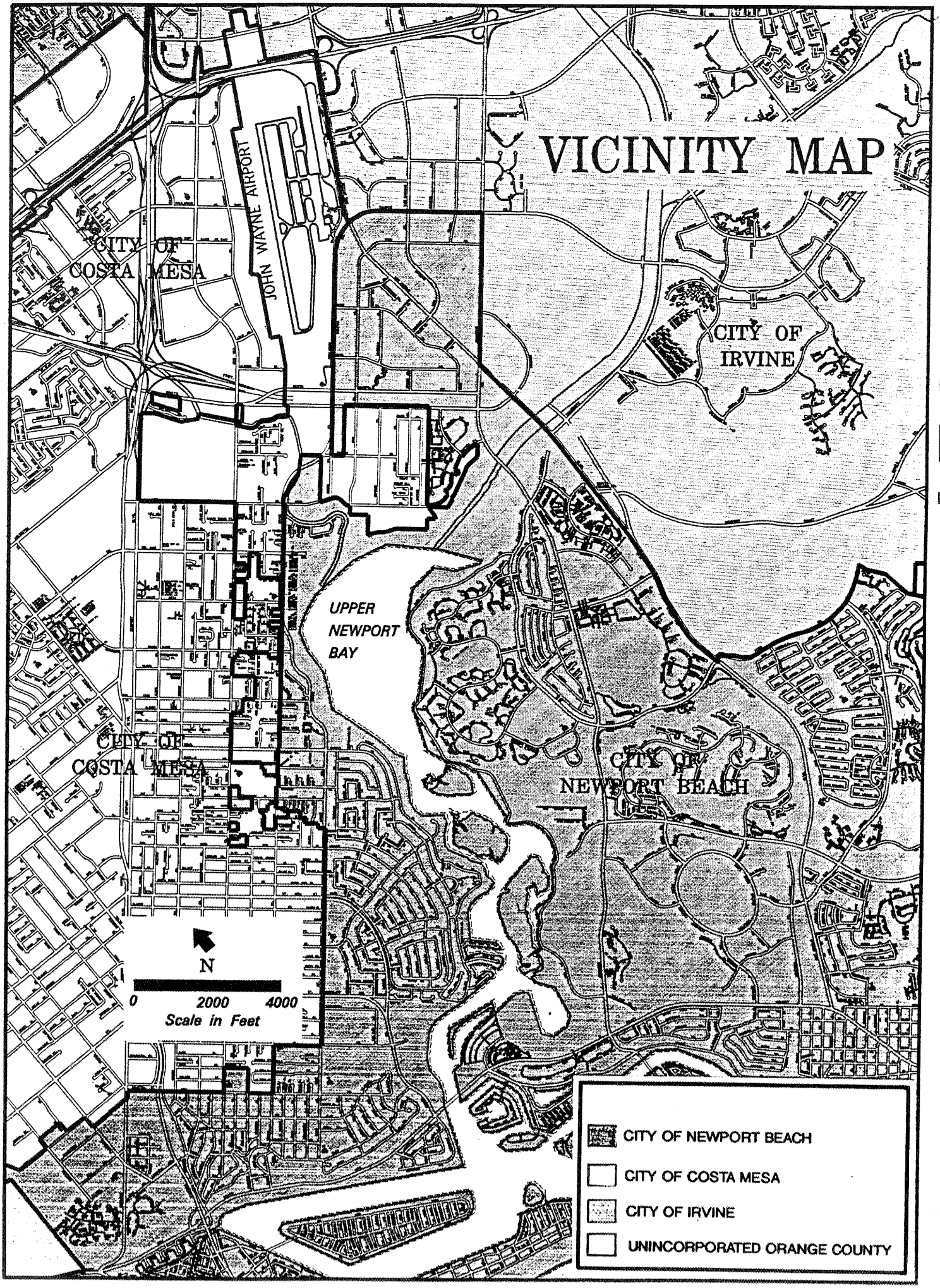
D. SUBSTANTIAL ADVERSE:

The project *may* have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

The proposed project *may* have substantial adverse environmental effects on land use and noise, individually and cumulatively, as previously discussed, which could have adverse effects on humans, both directly and indirectly.

DETERMINATION

On the basis of this initial evaluation, I find the proposed project may have a significant effect on the environment, and an environmental impact report is required.



ATTACHMENT "A"

ATTACHMENT "B"

APPENDIX B

COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

APPENDIX B

INDEX OF COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

State Agencies and Offices

11-23-92	Governor's Office of Planning & Research
11-18-92	California Department of Fish & Game

Local Municipalities

12-11-92	City of Newport Beach
12-11-92	City of Costa Mesa
12-14-92	City of Irvine
12-31-92	City of Santa Ana

Federal Agencies

12-11-92	United States Marine Corps (Marine Corps Air Bases, Western Area)
12-14-92	Unites States Department of the Interior (Fish and Wildlife Service)

Private and Citizens Organizations

11-25-92	The Wildlife Society, Southern California Chapter
11-30-92	Airport Working Group of Orange County, Inc. ("AWG") and Stop Polluting Our Newport ("SPON") (by Shute, Mihaly & Weinberger)
12-11-92	Back Bay Community Association (by Printemps & Kaufman)
12-13-92	Concerned Homeowners of Sherwood Estates ("C.H.O.S.E.")

STATE OF CALIFORNIA

PETE WILSON, *Governor*

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO, CA 95814

DATE: Nov 23, 1992

TO: Reviewing Agency

RE: COUNTY OF ORANGE's NOP for
JOHN WAYNE AIRPORT ACCESS PLAN AMENDMENTS
SCH # 92111057

Attached for your comment is the COUNTY OF ORANGE's Notice of Preparation of a draft Environmental Impact Report (EIR) for the JOHN WAYNE AIRPORT ACCESS PLAN AMENDMENTS.

Responsible agencies must transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

KARI RIGONI
COUNTY OF ORANGE
POST OFFICE BOX 4048
SANTA ANA, CA 92702-4048

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

If you have any questions about the review process, call Tom Loftus at (916) 445-0613.

Sincerely,

Christine Kinne

Christine Kinne
Deputy Director, Permit Assistance

Attachments

cc: Lead Agency

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, *Governor*

DEPARTMENT OF FISH AND GAME
330 GOLDEN SHORE, SUITE 50
LONG BEACH, CA 90802

(310) 590-5113

November 18, 1992

Ms. Kari Rigoni
Environmental Management Agency
P. O. Box 4048
Santa Ana, California 92702-4048

Dear Ms. Rigoni:

Notice of Preparation for the John Wayne Airport Access Plan Amendments, Orange County

To enable our staff to adequately review and comment on subject project, we recommend the following information be included in the Draft Environmental Impact Report:

1. A complete assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened and locally unique species and sensitive and critical habitats.

2. A discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts.

3. A discussion of potential adverse impacts from any increased runoff, sedimentation, soil erosion, and/or urban pollutants on streams and watercourses on or near the project site, with mitigation measures proposed to alleviate such impacts. Stream buffer areas and maintenance in their natural condition through non-structural flood control methods should also be considered in order to continue their high value as wildlife corridors.

   More generally, there should be discussion of alternatives to not only minimize adverse impacts to wildlife, but to include direct benefit to wildlife and wildlife habitat. Those discussions should consider the Department of Fish and Game's policy that there should be no net loss of wetland acreage or habitat values. We oppose projects which do not provide adequate mitigation for such losses.

Diversion, obstruction of the natural flow, or changes in the bed, channel, or bank of any river, stream, or lake will require notification to the Department of Fish and Game as called for in the Fish and Game Code. Notification should be made after the project is approved by the lead agency.

Thank you for the opportunity to review and comment on this project. If you have any questions, please contact Mr. Curt Taucher at (310) 590-5137.

Sincerely,

R. E. Mall for

Fred Worthley
Regional Manager
Region 5

cc: Office of Planning & Research

CITY OF NEWPORT BEACH

Office of City Manager
(714) 644-3002

December 11, 1992

Environmental Management Agency
P. O. Box 4048
Santa Ana, CA 92702-4048

Subject: Notice of Intent to Prepare a Draft Environmental Impact Report Number 546
Project Title John Wayne Airport Access Plan Amendments

Attention: Carey Rigoni
Environmental Planning

This letter constitutes the comments of the City of Newport Beach regarding the subject NOP. Representatives from the City have met with County staff and their consultants and reviewed the noise levels used to calculate proposed noise limits. The City understands that the proposed limits included in the NOP represent the highest range of criterion levels to be considered. After reviewing the applicable data, the City believes that the new criteria should be placed at the following levels:

AVERAGE SENEL LEVELS

RMS	Proposed "A" Criteria	Proposed "AA" Criteria	Proposed "E" Criteria
1	101.0	92.5	None
2	101.0	92.5	Proposed
3	100.0	90.2	At This
6	92	82.0	Time

The City's proposed criteria are based on an MD-80 with a gross takeoff weight of 124,000 lbs. and a 737-300 using an 800' cut-back altitude. The City understands that the County's proposed criteria rely on an MD-80 with a gross takeoff weight of 128,000 lbs. and a 737-300 using a 1500' cut-back altitude. It is the belief of the City, that if the County's higher criterion levels are adopted, then there will be more possibilities for heavier and thus noisier aircraft to use the airport. The levels proposed by the City, we believe, are adequate to accommodate the 800' cut-back requirement while allowing the airlines to operate essentially the same as they did before the requirement was imposed.

It is the City's belief that the noise consequences of the County's higher proposed criteria will impact Newport Beach to a greater extent than necessary to simply accommodate the new 800' cut-back altitude. Should the County define the project based on it's higher proposed criteria, then the EIR must address the environmental impacts of the potential for 39 MD-80's to depart at average gross takeoff weights sufficient to reach St. Louis and similar distant airports. Also, the EIR must address the potential impacts stemming from decisions by the airlines to elect an 800' cut-back altitude and thus be able to depart with higher gross takeoff weights than would be allowed had they elected a 1500' cut-back altitude.

Potential increases in gross takeoff weights may also create the potential for other environmental impacts such as peak hour vehicle flows, parking requirements and related air quality impacts. These potential impacts must also be analyzed in the EIR if the higher criteria are selected to define the project.

Given the relatively short time to review the massive amounts of noise data from the six month noise test, the City reserves the right to make additional comments regarding project description and other items in the EIR at a later date.

Sincerely,

Kenneth J. Delino
Deputy City Manager

KJD:mb
cc: Mayor
City Manager
City Attorney

CITY OF COSTA MESA

CALIFORNIA 92628-1200 P.O. BOX 1200

DEVELOPMENT SERVICES DEPARTMENT

December 11, 1992

Ms. Kari Rigoni
Environmental Management Agency
Environmental Planning Division
P.O. Box 4048
Santa Ana, CA 92702-4048

RE: NOTICE OF PREPARATION OF DRAFT EIR #546
JOHN WAYNE AIRPORT ACCESS PLAN AMENDMENTS

Dear Ms. Rigoni:

The Notice of Preparation of Draft EIR #546 was sent to our Transportation Services Division instead of the Planning Division which serves as the environmental clearinghouse for the City of Costa Mesa. I hope you will still consider the following comments even though this letter may reach you a day or so after the 30-day response period.

As stated in the NOP, the main objective of the project is to increase maximum permitted noise levels at some of the monitoring stations that measure noise created by aircraft departing from John Wayne Airport. The proposed changes are a result of new rules anticipated by the FAA which is concerned about departure safety.

The Draft EIR should be very specific in its analysis of changes to CNEL noise contours anticipated in the Costa Mesa area including its sphere of influence. I have attached the land use maps for Planning Area 3 and 6 from our recently adopted General Plan as well as the Noise Element. Will the proposed noise levels warrant General Plan amendments in the eastern portions of Costa Mesa from residential to more compatible land uses? Will it be necessary to restrict more properties to disallow sensitive receptors such as day care centers, schools, congregate care centers, etc.?

Changes to the CNEL contours as shown in Figure 32 of the General Plan will require an amendment to the Noise Element. The City of Costa Mesa will be reviewing the Draft EIR carefully to see if the proposed changes will adversely affect citizens of the City. Thank you for the opportunity to review the NOP. Please forward the Draft EIR to me at the address shown above.

Sincerely,

Kristen Caspers Petros

KRISTEN CASPERS PETROS
Associate Planner

(RIGONI.LTR)C13

ATTACHMENTS: General Plan Land Use Maps - Area 3 and 6
General Plan Noise Element

cc: Allan Roeder, City Manager
Donald Lamm, Deputy City Manager
Thomas Kathe, City Attorney
Perry Valantine, Planning Manager
Mike Robinson, Principal Planner

Noise

NOISE

Noise is generally defined as unwanted sound. Section 65302(f) of the California Government Code requires that a City's General Plan contain a Noise Element to provide for the protection of citizens against excessive levels of unwanted sound. In order to do this the Noise Element must identify sources of noise within the community, quantify existing noise levels, project future noise levels and suggest measures to mitigate identified noise problems.

So that noise levels may be discussed meaningfully, they are objectively defined in terms of sound pressure level, which relates to the actual changes in air pressure due to the movement of sound waves. The higher the sound pressure level, the "louder" the sound. For most purposes, sound pressure level is expressed in terms of a more convenient reference system, decibels (dB).

The decibel scale, which ranges from 0 dB to about 140 dB for audible sounds, is based on a logarithmic scale. Thus, a doubling of the sound pressure results in an increase of 3 decibels. Perception by the human ear, however, is not proportionate; the average person perceives an increase of 10 dB as a doubling of loudness.

The human ear does not have a uniform frequency response, and is less sensitive to low and high frequency sounds than to sounds in the middle of the frequency spectrum. Since the purpose of noise measurement and control is relative to its effect on people, a method has been devised to adjust noise measurements to more closely relate to the frequency response of the human ear. This method, known as "A" weighting and expressed as "dB(A)", places greater emphasis on sounds within the sensitivity range of the human ear. Most discussion of community noise levels is in terms of dB(A).

Figure 31 illustrates the levels of a variety of sounds which are part of a typical community noise environment. Individual sounds can be expressed meaningfully in terms of dB(A). Quantification of the noise environment over a period of time, however, requires an additional method of description. In order to evaluate a particular noise environment or compare one to another, some average or other description of the environment over a specified period - 1 hour, 1 day, 1 year - must be used. Following are some of the more common and useful descriptors:

L_{90} is the noise level which is exceeded 90% of any sample time period, (such as 24 hours). This represents the background or ambient noise level.

L_{50} is the noise level which is exceeded 50% of the time. This represents the median noise level.

Typical Noise Levels of Familiar Sources

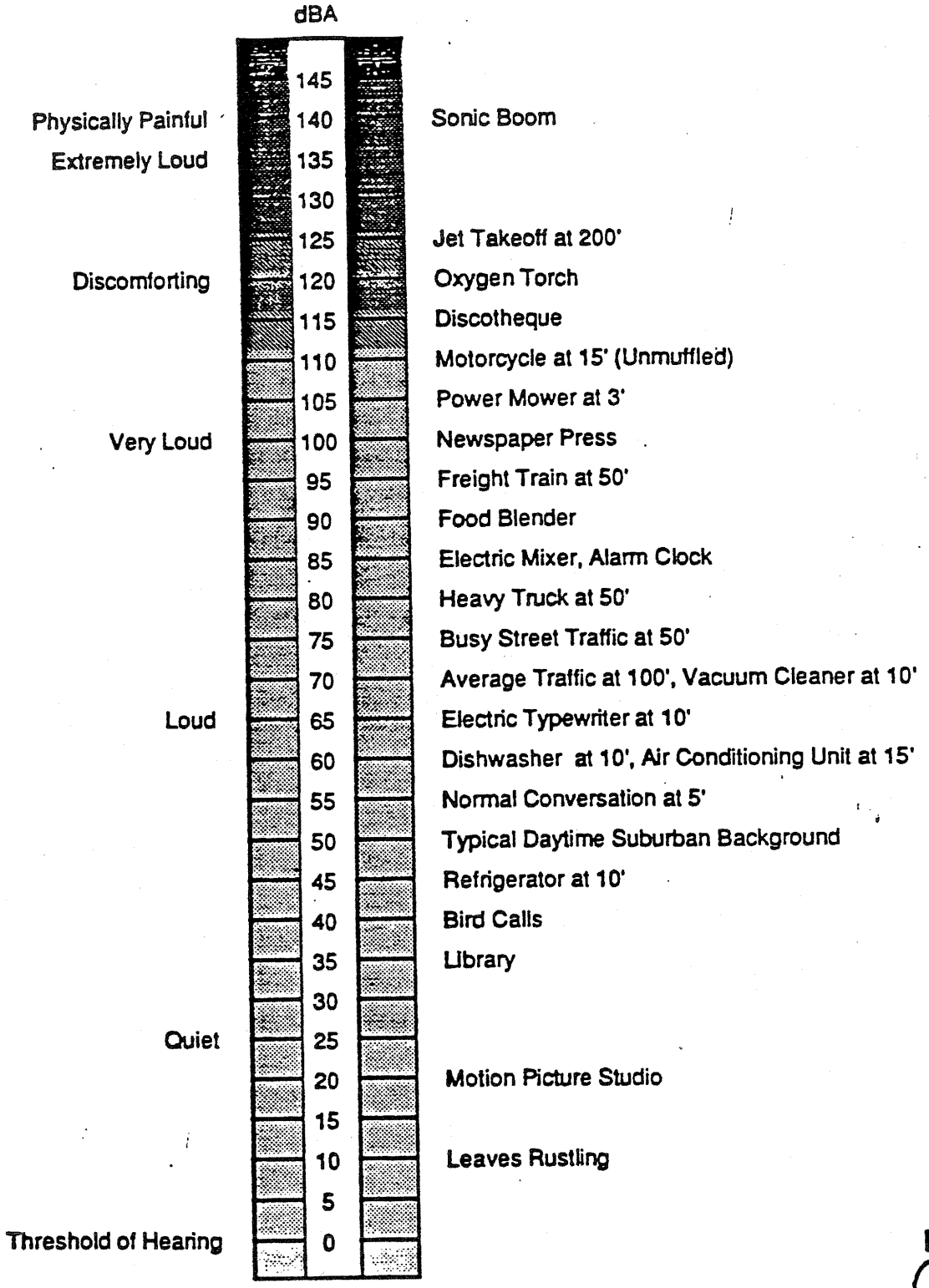


FIGURE 31

Source: Endo Engineering

L_{10} is the noise level which is exceeded 10% of the time. This indicates the near maximum levels of individual noise events occurring during the sample period.

L_{eq} (equivalent noise level) represents the average energy content of a fluctuating noise source over a specified period of time. As this is somewhat of an average, there may be many times during the sample period when the actual noise level exceeds the L_{eq} and other times when the noise level is considerably less.

L_{dn} (day-night) is a refinement of L_{eq} for a 24-hour period including a 10 dB(A) weighting penalty for sound levels occurring between 10:00 p.m. and 7:00 a.m.

CNEL (Community Noise Equivalent Level) is a further refinement of L_{eq} which places a 5 dB(A) penalty for noises occurring between 7:00 p.m. and 10:00 p.m. and a 10 dB(A) penalty for noises occurring between 10:00 p.m. and 7:00 a.m.

SENEL (Single Event Noise Exposure Level) is used to represent the sound level of a single event. This measure, rather than simply indicating the maximum level, represents the total acoustic energy of the event as the sound level increases, reaches the maximum and then decreases. The SENEL value, then, will be greater than the numerical value of the maximum noise level during the event.

The Government Code requires that General Plan Noise Elements use either L_{dn} or CNEL to describe and evaluate community noise levels. In the following discussion the CNEL descriptor will be used.

In addition to loudness, duration is a factor in determining the annoyance value of noise. Normally, a steady sound, such as the rush of a river or distant traffic noise, is less bothersome than a repetitive or impulsive noise such as individual aircraft flybys or hammering sounds. Thus, depending on the frequency of repetition, the CNEL value may not accurately reflect the perceived impact of the noise.

This is a problem encountered in the description of airport noise levels. The CNEL represents an "average" of all sounds over a 24-hour period. In the case of John Wayne Airport, for instance, jet aircraft flights make up the bulk of the noise problem. On average, there are 87 flights per day with hours of operation generally restricted to 7:00 a.m. - 10:00 p.m. This represents one flight every 10 minutes on average, not including the unregulated, or general aviation flights. The noise impact, therefore, is perceived as a series of separate events, rather than a continuous background noise. While indoor home or business activities might be satisfactorily conducted in an environment of 65 dB(A), conversation or television listening may be completely interrupted at (average) 10 minute intervals while jet aircraft pass. Thus, the annoyance is greater than if the CNEL represented a relatively

steady 65 dB(A). The Single Event Noise Exposure Level (SENEL) can be used to more accurately represent individual aircraft flybys.

COSTA MESA'S NOISE ENVIRONMENT

Costa Mesa's noise environment is dominated by vehicular traffic and aircraft noise. In addition to these, a number of other sources contribute to the total noise picture. These include such things as construction activities, power tools and gardening equipment, loudspeakers, auto repair, radios, children playing and dogs barking. In order to provide a description of the existing noise environment in Costa Mesa, noise contours were obtained for airport and highway traffic noise, and measurements were taken at various locations in the City to reflect ambient noise levels.

Traffic Noise

Traffic noise levels can be reliably predicted using formulas which take into account traffic volume, speed and percentage of trucks. Existing noise contours were calculated for all the City's primary and major arterials as well as the three freeways that traverse the City. Some secondary and commuter streets were modelled as well. Noise generation for each roadway segment was calculated and the distance to the 60, 65, and 70 dB CNEL contours was determined. (A noise contour is a line behind which the noise level does not exceed a certain value. For instance, the 60 dB CNEL contour indicates that the CNEL between the street and the contour line is equal to, or greater than 60 dB; the CNEL beyond the contour line – away from the street – is less than 60 dB). The results of these calculations and the noise modelling assumptions are depicted in Table 30 (contained at the end of this subelement); Figure 38 indicates the locations of these various roadway links.

The Government Code requires that, in addition to determination of existing noise contours, contours be projected for future growth levels. Reliable projection of noise contours depends upon the ability to reliably predict future land use and intensity and traffic patterns and volumes, thus noise projections are dependent upon the land use and circulation plan chosen for the City. Ultimate traffic noise estimates are depicted in Table 31 at the end of this section.

Aircraft Noise

Noise contours resulting from operations at John Wayne Airport, shown on Figure 32, are those on file with the County of Orange Office of Noise Abatement, and represent the latest (1989) measurement data. The northeast corner of Costa Mesa is impacted by noise from the airport, but most of the area is industrial. Approximately 150 residences (including one 104-unit apartment complex) are located within the 60 dB CNEL contour, but no residences are within the 65 dB CNEL contour.

Airports which do not meet State noise impact standards are required to obtain variances from the California Department of Transportation. In 1984, John Wayne Airport achieved a zero noise impact area due to the use of quieter airplanes. However, the

State Noise Impact standard was reduced from 70 dB CNEL to 65 dB CNEL effective January 1, 1986. As a result, the airport again has incompatible land uses within its noise impact boundary, and a variance has been requested. The 65 dB CNEL contour, based on 1989 data, does not impact any residential or other noise sensitive areas in Costa Mesa.

John Wayne Airport has implemented an ongoing program of noise reduction which includes: limits on the number of commercial airline flights, noise abatement arrival and departure procedures, admonishment of noisy operators (including private aircraft), curfew, and takeoff weight limitations.

A Master Plan for the airport was approved in February 1985 by the County Board of Supervisors. Settlement of lawsuits concerning airport expansion was reached in December 1985 between the County City of Newport Beach and two community organizations. Under the Master Plan and Settlement Agreement, the airport will serve a maximum of 4.75 million passengers per year with 55 average daily departures of regulated aircraft. Since the construction of the 337,900 square foot terminal, passengers are limited to 8.4 million per year with 73 average daily departures (up to the year 2006). Regularly scheduled aircraft which generate less than 86 dB SENEL (Single Event Noise Equivalent Level) are exempt from daily flight restrictions but are subject to the passenger limitations.

Despite the future increase in air traffic from John Wayne, ultimate CNEL contours will be very similar to 1985 CNEL contours with implementation of the Master Plan and ANCLUC (Airport Noise Control and Land Use Compatibility). As shown in Figure 32, a small portion of Costa Mesa is within by the 60 dB and greater CNEL contours, and most of that area is zoned for industrial uses.

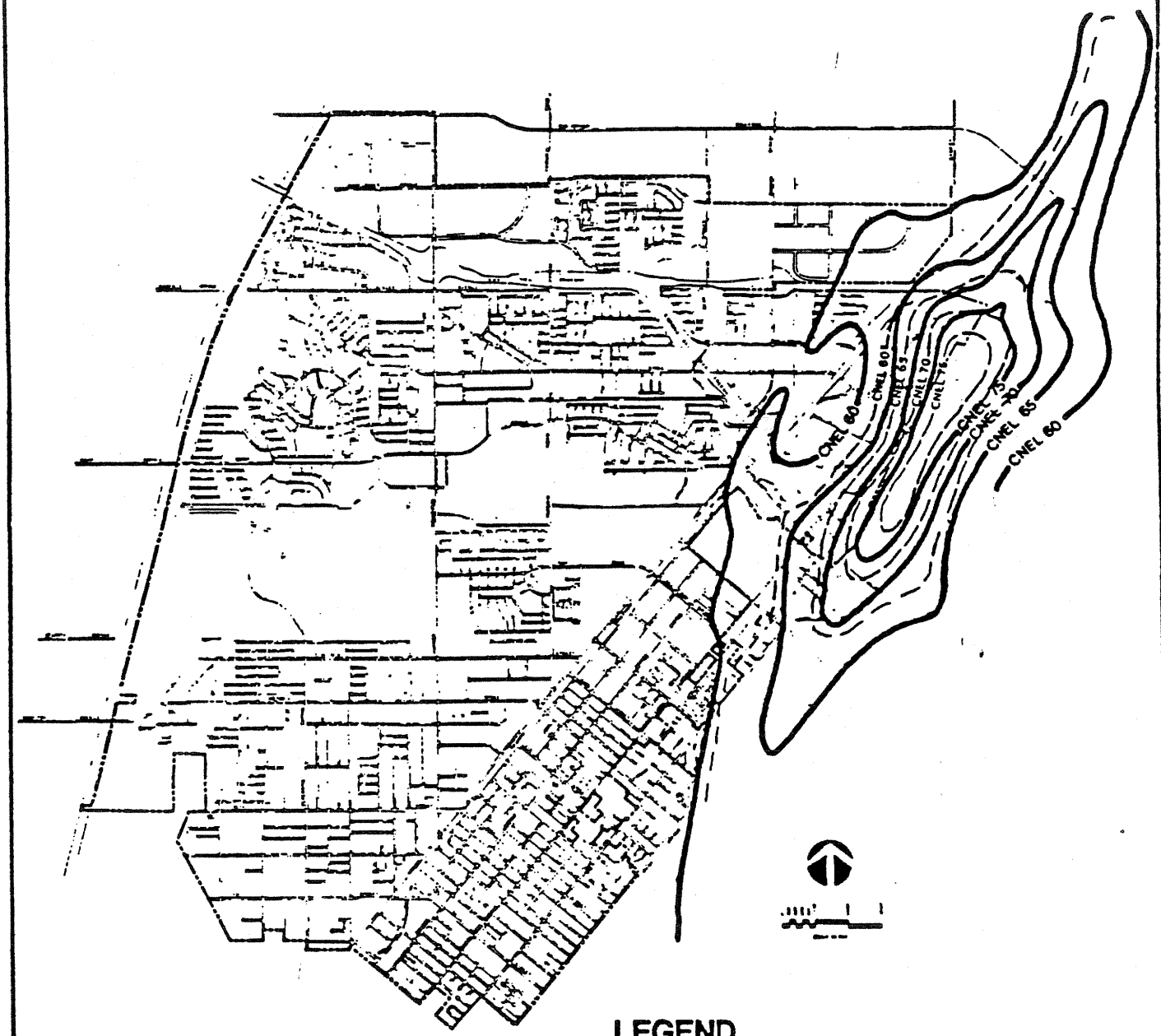
The Costa Mesa Police Department maintains three helicopters for aerial surveillance. The helipad is located at the Civic Center on Fair Drive. Under normal circumstances, only one helicopter is in the air at a given time. Hours of operation are between 11:00 a.m. and 3:00 a.m. Depending on altitude and speed, noise levels generated by the craft under normal conditions range from 61 dB(A) to 65 dB(A). These levels are exceeded upon landing and taking off from the Civic Center helipad for refueling, and in rare instances when landing or extremely low altitudes are required elsewhere in the City.

Three additional private heliports are located in north Costa Mesa at the following locations:

- Los Angeles Times, 1375 Sunflower Avenue
- Security Pacific, 555 Anton Boulevard
- Tridair Helicopter, 3000 Airway Avenue

The City regulates the siting of helipads in the City through a Conditional Use Permit. The City requires an analysis to identify potential noise impacts and the City may regulate the hours of operation and arrival, departure/arrival routes, and type of helicopters which may use the heliport in order to minimize impacts to sensitive land uses.

CNEL NOISE CONTOURS
JOHN WAYNE AIRPORT
1989 AND 2005



LEGEND

1989

2005

FIGURE 32

Ambient Noise

In order to describe the ambient or background noise level throughout the City, a number of noise measurement samples were taken. The locations chosen were a mix of public schools, preschools (child care centers), hospitals, convalescent homes and a senior housing development. The numerous locations shown in Figure 33 were distributed throughout the City in order to provide an overall picture of the noise environment.

The noise measurement locations also functioned as noise sensitive indicators. These noise sensitive indicators are uses, such as schools and hospitals, which have a lower tolerance for noise than do industrial and commercial activities or normal residential uses. Noise levels measured at these locations are reported in Table 26.

The noise data indicate a few more increases than decreases in noise levels since 1978. Previous comparisons of noise measurements taken in 1971 and 1976-78 found that noise levels had increased overall an average of 0.7 dB(A) per year. Comparison of the 1978 and 1987 data indicate that noise levels may be continuing to increase at a lower rate per year. However, differences between the 1978 and 1987 data, at some locations, may be due in part to different placement of the noise monitor and/or differences in time of day the monitoring was done during the two sampling periods. It should also be noted that some locations with large increases in L_{eq} or L_{90} measurements were affected by road or aircraft noise.

NOISE EFFECTS

The adverse impact of noise on humans covers a wide range from mere annoyance to actual physical and psychological damage. Many of the sounds associated with, and even essential to, everyday life in urbanized areas are detrimental to some degree. Perhaps the most common impact is the annoyance factor. The quiet enjoyment of almost every urban dweller's home or patio has been interrupted at least once by sirens, barking dogs, motorcycles, lawnmowers, aircraft or a host of other noise generators. At somewhat higher levels concentration can be broken and conversations interrupted. Table 27 shows levels at which these annoyances are likely to occur.

TABLE 27

LEVELS OF NOISE ANNOYANCE

Effect	Noise Level dB(A)
Pain	140-150
Hearing damage or loss	75-85
Physiological effects other than hearing	65-75
Speech interference	50-60
Sleep interruption	35-45

Source: California Department of Public Health, "Report to 1971 Legislature."

TABLE 26

COMPARISON OF NOISE MEASUREMENTS

Location	1978		1987	
	L_{eq}[1]	L_{90}[2]	L_{eq}[1]	L_{90}[2]
1. California School	53	47	53.8	52
2. Mesa Verde School	56	51	56.2	50
3. Killybrooke School	46	40	55	50
4. Harbor Trinity Preschool	—	—	66.1	54
5. Paularino School	57	47	57	49
6. Bear Street School	59	54	65.6	61
7. Sonora School	55	47	57	49
8. Costa Mesa High School	56	52	68.6	54
9. Fairview Community Church Preschool	—	—	59.3	54
10. Port Mesa Convalescent Hospital	73	57	72.7	63
11. Monte Vista School	63	51	70.5	62
12. University Montessori	—	—	68.2	60
13. Costa Mesa Memorial Hospital	59	52	58.7	53
14. Bayview Convalescent Hospital	56	53	—	—
15. Casa Bella Senior Housing	—	—	65.1	50
16. Harper School	—	—	61.1	47
17. Whittier School	59	51	56.5	48
18. Pomona School	56	51	57.5	49
19. Victoria School	66	58	61.2	53
20. Estancia High School	57	50	58.4	52
21. Fairview State Hospital	55	50	54.7	51
22. Heinz Kaiser School	52	48	63	51
23. Mardan School	—	—	70.7	60

1. L_{eq} is the level of the average noise energy over the sample period.

2. L_{90} is the noise level equalled or exceeded 90% of the time.

Noise Sensitive Land Uses

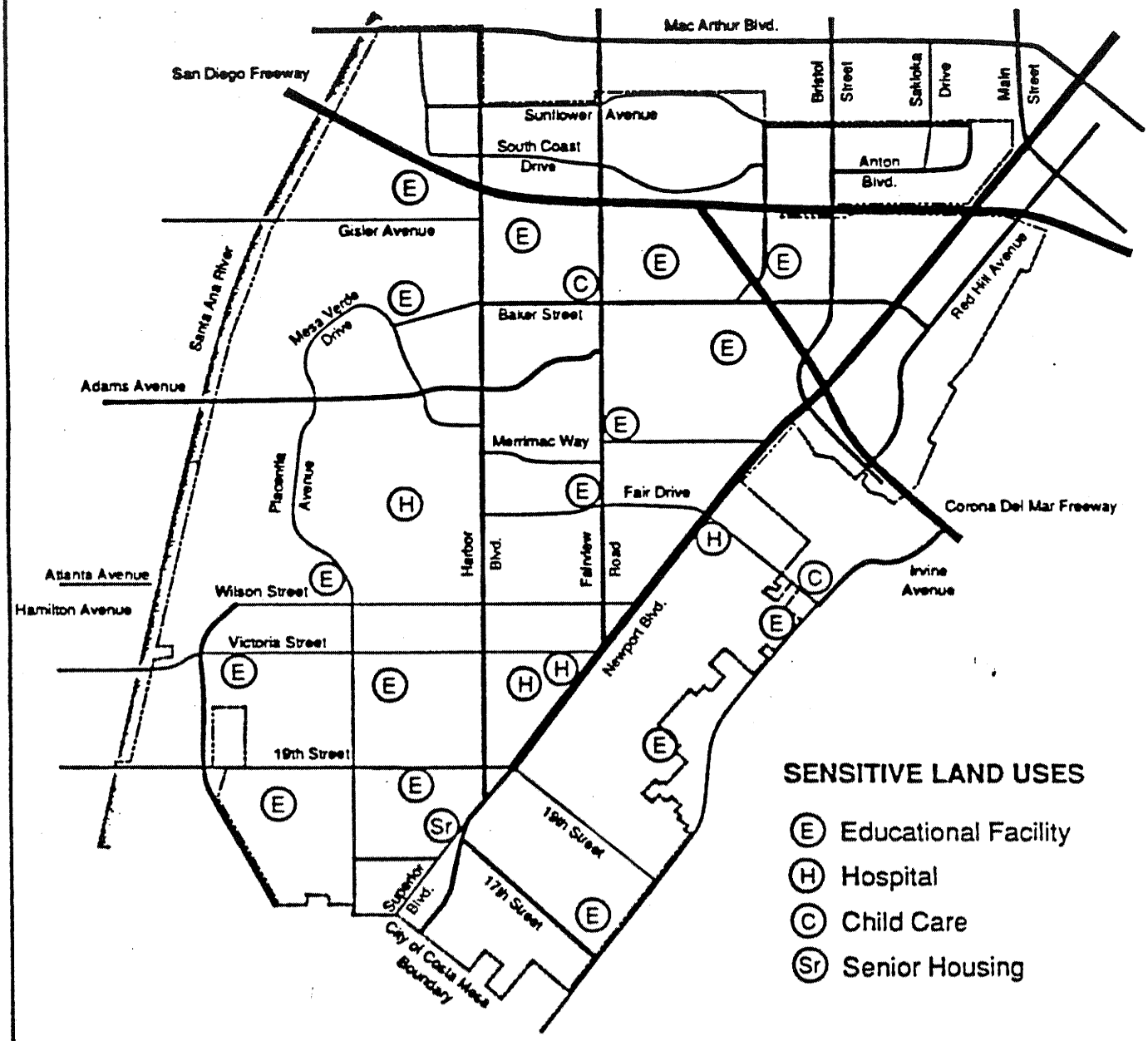


FIGURE 33

Source: Endo Engineering

Scale: 1" = 4,500'

Sleep interference is a documented effect of noise. While some sounds may actually awaken people, or prevent them from getting to sleep, lower noise levels may cause subconscious interference with sleep. This often prevents people from remaining in the deeper levels of sleep and, although not fully awakened, they may experience unusual fatigue the following day. Evidence indicates that continued sleep interference has a harmful psychological and physiological effect on humans. Studies also indicate that people never really fully adapt to sleep interference.

While noise causing sleep interference can be harmful over the long term, higher level sounds can cause considerably greater physiological damage in shorter periods of time. Temporary or permanent hearing loss or impairment can result from repeated exposure to high noise levels or from brief exposure to very high levels.

Excessive noise levels have secondary effects in addition to direct psychological and physiological impacts on humans. These include the economic ramifications of high noise exposure, especially on residential properties. A home in a noise impacted area will normally command a lower sales price than the same home in a quiet environment, assuming all other factors are equal. Homes located along noisy highways or adjacent to major airports are generally considered less desirable than comparable homes which are not subject to these impacts.

Noise Effects In Costa Mesa

According to a public opinion poll conducted in Costa Mesa in 1984, 12% of the respondents thought there was too much noise. Of those 12%, approximately one-third were concerned about noise generated by the Pacific Amphitheatre, one-third thought there was too much airplane or police helicopter noise, and one-third responded with miscellaneous or general noise comments.

Although the results of the poll do not indicate a significant broad-based noise problem in the City, there are some locations which are subject to considerable noise impacts. These consist primarily of areas adjacent to major streets, the John Wayne Airport or the Pacific Amphitheater. Construction noise may be experienced at various times in almost any part of the City. This is only a temporary impact, however, and the City's Noise Ordinance prohibits construction activities during the more sensitive hours between 8:00 p.m. and 7:00 a.m.

Noise from operations at John Wayne Airport affects mainly industrial and commercial properties in Costa Mesa. No residences are within the 65 dB CNEL or greater contour. Figure 32 depicts the 1989 and 2005 noise contours for the airport.

Because of the nature of the operation, police helicopter noise may impact any location in the City at any time between 11:00 a.m. and 3:00 a.m. Overflights are usually brief, lasting only a few seconds. Noise exposures of several minutes may occur when circling a crime scene. Although helicopter noise levels are not

extremely high in either case, they may be sufficient to cause sleep interruption during nighttime hours.

Surface traffic noise has the greatest impact on the noise environment of Costa Mesa's residential properties. Sixty and 65 dB CNEL contours are common along City streets; freeways and major street expose adjacent areas to levels of 70 dB CNEL or greater.

Factors Affecting Roadway Noise

The noise levels adjacent to line sources of noise such as roadways increase by 3.0 dBA with each doubling in the traffic volume (provided that the speed and truck mix do not change). From the mathematical expression relating increases in the number of noise sources (motor vehicles) to the increase in the adjacent noise level, it can be shown that a 26 percent increase in the traffic volume will cause a 1.0 dBA increase in adjacent noise levels. Doubling the number of vehicles on a given route increases the adjacent noise levels by 3.0 dBA, but changing the vehicle speed has an even more dramatic effect.

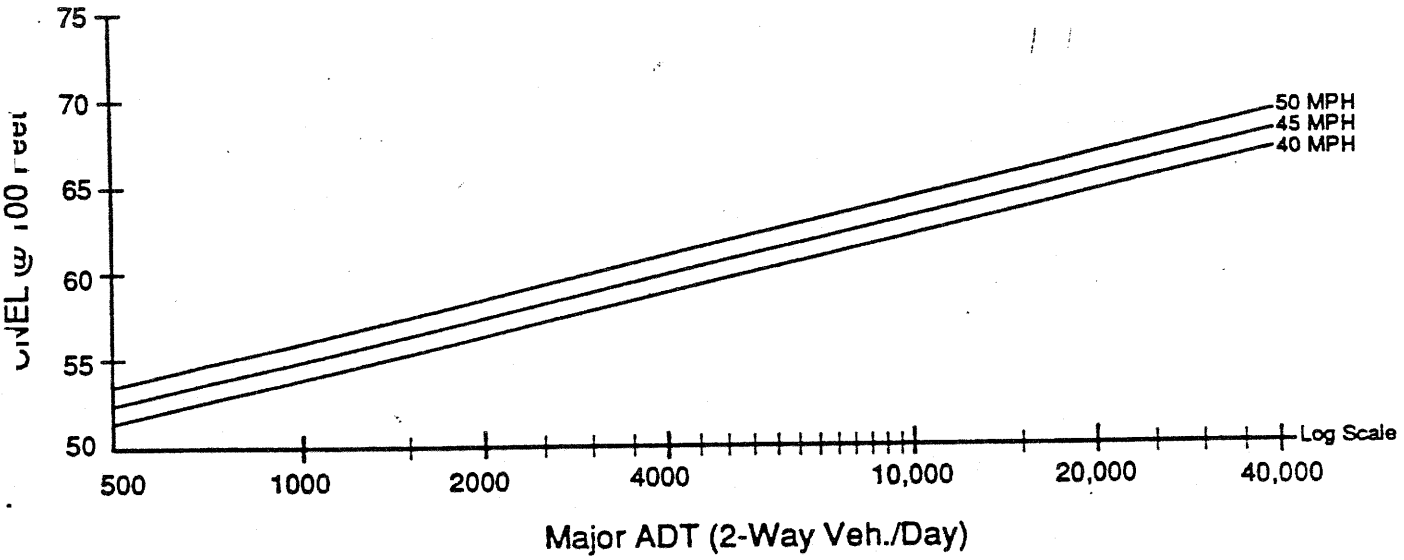
Increasing the vehicle speed from 35 to 45 mph raises the adjacent noise levels approximately 2.7 dBA. Raising the speeds from 45 to 50 mph increases adjacent noise levels by 1.0 dBA. A speed increase from 50 mph to 55 mph increases adjacent noise levels by 0.9 CNEL. Consequently, lowering motor vehicle speeds can have a significant positive impact in terms of reducing adjacent noise levels.

The truck mix on a given roadway also has a significant effect on the adjacent noise levels. As the number of trucks increases and becomes a larger percentage of the total vehicle volume, the adjacent noise levels increase. This effect is more pronounced if the number of heavy duty (3+ axle) trucks is large when compared to the number of medium duty (2 axle) trucks.

Noise levels adjacent to roadways vary with the volume of traffic, the mean vehicular speed, the truck mix, and the road cross section. Figure 34 provides a nomograph for each roadway type which allows the CNEL at either 50 or 100 feet to be determined from the daily two-way traffic volume and the speed of the vehicles. For example, a major arterial roadway carrying 10,000 ADT with a posted speed limit of 50 mph would generate approximately 63.7 CNEL at 100 feet. Lowering the speed to 45 mph would reduce the CNEL at 100 feet to 62.5 dBA. Similarly, at a speed of 40 mph, the CNEL at 100 feet would be 61.3 dBA.

Figure 35 illustrates the effects of the truck mix on adjacent noise levels. As shown, a major arterial street carrying 10,000 ADT at 45 mph would generate 62.5 CNEL at 100 feet if the truck mix were 2.58% of the ADT. The CNEL would increase to 65.3 dBA at 100 feet if the truck mix were 10 percent of the ADT. A 5 percent truck mix would result in 63.7 CNEL at 100 feet.

Typical Noise Levels Versus Speed and Volume



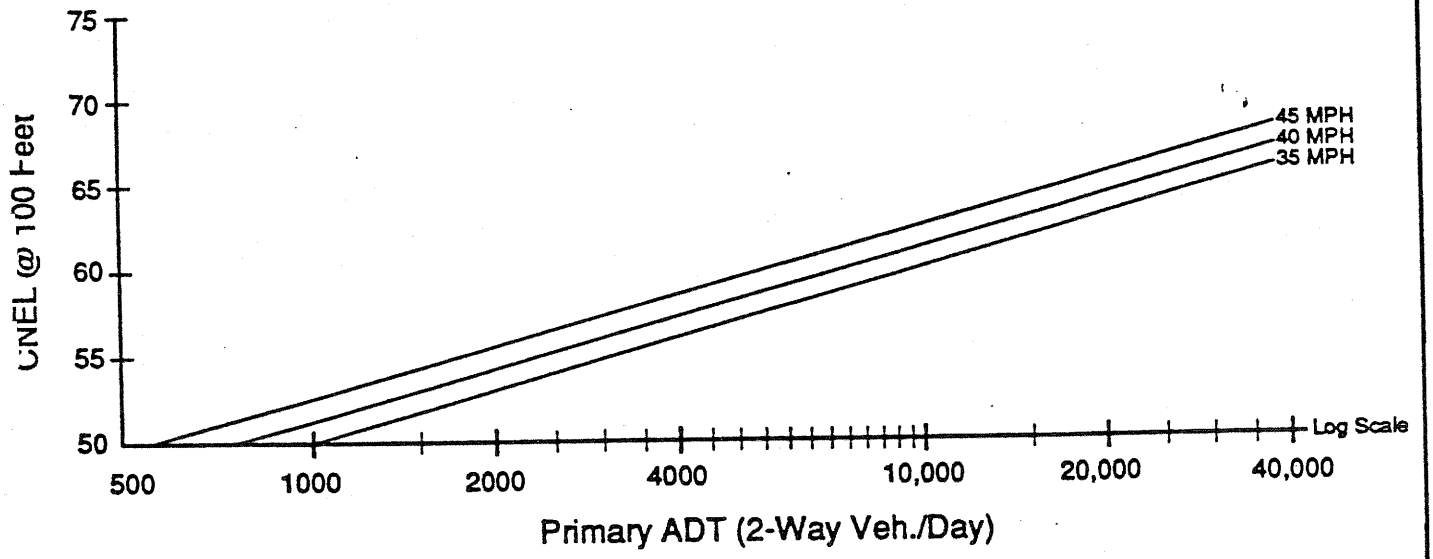
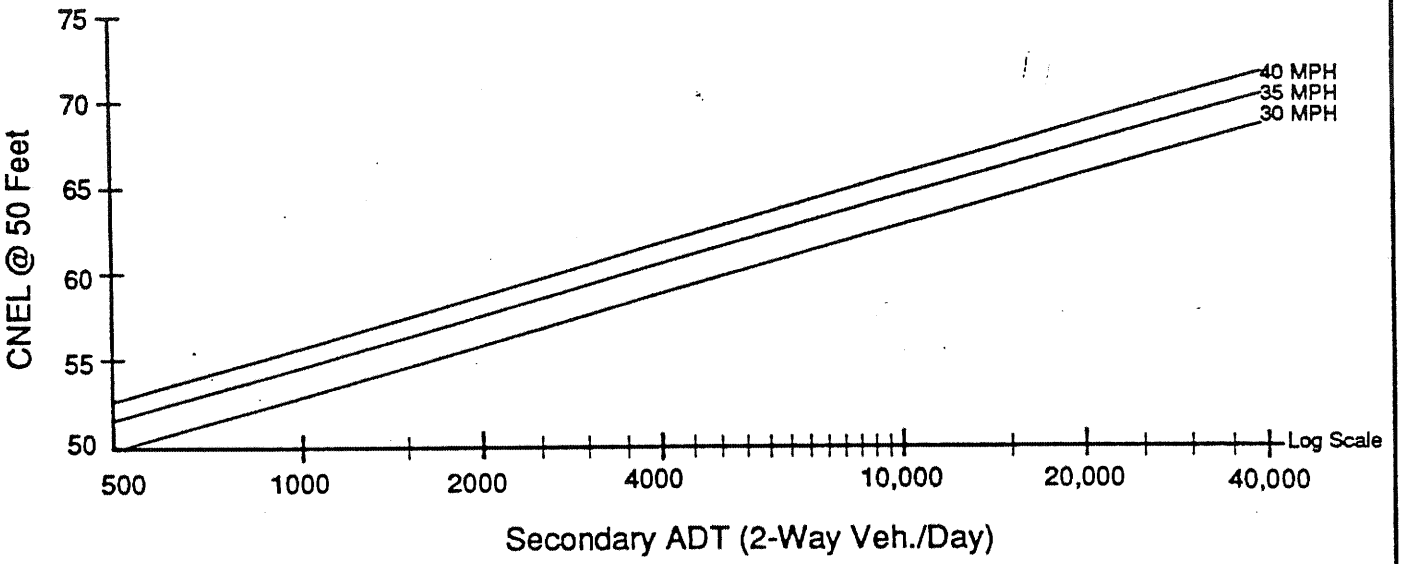


FIGURE 34A

Typical Noise Levels Versus Speed and Volume



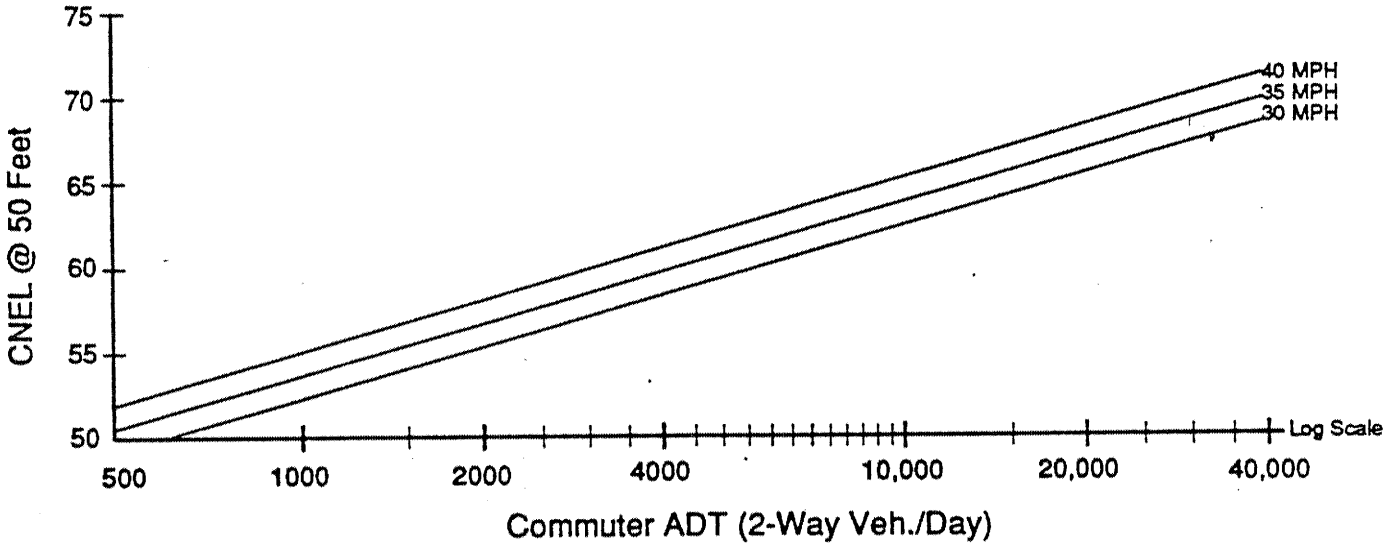


FIGURE 34B

Effects of Truck Mix on CNEL at 45 mph

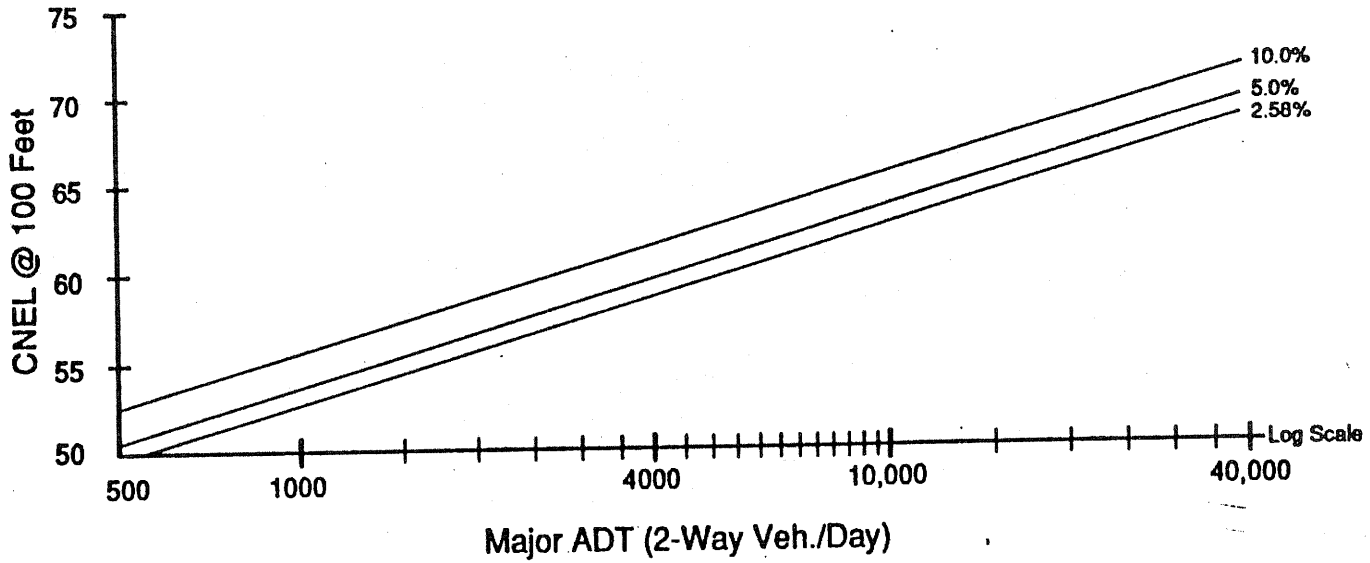


FIGURE 35

costa mesa

Sensitive Noise Receptors

A comparison of the current sensitive noise receptor locations shown in Figure 33 to the noise levels included at the end of this subelement reveals the location of potential incompatibilities between land use and noise exposure. Figures 36a-c illustrate the relationship of the sensitive noise receptors to the nearby roadway and the projected future noise contours after General Plan buildout.

Of the receptors identified in Table 26 and located in Figure 33, each receptor located near a master planned roadway link was analyzed for potential noise impacts. For example, Costa Mesa High School is located along Fairview Road between Adams Avenue and Fair Drive. Sensitive receptors identified in Table 26 adjacent to master planned roadways that are not included in Figures 36a-c were set back from the roadway and outside of the 60 CNEL contour.

Figures 36a-c also illustrate the distance from the roadway centerline to each receptor and the unattenuated exterior noise level at each receptor location. Using Costa Mesa High School as an example, it can be seen that the building lies approximately 75 feet from the Fairview Road centerline at its closest point. The unattenuated exterior noise level is between 70 and 75 CNEL at this location. Given that noise is logarithmic rather than linear in nature, the building at its closest point to the street will probably be exposed to 74 dBA.

Review of the City of Costa Mesa land use compatibility guidelines and the future noise exposures in Figures 36a-c shows that nine of the fourteen sensitive receptors analyzed are expected to be impacted by roadway noise upon General Plan buildout.

Design Noise Levels

It is recommended that the ultimate noise contours depicted in Table 31 be used for planning purposes and refined when detailed site-specific acoustic reports are prepared for new developments. Until that time, Figure 37 can be used as a general planning guide to determine the potential "worst case" future noise levels and the setbacks required to insure an acceptable noise environment for planned land uses.

Figure 37 provides design noise levels adjacent to typical major, primary and secondary arterials. The nomograph assumes the ultimate daily design capacity for each roadway type as well as typical design speed and a 2.58 percent truck mix. Figure 37 can be used to determine the CNEL contours between 50 and 300 feet from the roadway centerlines assuming flat terrain and no intervening barriers or buildings.

Future Noise Exposure Of Sensitive Receptors

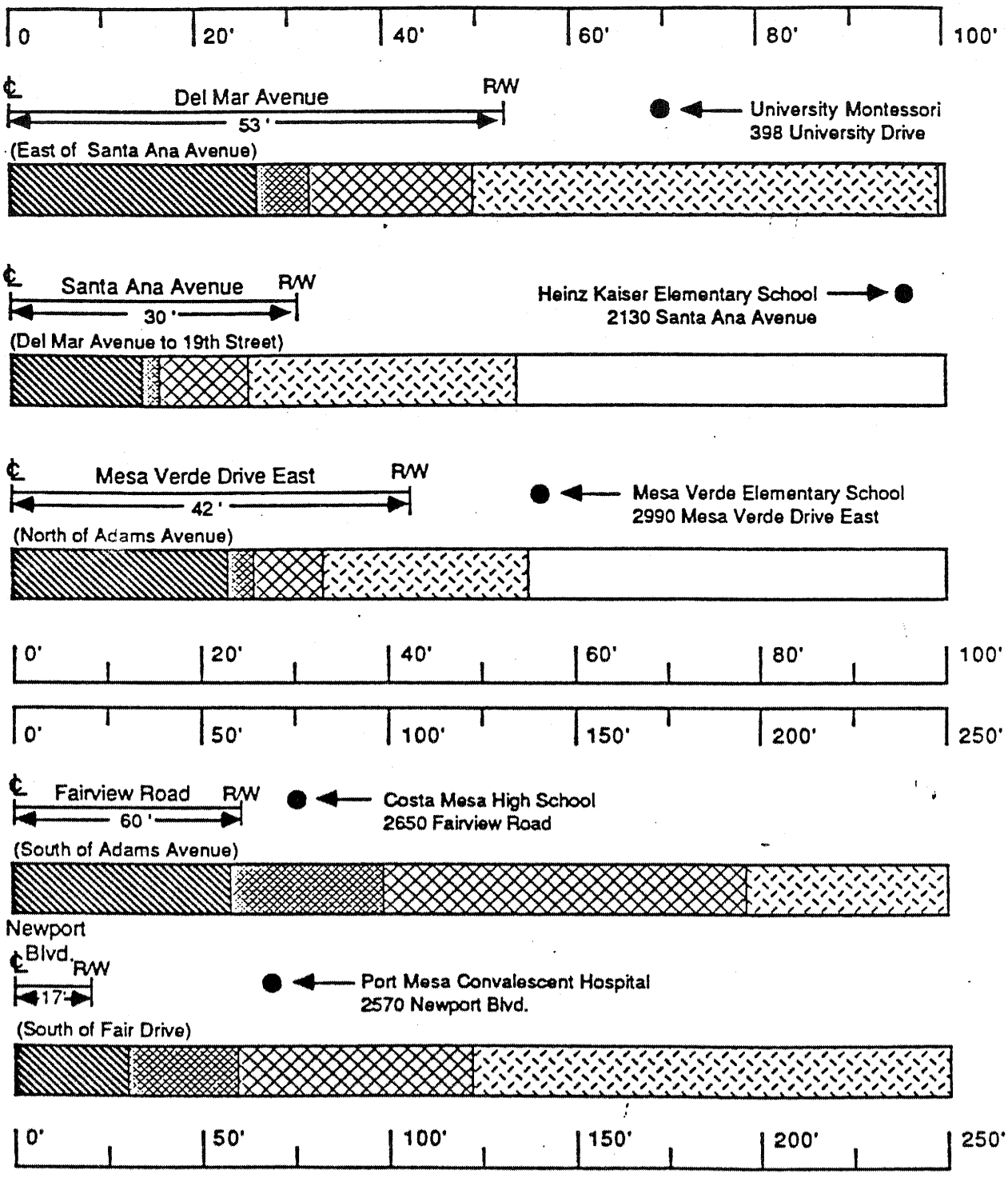


FIGURE 36A

LEGEND

Above 75 CNEL | 70-75 CNEL | 65-70 CNEL | 60-65 CNEL | Below 60 CNEL

Source: Endo Engineering

costa mesa

Future Noise Exposure Of Sensitive Receptors

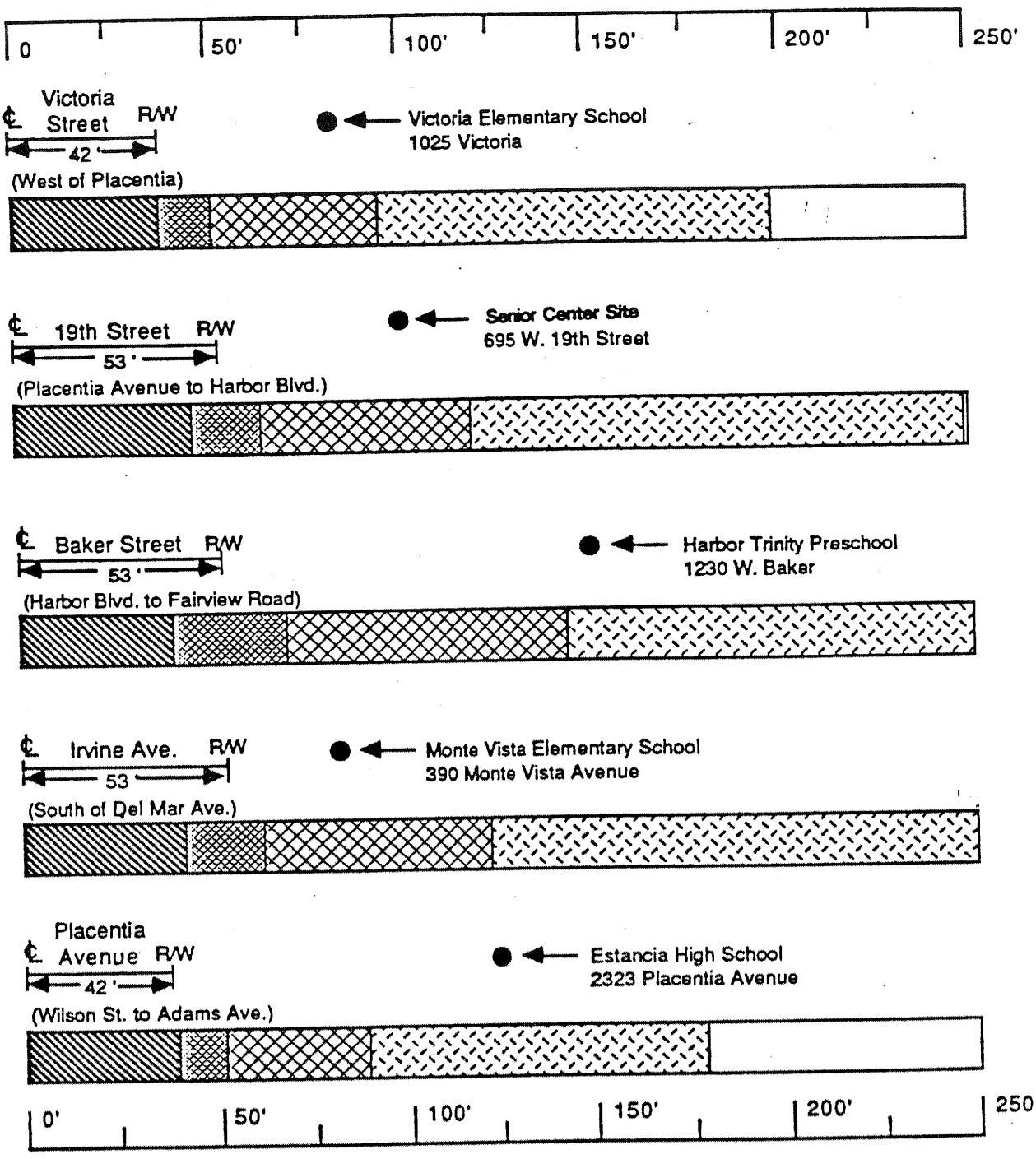


FIGURE 36B

LEGEND

- Above 75 CNEL
- 70-75 CNEL
- 65-70 CNEL
- 60-65 CNEL
- Below 60 CNEL

Source: Endo Engineering

Future Noise Exposure Of Sensitive Receptors

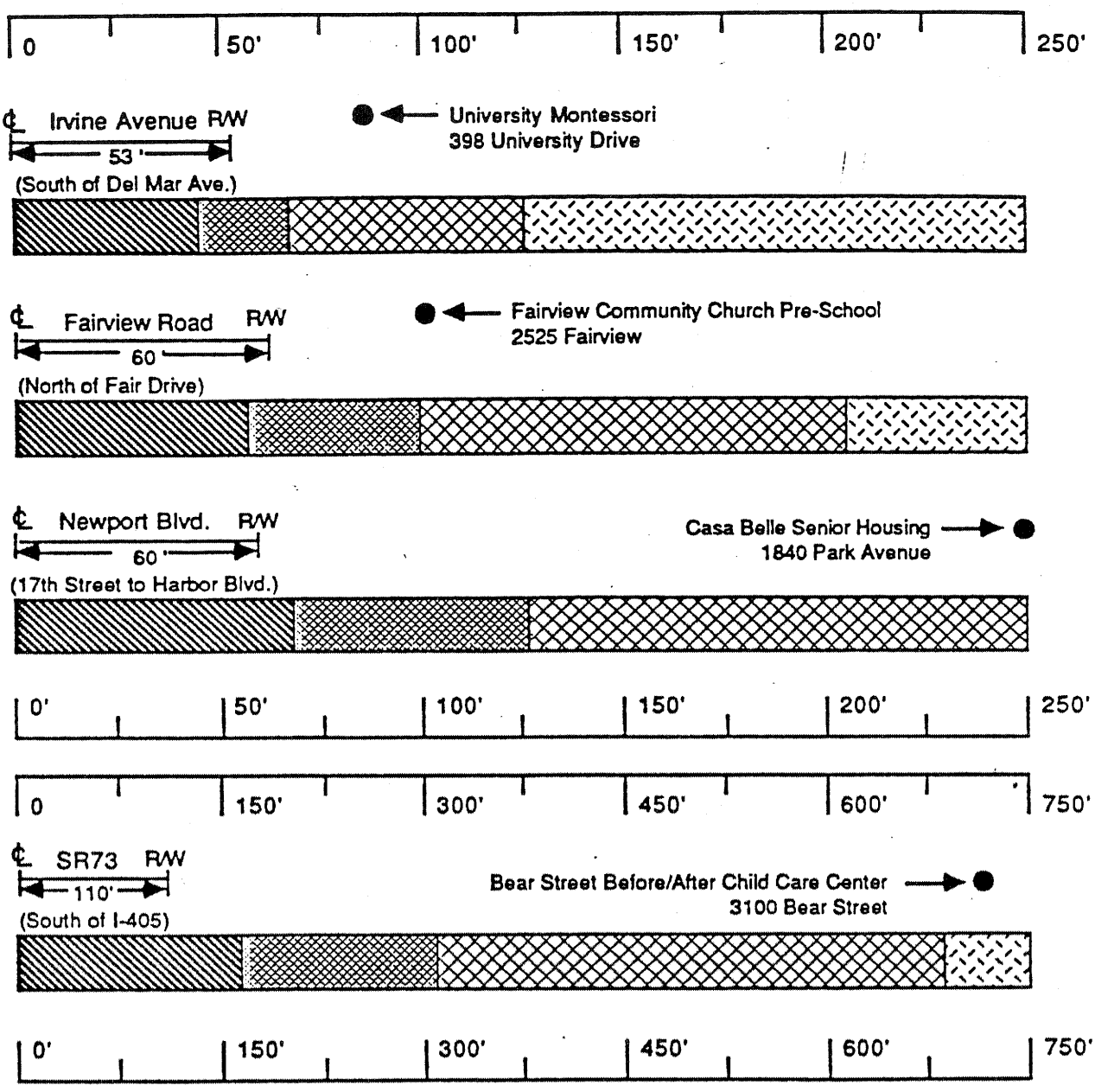


FIGURE 36C

LEGEND

Above 75 CNEL | 70-75 CNEL | 65-70 CNEL | 60-65 CNEL | Below 60 CNEL

Source: Endo Engineering

Design Noise Levels for City of Costa Mesa

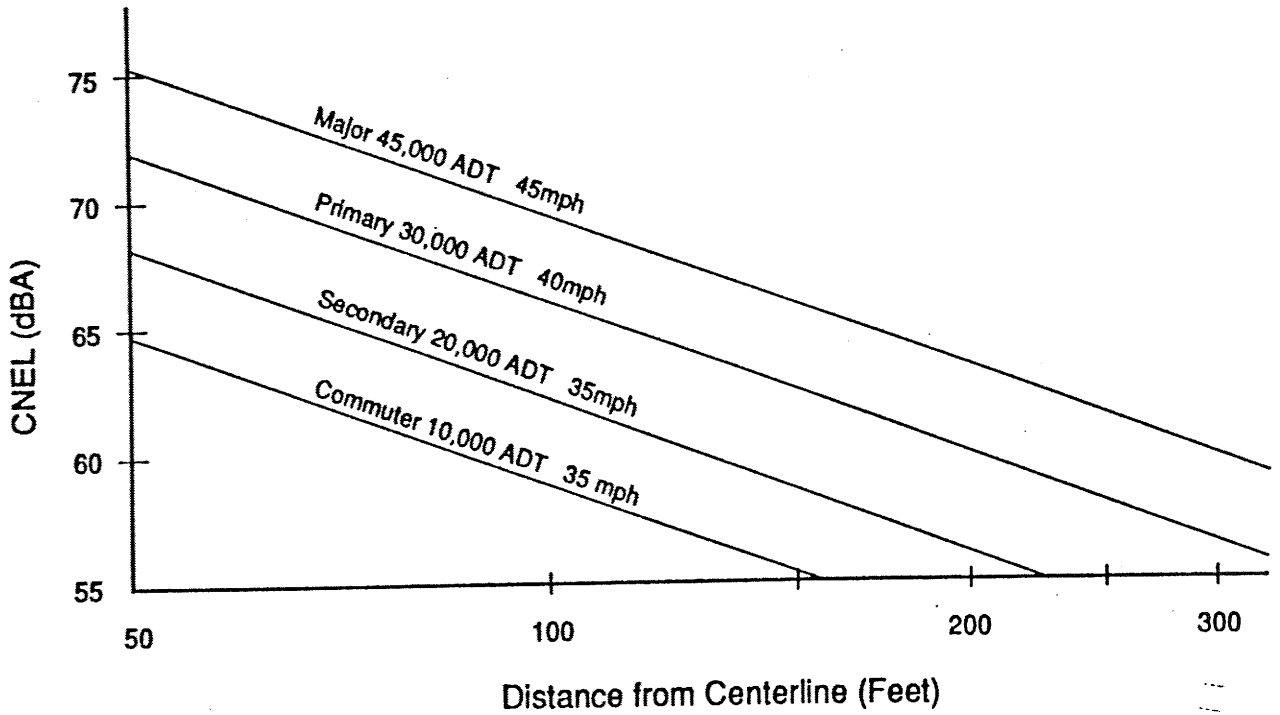


FIGURE 37

NOISE REDUCTION MEASURES

Noise impacts can be mitigated in three basic ways: by reducing the sound level of the noise generator, by increasing the distance between the source and receiver, and by insulating the receiver. Some of these considerations are included in State and Federal noise standards which preempt further local regulation. Tables 28 and 29 summarize standards adopted by various State and Federal agencies.

Although standards have been established for control of vehicle noise, most police agencies place priority on enforcement of potentially accident-causing violations and normally become involved only in occasional blatant noise violations.

Due to preemption by higher agencies, local governments are prevented from establishing noise standards for motor vehicles and aircraft. Cities, however, may regulate noise levels of most other sources and may provide standards for insulation of noise receivers (either within the structure or by placement of noise barriers such as walls). Through land use decisions, cities may reduce noise impacts by separating noise generators from noise sensitive uses.

Noise reduction can be accomplished by placement of walls, landscaped berms, or a combination of the two, between the noise source and the receiver. Generally, effective noise shielding requires a solid barrier with a mass of at least four pounds per square foot of surface area which is large enough to block the line of sight between source and receiver. Variations may be appropriate in individual cases based on distance, nature and orientation of buildings behind the barrier, and a number of other factors. Garages or other buildings may be used to shield dwelling units and outdoor living areas from traffic noise.

In addition to site design techniques, noise insulation can be accomplished through proper design of buildings. Nearby noise generators should be recognized in determining the location of doors, windows and vent openings. Sound-rated windows (extra thick or multi-paned) and wall insulation are also effective. None of these measures, however, can realize their full potential unless care is taken in actual construction: doors and windows fitted properly; openings sealed; joints caulked; plumbing adequately insulated from structural members. And, of course, sound-rated doors and windows will have little effect if left open. This may require installation of air conditioning for adequate ventilation. The chain of design, construction and operation is only as effective as its weakest link.

Landscaping is often proposed as a means of noise reduction; in reality it is quite ineffective. A dense growth of evergreen trees and shrubs 50 feet high and 100 feet in depth is required to achieve a reduction of about 6 or 7 decibels. This is seldom, if ever, practical in an urban environment. There are three ways in which landscaping may have some effect on noise reduction. First, some sound may be absorbed by sufficient, yet practical, depths of

Table 28

STATE NOISE STANDARDS

Description	Maximum Noise Level (dB(A) at 50 ft.)	
1. Motor Vehicle operation, under any conditions, may not exceed the following levels:	35 MPH or Less	Over 35 MPH
a. Gross vehicle weight (GVW) greater than 10,000 lbs.	86	90
	45 MPH or Less	Over 45 MPH
b. Motorcyle	82	86
c. Others	76	82
2. Motor Vehicle operation on grades of 1% or less may not exceed the following levels.*	35 MPH or Less	Over 35 MPH
a. GVW greater than 6,000 lbs	82	See 1. above
b. Motorcycle	77	See 1. above
c. Others	74	See 1. above
3. New Motor Vehicles for sale must comply with the following:		
Manufactured before - 1973	92	
1973-1974	88	
Manufactured after - 1974	86	
4. New Motor Vehicles for sale are further restricted as follows:		
a. GVW greater than 6,000 lbs.		
Manufactured - 1968-1972	88	
1973-1974	86	
1975-1977	83	
b. GVW 6,000 - 8,500 lbs.		
Manufactured after - 1977	80	
c. GVW over 8,500 lbs.		
Manufactured - 1978-1981	83	
Manufactured after - 1981	80	
d. Motorcycles		
Manufactured before - 1970	92	
1970-1972	88	
1973-1974	86	
1975-1980	83	
1981-1985	80	
1986-1989	75	
Manufactured after - 1989	70	
e. Others		
Manufactured - 1968-1972	86	
1973-1974	84	
Manufactured after - 1974	80	
5. Airport Noise - Maximum Exposure in Residential Areas		
a. New airports	65 CNEL	
b. Existing airports until December 31, 1985	70 CNEL	
after December 31, 1985	65 CNEL	
6. Residential Noise Insulation Standards (hotels, motels, apartments, dwellings other than single-family detached)		
a. Maximum interior noise level (Analysis required if within 60 CNEL contour)	45 CNEL	
b. Noise transmission between units: minimum IIC (Impact Insulation Class - Floor/Ceiling)	50	
And STC (Sound Transmission Class - Walls)	50	
(IIC 45 or STC 45 if field tested)		

*(Measured at least 200 feet from controlled intersection or grade exceeding 1%)

Table 29

FEDERAL NOISE STANDARDS

1.	Vehicles - 35 mph or less		
	Manufactured	1978-1981	83 dB(A)
	Manufactured after	1981	80 dB(A)
2.	Industry (Occupational Safety and Health Act (OSHA) of 1970) Businesses engaged in interstate commerce		
	Maximum Exposure -	8 hours	90 dB(A)
		6 hours	92 dB(A)
		4 hours	95 dB(A)
		3 hours	97 dB(A)
		2 hours	100 dB(A)
		1 hour	105 dB(A)
3.	Highway Planning and Design (Federal Highway Administration (FHWA) Criteria)		
	a. Areas where serenity is of special significance and serves an important public need (amphitheaters, parks, open space, etc.)		L_{10} - 60 dB(A) (exterior)
	b. Residences, motels, hotels, schools, libraries, hospitals, churches, auditoriums, public meeting rooms, picnic areas, active recreation areas		L_{10} - 70dB(A) (exterior)
	c. Other		L_{10} - 70 dB(A) (exterior)
	d. Residences, motels, hotels, schools, libraries, hospitals, churches, auditoriums, public meeting rooms		L_{10} - 55 dB(A) (interior)

foliage. The effect is not appreciable, however, as only about 3 to 4 dB may be lost in the high frequency ranges, and even less at the low end of the scale. Second, to the extent landscaping reduces wind velocity, it may also reduce the level of sound carried by the wind. Under the proper conditions, reductions of up to 7 or 8 dBA may be realized. The third, and perhaps most effective application of landscaping to noise reduction is its psychological impact. Basically, this is an "out of sight - out of mind" phenomenon where the perceived noise level may be as much as 5 decibels less when the source cannot be seen, even though no difference may be registered on measurement instruments.

Noise impacts can be reduced by insulating noise sensitive uses, such as residences, schools, libraries, hospitals, nursing and carehomes and some types of commercial activities. But perhaps a more efficient approach involves limiting the level of noise generation at the source. State and Federal statutes have largely preempted local control over vehicular noise emissions but commercial and industrial operations and certain residential activities provide opportunities for local government to assist in noise abatement. Local ordinances may establish maximum levels for noise generated on-site. This usually takes the form of limiting the level of noise permitted to leave the property where it may impact other uses.

Although vehicular noise emissions standards are established at the State and Federal levels, local agencies can play a significant part in reducing traffic noise by controlling traffic volume and congestion. Traffic noise is greatest at intersections due to acceleration, deceleration and gear shifting. Measures such as signal synchronization can help to minimize this problem. Likewise, reduction of congestion aids in reduction of noise. This can be accomplished through the application of traffic engineering techniques such as channelization of turning movements, parking restrictions, separation of modes (bus, auto, bicycle, pedestrian) and restrictions on truck traffic.

Noise reduction through reduction of traffic volumes can also be accomplished through incentives for use of public transit facilities and high-occupancy vehicles, staggering of work hours and land use controls. Vehicle trips can be turned into pedestrian trips by integration of housing and employment into the same project or area, construction of high density, affordable housing in proximity to employment, shopping and public transit facilities and other techniques.

Noise levels decrease with distance. For a point source (industry, construction site, etc.) a doubling of distance will produce a 6 dB reduction in sound level. For a line source (street or highway) a doubling of distance will produce a reduction of 3 to 4.5 dB depending on ground surface characteristics. An effective means of providing low noise levels in residential areas, then, is to locate these areas sufficiently far from high noise sources. This applies especially to streets, highways, and airports. A secondary benefit of this approach is that buildings in those areas located closer to

the street will provide additional noise screening. One row of two-story buildings will provide a reduction of about 10 dB(A) at some locations. These considerations should be included in decisions relating to land use patterns and establishment of circulation routes.

NOISE CONTOURS

The following tables provide existing noise contours (Table 30) and noise contours at General Plan buildout (Table 31) along all of the City's major and primary arterials and the three freeways that traverse the City. Noise contours for selected secondary and commuter streets are also included. The tables indicate traffic volumes on designated street segments as depicted on Figure 38.

The tables display the average daily traffic volume (ADT), noise levels at 100 and 50 feet from the roadway centerline or 200 and 150 feet from the freeway centerlines, and the distance from the roadway centerline to the 70, 65 and 60 dBA CNEL contours.

Roadway Links Modeled

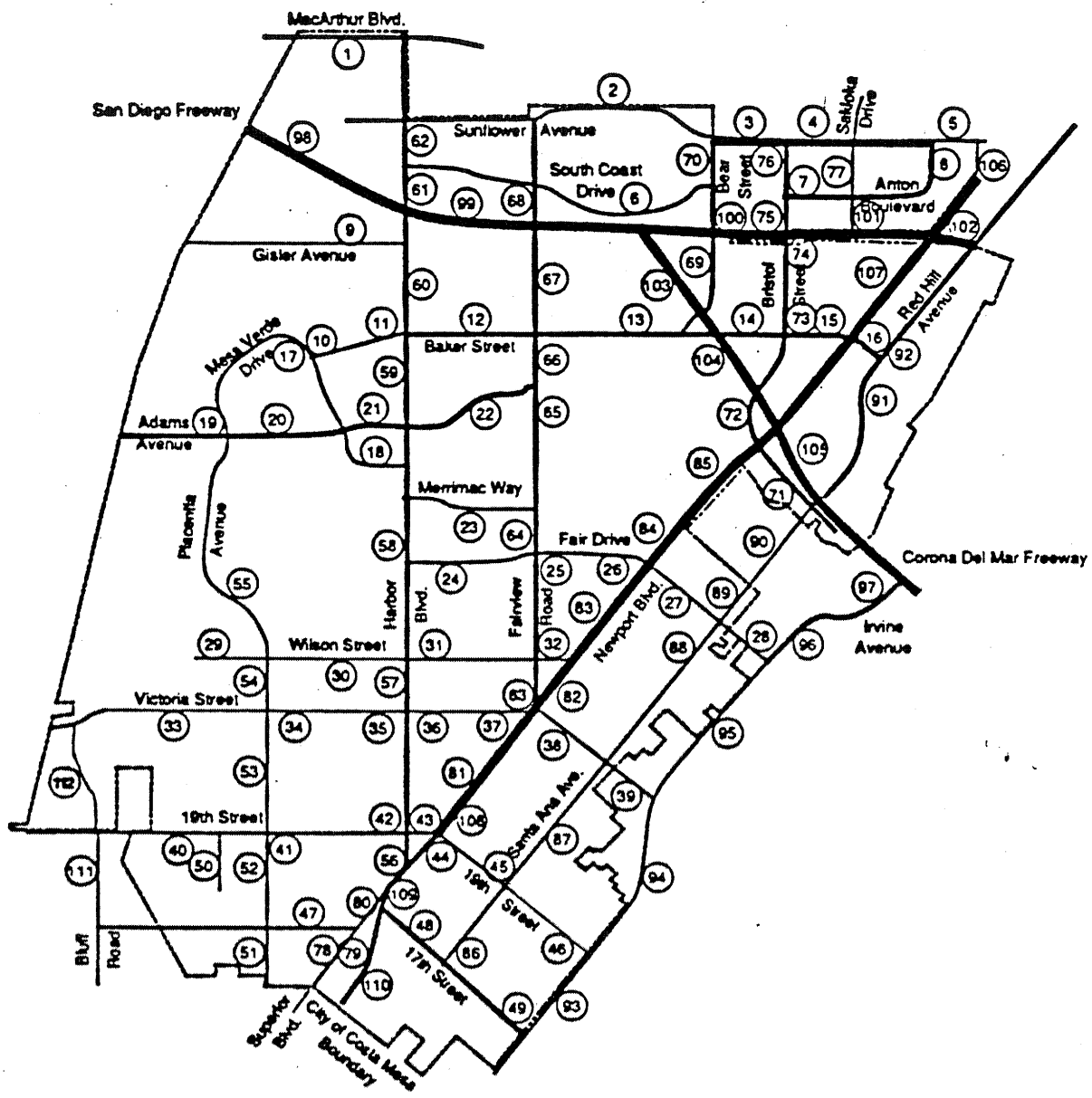


FIGURE 38

NORTH

Source: Endo Engineering

Scale: 1" = 4,500'

Table 30

EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
1988

Roadway	A.D.T.[1] (Veh./Day)	CNEL @ 100/50 Ft.[2]	Distance to Contours (Ft.)[3] 70 dBA	65 dBA	60 dBA
MacArthur Boulevard					
1. West of Harbor Blvd.	24,000	64.7/69.8	49	96	201
Sunflower Avenue					
2. West of Bear Street	16,000	64.1/69.3	46	88	184
3. East of Bear Street	27,000	68.0/75.5	79	150	313
4. East of Bristol Street	23,000	67.1/73.4	69	134	281
5. East of Anton Blvd.	19,000	66.3/72.5	64	120	249
South Coast Drive					
6. East of Fairview Road	22,000	64.3/69.4	R/W	90	189
Anton Boulevard					
7. East of Bristol Street	18,000	62.2/68.5	45	70	136
8. South of Sunflower Ave.	7,000	58.1/64.4	R/W	48	78
Gisler Avenue					
9. West of Harbor Blvd.	13,000	60.6/65.7	R/W	R/W	109
Baker Street					
10. East of Mesa Verde Dr.	9,000	57.4/62.5	R/W	R/W	69
11. West of Harbor Blvd.	17,000	63.4/69.7	R/W	R/W	162
12. West of Fairview Road	24,000	65.9/71.0	57	114	241
13. West of Bear Street	32,000	67.1/72.3	67	136	290
14. West of Bristol Street	16,000	64.3/70.6	52	91	185
15. West of SR-55	19,000	65.1/71.4	56	101	208
16. West of Red Hill Ave.	12,000	63.1/69.4	R/W	78	155
Mesa Verde Drive					
17. North of Adams Avenue	7,000	57.9/63.1	R/W	R/W	74
18. South of Adams Avenue	13,000	62.0/67.2	R/W	66	134
Adams Avenue					
19. West of Placentia Ave.	37,000	70.2/76.5	103	211	450
20. West of Mesa Verde Dr.	35,000	70.0/76.3	100	205	436
21. West of Harbor Blvd.	28,000	66.8/73.0	67	128	268
22. East of Harbor Blvd.	24,000	66.3/73.8	66	119	243
Merrimac Way					
23. West of Fairview Road	8,000	58.5/63.6	R/W	R/W	R/W
Fair Drive					
24. West of Fairview Road	11,000	61.4/67.7	R/W	64	121
25. East of Fairview Road	21,000	65.5/71.8	R/W	107	221
26. West of Newport Blvd.	15,000	64.0/70.3	R/W	89	179
Del Mar Avenue					
27. East of Newport Blvd.	6,000	55.6/60.8	R/W	33	55
28. East of Santa Ana Ave.	4,000	53.8/59.0	R/W	R/W	45
Wilson Street					
29. West of Placentia Ave.	6,000	53.7/58.9	R/W	29	44
30. East of Placentia Ave.	26,000	63.6/68.8	R/W	82	170
31. East of Harbor Blvd.	18,000	62.0/67.2	R/W	66	134
32. West of Newport Blvd.	6,000	57.2/62.4	R/W	38	68

1. A.D.T. means average daily two-way traffic volume.
2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.
3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 30

EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
1988
(Continued)

Roadway		A.D.T.[1] (Veh./Day)	CNEL @[2] 100/50 Ft.	Distance to Contours (Ft.)[3] 70 dBA	65 dBA	60 dBA
Victoria Street						
33.	West of Placentia Ave.	19,000	63.5/68.7	43	81	168
34.	East of Placentia Ave.	15,000	62.5/67.7	39	70	144
35.	West of Harbor Blvd.	16,000	62.8/68.0	40	73	151
36.	East of Harbor Blvd.	17,000	63.0/68.2	41	75	156
37.	West of Newport Blvd.	19,000	63.8/70.0	50	85	171
22nd Street						
38.	East of Newport Blvd.	9,000	57.4/62.5	R/W	39	69
39.	East of Santa Ana Ave.	6,000	55.6/60.8	26	33	55
19th Street						
40.	West of Placentia Ave.	11,000	59.8/65.0	R/W	50	97
41.	East of Placentia Ave.	19,000	63.8/70.0	50	85	171
42.	West of Harbor Blvd.	22,000	64.4/70.7	53	92	187
43.	West of Newport Blvd.	13,000	62.1/68.4	R/W	69	134
44.	East of Newport Blvd.	10,000	59.8/66.1	40	55	97
45.	West of Santa Ana Ave.	8,000	58.9/65.1	R/W	51	87
46.	West of Irvine Avenue	6,000	57.4/62.6	R/W	39	69
17th Street						
47.	West of Superior Ave.	16,000	62.8/68.0	R/W	73	151
48.	West of Santa Ana Ave.	27,000	65.0/70.2	R/W	100	211
49.	West of Irvine Avenue	24,000	64.5/69.7	R/W	93	195
Monrovia Avenue						
50.	South of 19th Street	8,000	58.3/63.0	R/W	R/W	77
Placentia Avenue						
51.	South of 17th Street	18,000	64.6/69.8	49	94	198
52.	South of 19th Street	22,000	64.5/70.8	53	94	190
53.	South of Victoria St.	26,000	66.2/71.4	59	119	253
54.	South of Wilson St.	18,000	64.6/69.8	49	94	198
55.	North of Wilson St.	18,000	63.6/69.9	R/W	83	167
Harbor Boulevard						
56.	North of Newport Blvd.	34,000	73.9	74	144	303
57.	North of Victoria St.	50,000	76.3	86	169	355
58.	North of Wilson Street	43,000	76.3	86	169	355
59.	North of Adams Avenue	54,000	77.3	97	195	413
60.	North of Baker Street	55,000	77.4	99	198	419
61.	North of I-405 Freeway	50,000	77.0	94	187	394
62.	North of S. Coast Dr.	46,000	75.2	87	174	369
Fairview Road						
63.	North of Newport Blvd.	27,000	66.6/72.9	66	125	260
64.	North of Fair Drive	29,000	66.9/73.2	68	130	272
65.	South of Adams Avenue	36,000	68.0/75.6	79	150	314
66.	North of Adams Avenue	48,000	69.1/75.4	89	179	380
67.	North of Baker	44,000	68.7/75.0	84	169	358
68.	North of I-405 Freeway	47,000	70.2/76.5	103	211	450
Bear Street						
69.	South of I-405 Freeway	31,000	67.4/74.9	74	138	287
70.	South of Sunflower Ave.	17,000	64.6/70.9	54	95	193

1. A.D.T. means average daily two-way traffic volume.
2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.
3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 30

EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
1988
(Continued)

Roadway		A.D.T.[1] (Veh./Day)	CNEL @[2] 100/50 Ft.	Distance to Contours (Ft.)[3] 70 dBA	65 dBA	60 dBA
Bristol Street						
71.	West of Santa Ana Ave.	25,000	67.6/75.2	75	142	296
72.	North of Newport Blvd.	26,000	66.6/74.2	68	124	255
73.	North of Baker Street	28,000	66.9/74.5	70	129	266
74.	South of I-405 Freeway	33,000	67.6/75.2	75	142	296
75.	North of I-405 Freeway	60,000	70.2/77.8	103	207	438
76.	South of Sunflower Ave.	50,000	69.5/77.0	R/W	187	394
Bakioka Drive						
77.	South of Sunflower Ave.	3,000	55.9/62.1	R/W	42	61
Superior Avenue						
78.	South of 17th Street	16,000	63.0/69.3	47	77	153
Newport Boulevard						
79.	South of 17th Street	59,000	70.2/77.7	103	207	438
80.	North of 17th Street	71,000	71.0/78.5	114	233	495
81.	North of 19th Street	66,000	70.2/75.0	103	219	471
Newport Boulevard/SR-55 Freeway						
82.	North of 22nd Street	94,000	71.7/76.6	129	276	593
83.	North of Wilson Street	73,000	70.6/75.5	109	233	501
84.	North of Fair Drive	93,000	71.7/76.5	129	276	593
85.	South of Bristol St.	92,000	66.3/68.2	114	244	524
Santa Ana Avenue						
86.	North of 17th Street	8,000	58.3/63.0	R/W	R/W	77
87.	North of 19th Street	7,000	57.7/62.4	R/W	R/W	71
88.	South of Del Mar Ave.	6,000	57.1/61.8	R/W	R/W	65
89.	North of Del Mar Ave.	9,000	58.8/63.5	R/W	40	85
90.	South of Bristol St.	13,000	60.6/65.7	R/W	55	109
Red Hill Avenue						
91.	South of Baker Street	19,000	67.0/71.7	64	135	291
92.	North of Baker Street	18,000	66.7/71.4	61	129	278
Irvine Avenue						
93.	South of 19th Street	30,000	64.4/69.4	47	89	187
94.	South of 22nd Street	32,000	64.3/68.8	42	90	193
95.	South of Del Mar Ave.	33,000	64.8/71.1	55	97	199
96.	North of Del Mar Ave.	33,000	64.8/71.1	55	97	199
97.	South of Bristol St.	28,000	63.7/68.2	38	82	176
I-405 Freeway						
98.	West of Harbor Blvd.	233,000	74.7/76.6	407	874	1881
99.	East of Harbor Blvd.	228,000	74.6/76.6	401	860	1852
100.	West of Bristol St.	202,000	74.1/76.0	371	797	1715
101.	East of Bristol St.	201,000	74.0/75.9	368	791	1703
102.	East of SR-55 Freeway	227,000	75.4/77.8	458	987	2127
SR-73 Freeway						
103.	South of I-405 Freeway	62,000	70.1/72.3	203	415	802
104.	West of SR-55 Freeway	64,000	70.2/72.4	205	421	896
105.	East of SR-55 Freeway	71,000	69.9/72.2	197	402	856
SR-55 Freeway						
106.	North of I-405 Freeway	102,000	69.7/71.5	191	411	887
107.	South of I-405 Freeway	198,000	73.3/75.5	322	685	1471

1. A.D.T. means average daily two-way traffic volume.
2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.
3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 31

ULTIMATE EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
(POST 2010)

Roadway	A.D.T.[1] (Veh./Day)	CNEL @ 100/50 Ft.[2]	Distance to Contours (Ft.)[3] 70 dBA	65 dBA	60 dBA
MacArthur Boulevard					
1. West of Harbor Blvd.	37,000	66.8/73.0	67	128	268
Sunflower Avenue					
2. West of Bear Street	32,000	67.1/72.3	67	136	290
3. East of Bear Street	38,000	68.3/75.8	81	157	329
4. East of Bristol Street	42,000	68.5/74.8	82	164	347
5. East of Anton Blvd.	50,000	68.0/74.2	77	153	322
South Coast Drive					
6. East of Fairview Road	18,000	60.4/65.5	R/W	54	106
Anton Boulevard					
7. East of Bristol Street	32,000	64.7/71.0	54	96	196
8. South of Sunflower Ave.	16,000	61.7/68.0	R/W	66	127
Gisler Avenue					
9. West of Harbor Blvd.	23,000	57.4/62.6	R/W	R/W	69
Baker Street					
10. East of Mesa Verde Dr.	17,000	56.1/61.2	R/W	R/W	58
11. West of Harbor Blvd.	29,000	58.6/64.9	R/W	50	83
12. West of Fairview Road	36,000	66.5/72.8	65	123	256
13. West of Bear Street	39,000	65.1/70.3	52	101	214
14. West of Bristol Street	33,000	67.5/73.8	73	142	298
15. West of SR-55	44,000	67.4/73.7	72	140	294
16. West of Red Hill Ave.	38,000	65.3/71.5	57	104	214
Mesa Verde Drive					
17. North of Adams Avenue	12,000	54.6/59.7	R/W	R/W	49
18. South of Adams Avenue	16,000	59.9/65.0	R/W	50	99
Adams Avenue					
19. West of Placentia Ave.	45,000	67.5/73.8	73	142	298
20. West of Mesa Verde Dr.	40,000	67.0/73.3	69	132	277
21. West of Harbor Blvd.	35,000	67.7/74.0	75	146	307
22. East of Harbor Blvd.	31,000	66.1/73.6	65	116	236
Merrimac Way					
23. West of Fairview Road	1,000	46.0/51.1	R/W	R/W	R/W
Fair Drive					
24. West of Fairview Road	22,000	62.9/69.2	R/W	76	150
25. East of Fairview Road	24,000	63.3/69.6	R/W	80	159
26. West of Newport Blvd.	28,000	63.9/70.2	51	87	174
Del Mar Avenue					
27. East of Newport Blvd.	25,000	59.9/65.1	R/W	R/W	99
28. East of Santa Ana Ave.	24,000	59.8/64.9	R/W	50	97
Wilson Street					
29. West of Placentia Ave.	13,000	59.0/64.1	R/W	45	87
30. East of Placentia Ave.	26,000	60.1/65.3	R/W	52	101
31. East of Harbor Blvd.	30,000	62.6/67.8	R/W	71	147
32. West of Newport Blvd.	24,000	61.6/66.8	R/W	62	126

1. A.D.T. means average daily two-way traffic volume.
2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.
3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 31

ULTIMATE EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
(POST 2010)
(Continued)

Roadway	A.D.T.[1] (Veh./Day)	CNEL @[2] 100/50 Ft.	Distance to Contours (Ft.)[3] 70 dBA	65 dBA	60 dBA
Victoria Street					
33. West of Placentia Ave.	29,000	63.9/69.0	45	85	178
34. East of Placentia Ave.	20,000	63.7/68.9	44	83	173
35. West of Harbor Blvd.	24,000	64.5/69.7	48	93	195
36. East of Harbor Blvd.	19,000	63.5/68.7	43	81	168
37. West of Newport Blvd.	27,000	65.3/71.6	57	104	214
22nd Street					
38. East of Newport Blvd.	22,000	63.1/69.4	R/W	78	155
39. East of Santa Ana Ave.	13,000	59.0/64.1	R/W	45	87
19th Street					
40. West of Placentia Ave.	27,000	60.3/65.4	R/W	53	104
41. East of Placentia Ave.	25,000	64.9/71.2	55	99	202
42. West of Harbor Blvd.	30,000	65.7/72.0	60	110	227
43. West of Newport Blvd.	34,000	63.1/69.3	R/W	78	155
44. East of Newport Blvd.	25,000	63.8/70.1	R/W	85	171
45. West of Santa Ana Ave.	24,000	63.6/69.9	R/W	83	167
46. West of Irvine Avenue	13,000	60.7/65.9	R/W	56	111
17th Street					
47. West of Superior Ave.	23,000	61.4/67.6	R/W	64	121
48. West of Santa Ana Ave.	25,000	61.7/68.0	R/W	66	127
49. West of Irvine Avenue	21,000	61.0/67.3	R/W	62	115
Monrovia Avenue					
50. South of 19th Street	6,000	53.6/58.3	R/W	R/W	39
Placentia Avenue					
51. South of 17th Street	26,000	63.4/68.6	43	80	165
52. South of 19th Street	28,000	65.2/70.4	52	103	217
53. South of Victoria St.	32,000	65.8/71.0	56	112	238
54. South of Wilson St.	31,000	64.6/70.9	54	95	193
55. North of Wilson St.	23,000	63.3/69.6	R/W	80	159
Harbor Boulevard					
56. North of Newport Blvd.	28,000	66.8/73.0	67	128	268
57. North of Victoria St.	50,000	69.5/77.0	94	187	394
58. North of Wilson Street	47,000	69.2/76.7	90	179	377
59. North of Adams Avenue	52,000	66.8/74.4	69	127	262
60. North of Baker Street	60,000	67.4/75.0	74	138	287
61. North of I-405 Freeway	72,000	73.3/80.9	157	329	704
62. North of S. Coast Dr.	50,000	71.7/79.3	125	258	551
Fairview Road					
63. North of Newport Blvd.	38,000	68.1/74.4	78	155	327
64. North of Fair Drive	52,000	69.6/77.2	95	189	400
65. South of Adams Avenue	52,000	69.6/77.2	95	189	400
66. North of Adams Avenue	66,000	67.8/75.4	77	146	305
67. North of Baker	71,000	66.3/72.5	64	120	249
68. North of I-405 Freeway	64,000	67.7/75.3	76	144	300
Bear Street					
69. South of I-405 Freeway	37,000	63.4/69.7	49	81	162
70. South of Sunflower Ave.	42,000	68.7/76.2	85	166	349

1. A.D.T. means average daily two-way traffic volume.
2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.
3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.

Table 31

ULTIMATE EXTERIOR NOISE EXPOSURE ADJACENT TO NEARBY ROADWAYS
(POST 2010)
(Continued)

Roadway		A.D.T.[1] (Veh./Day)	CNEL @[2] 100/50 Ft.	Distance to Contours (Ft.)[3] 70 dBA	65 dBA	60 dBA
Bristol Street						
71.	West of Santa Ana Ave.	32,000	64.7/72.2	58	96	192
72.	North of Newport Blvd.	46,000	66.3/73.8	66	119	243
73.	North of Baker Street	51,000	66.7/74.3	69	125	258
74.	South of I-405 Freeway	67,000	67.9/75.5	78	148	309
75.	North of I-405 Freeway	85,000	67.2/74.8	72	134	278
76.	South of Sunflower Ave.	48,000	68.0/75.5	79	150	314
Bakioka Drive						
77.	South of Sunflower Ave.	9,000	59.2/65.5	R/W	R/W	90
Superior Avenue						
78.	South of 17th Street	27,000	63.8/70.1	50	85	171
Newport Boulevard						
79.	South of 17th Street	27,000	65.5/73.0	61	107	216
80.	North of 17th Street	36,000	70.3/77.8	104	210	445
81.	North of 19th Street	32,500	68.2/72.9	76	163	349
Newport Boulevard/SR-55 Freeway[4]						
82.	North of 22nd Street	72,000/ 139,000	80.0/—	231	302	466
83.	North of Wilson Street	23,500/ 159,000	70.6/—	202	255	384
84.	North of Fair Drive	37,000/ 151,000	74.0/—	264	503	1055
SR-55 Freeway						
85.	South of Bristol St.	209,000	73.5/75.5	335	714	1535
Santa Ana Avenue						
86.	North of 17th Street	7,000	54.3/59.0	R/W	R/W	43
87.	North of 19th Street	5,000	50.6/55.3	R/W	R/W	R/W
88.	South of Del Mar Ave.	8,000	54.8/59.5	R/W	R/W	46
89.	North of Del Mar Ave.	14,000	57.3/62.0	R/W	33	67
90.	South of Bristol St.	27,000	62.1/67.3	R/W	67	136
Red Hill Avenue						
91.	South of Baker Street	25,000	64.9/71.2	55	99	202
92.	North of Baker Street	35,000	66.4/72.7	64	121	253
Irvine Avenue						
93.	South of 19th Street	27,000	65.4/71.7	58	106	217
94.	South of 22nd Street	28,000	65.6/71.8	59	109	224
95.	South of Del Mar Ave.	34,000	66.4/72.7	64	121	253
96.	North of Del Mar Ave.	34,000	66.4/72.7	64	121	253
97.	South of Bristol St.	36,000	66.4/71.6	61	123	260
I-405 Freeway						
98.	West of Harbor Blvd.	269,000	75.7/77.9	453	967	2079
99.	East of Harbor Blvd.	253,000	75.4/77.7	433	924	1985
100.	West of Bristol St.	196,000	74.3/76.6	368	781	1677
101.	East of Bristol St.	208,000	74.5/76.8	379	805	1730
102.	East of SR-55 Freeway	218,000	75.3/77.5	427	910	1955
SR-73 Freeway						
103.	South of I-405 Freeway	123,000	72.9/75.0	304	644	1383
104.	West of SR-55 Freeway	126,000	73.0/75.1	308	654	1405
105.	East of SR-55 Freeway	166,000	73.4/75.6	327	695	1494
SR-55 Freeway						
106.	North of I-405 Freeway	210,000	73.0/75.1	310	661	1422
107.	South of I-405 Freeway	131,000	71.4/73.5	245	518	1113
108.	North of 19th Street	139,000	69.6/71.6	189	395	845
109.	North of 17th Street	118,000	68.9/70.9	171	355	759
110.	North of 15th Street	105,000	68.3/70.4	158	325	692
Bluff Road						
111.	South of 19th Street	20,000	62.7/69.0	R/W	75	146
112.	North of 19th Street	23,000	63.3/69.6	R/W	80	159

1. A.D.T. means average daily two-way traffic volume.
2. CNEL values are calculated at 100 feet and 50 feet from the centerline. RW means the CNEL falls within the right-of-way and is not applicable.
3. All distances are measured from the centerline. R/W means the contour falls within the right-of-way.
4. Combined CNEL value given at 200 feet from the SR-55 Freeway centerline.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives and policies that address noise concerns are as follows:

GOAL II: ENVIRONMENTAL PROTECTION AND PRESERVATION

It is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from environmental hazards, including hydrologic, geologic, and climatic episodes, and to work towards the improved noise abatement and improved air and water quality.

Objective II-C: Control noise levels within the City for the protection of residential areas and other sensitive land uses from excessive and unhealthful noise.

90. Require, as a part of the environmental review process, that full consideration be given to the existing and projected noise environment.

91. Establish maximum acceptable exterior noise levels for residential areas of 65 CNEL.

92. Give full consideration to the existing and projected noise environment when considering alterations to the City's circulation system and Master Plan of Highways.

93. Encourage CalTrans to construct noise attenuation barriers along State freeways and highways adjoining residential and other noise sensitive areas.

94. Provide necessary equipment and training to enforce the Noise Ordinance using existing City Staff for initial field check of noise complaints.

95. Contract with private companies for enforcement of the Noise Ordinance in those cases where Staff and equipment demands exceed City resources.

96. Consider noise emission levels in the acquisition and use of new equipment and machinery purchased by the City.

97. Ensure that appropriate site design measures are incorporated into residential developments, when required by an acoustical study, to obtain appropriate exterior and interior noise levels. When necessary, require field testing at the time of project completion to demonstrate compliance.

98. Apply the standards contained in Title 24 of the California Administrative Code as applicable to the construction of all new dwelling units.