TPM 20800
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ACOUSTICAL ANALYSIS REPORT

Crossroad Investors TPM
Ranger Road
Fallbrook, California

County of San Diego TPM 20800

Prepared For

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1.0 EXECUTIVE SUMMARY

The proposed project, Crossroads Investors, County of San Diego TPM 20800, comprises the creation of four legal parcels from two existing parcels. The project site is located 300 feet north of Reche Road, adjacent to Ranger Road in the Community of Fallbrook. This project is subject to the policies of the Fallbrook Community Plan, in the County of San Diego, California. This analysis and report will focus on traffic noise impacts from Old Highway 395 and Interstate 15 on Parcels 1 through 4 of the proposed subdivision.

The present and future noise environment is primarily the result of automobile and truck traffic traveling on Old Highway 395, Interstate 15, and Reche Road. Ranger Road is considered to be an insignificant source of traffic noise and is excluded from traffic noise calculations. Currently, the calculated overall traffic noise level is approximately 68.0 Community Noise Equivalent Level (CNEL) at the northwestern property line fronting Old Highway 395. Without consideration of the proposed project development, the calculated future (year 2030) exterior traffic noise levels will increase to approximately 71.1 CNEL, 120 feet west of the eastern property line.

The noise regulations applicable to this project are found in the County of San Diego Noise Element to the General Plan. The regulations limit exterior noise impacts at residential outdoor use areas to 60 CNEL or less. Calculations show that future exterior traffic noise levels will not exceed the outdoor use noise limit at any of the four proposed outdoor use areas due to shielding provided by the conceptual two-story residential unit designs. Mitigation to reduce the overall exterior traffic noise within these areas is not necessary, given the current conceptual building layout.

Due to their proximity to Old Highway 395, Interstate 15, and to Reche Road, the two conceptual two-story, detached, residential units on Parcels 3 and 4 will be exposed to building facade noise levels exceeding 60 CNEL. Therefore, an exterior-to-interior analysis of the project building plans will be necessary to determine if enhanced building construction design consideration (i.e., enhanced glazing and exterior wall details) is needed to comply with the interior residential California Code of Regulations, Title 24, Noise Insulation Standards.

If the building envelopes of the preliminary grading plan were to be changed in the future, these recommendations would need to be re-evaluated at that time.

2.0 INTRODUCTION

This report is submitted to satisfy the County of San Diego acoustical analysis requirement for tentative parcel map approval. Its purpose is to assess future noise impacts from adjacent and nearby roadway vehicle traffic and other possible noise sources that may impact the proposed project. This study will determine if mitigation is necessary and feasible to reduce exterior noise levels to below 60 CNEL, the County of San Diego exterior residential land use noise limit. Feasibility of interior noise mitigation will also be addressed.

All noise level or sound level values presented herein are expressed in terms of decibels, with A-weighting to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ}, for a specified duration. The Community Noise Equivalent Level is a 24-hour average, where sound levels during evening hours of 7 p.m. to 10 p.m. have an added 5 dB weighting, and sound levels during nighttime hours of 10 p.m. to 7 a.m. have an added 10 dB weighting. Sound levels expressed in CNEL are always based on A-weighted decibels. This is similar to the Day-Night sound level, which is a 24-hour average with an added 10 dB weighting on the same nighttime hours, but no added weighting on the evening hours. These metrics are used to express noise levels for both measurement and municipal regulations, for land-use guidelines, and enforcement of noise ordinances. Some of the data may be presented as octave-band filtered sound levels. Further explanation can be provided upon request.

2.1 Project Location

The project site is located 300 feet north of Reche Road and adjacent to Ranger Road in the Community of Fallbrook, in the County of San Diego. The Assessor's parcel numbers for the property are 108-161-05-00 and 108-161-06-00. Parcels 1 through 4 vary in size from 1.66 to 4.37 net acres. The legal description of the project site is "Frontage on Ranger Road and Old Highway 395 portion of Monserate Rancho and portion of SW¼ of section 23, T9S, R2W, SBM"

The project location is shown on the Thomas Guide Map, Figure 1, following this report. An Assessor's Parcel Map, Satellite Aerial Photograph, and Topographic Map of this area are also provided as Figures 2, 3 and 4.

2.2 Project Description

The proposed project, known as Crossroads Investors TPM 20800, comprises the creation of four legal subdivision parcels from two existing parcels in the Community of Fallbrook, County of San Diego, California. Currently, there is one single-family residence, which will remain on what is identified as the Remainder Parcel of the subdivision. The proposed project does not include any improvements to existing single family home or the remainder parcel and therefore was not included in this analysis. The project site is currently zoned A70, Limited Agriculture.

3.0 ENVIRONMENTAL SETTING

3.1 Existing Noise Environment

The present noise environment is primarily the result of automobile and truck traffic traveling on Old Highway 395, Interstate 15 and Reche Road. Ranger Road is not identified on the SanDAG Traffic Forecast Series 10 website (http://pele.sandag.org/trfic30.html). This roadway is considered to be an insignificant source of traffic noise and is excluded from future traffic noise calculations.

Old Highway 395, adjacent to the project site to the west, is a two-lane, two-way, Collector in the County Circulation Element with a design speed of 55 mph. Currently, there are no gutters or sidewalks on either side of the street facing the project site. The paved roadway width is approximately 50 feet. The SanDAG Traffic Forecast 2000 Series 10 website (http://pele.sandag.org/trfic30.html) states the speed limit to be 50 mph. During the on-site inspection, average traffic speeds were estimated to be 50 mph on the section of the roadway adjacent to the project site. The section of Old Highway 395 in the vicinity of the project site currently carries a traffic volume of approximately 4,000 Average Daily Trips (ADT), according to the SanDAG Traffic Forecast 2000 website, referred by Nick Ortiz, Associate Transportation Specialist with the County of San Diego Public Works Department.

Interstate 15, located approximately 350 feet west of the project site, is a two-way highway with vehicles traveling north and south. The highway pavement width is approximately 60 feet each way. Average traffic speeds on the Interstate 15 were estimated to be 65 mph. The section of Interstate 15 facing the project site currently has a traffic volume of approximately 110,000 ADT both ways, according to Carlena Darrieulat, 2002 Traffic Volumes on California Highways, Caltrans District 11, Planning Division (619-220-7845).

Reche Road, located approximately 280 feet south of the project, is a two-lane, two-way, Rural Collector in the County Circulation Element with a design speed of 40 mph. There are currently no gutters or sidewalks on either side of the street facing the project site. The paved roadway width is approximately 32 feet. The SanDAG Traffic Forecast 2000 Series 10 website states the speed limit to be 45 mph. The section of Reche Road in the vicinity of the project site currently carries a traffic volume of approximately 6,000 ADT, according to the SanDAG Traffic Forecast 2000 Series 10 website.

Traffic volumes for the highway and roadway sections near the project site are shown in Table 1, on the following page. For more information, please refer to the Sound32 Data and Results provided in Appendix A.

Table 1. Overall Roadway Traffic Information				
Roadway Name	Speed Limit		Current ADT	Projected ADT
	Current	Future		
Old Highway 395	50 MPH	50 MPH	4,000	25,000
Interstate 15	65 MPH	65 MPH	110,000	232,000
Reche Road	45 MPH	45 MPH	6,000	13,000

3.1.1 Measured Noise Level

An on-site inspection and traffic noise measurement were made on Thursday, April 01, 2004. The weather was cloudy with winds from the southwest at 2 mph; the temperature was 73°F with moderate humidity. A "one-hour" equivalent noise measurement and traffic count was made approximately 5 feet west of the pavement edge of Old Highway 395. At this location, I-15 was not visible and had no noise impact due to intervening topography. Please refer to Figure 5 for the on-site noise measurement location. The microphone position was approximately 5 feet above the existing project site grade. Traffic volumes were recorded for automobiles, medium-size trucks, and large trucks during the measurement period. After a 15-minute sound level measurement, with no change in the L_{EQ}, results were recorded. The measured noise level was 73.6 dBA L_{EQ}. Table 2 provides a summary of the on-site traffic conditions and measured noise level. Please refer to Appendix A for complete on-site traffic noise conditions with noise level calculations and results.

Table 2. On-Site Noise Measurement	
Date	Thursday, April 1, 2004
Time	1:15 p.m. to 1:30 p.m.
Conditions	Cloudy, Winds from the Southwest @ 2 mph, Temperature 73°Fahrenheit, Moderate Humidity
Measured Noise Level	73.6 dBA L_{EQ}

A second on-site inspection and traffic noise measurement were made on Thursday, September 22, 2005 at 7:15 a.m. The weather was cloudy with winds from the west at 2-4 mph; the temperature was approximately 60°F with low humidity. A "one-hour" equivalent noise measurement and traffic count was made on Parcel 4, at a location 10 feet west of the eastern property line. At this location, there was a clear line of site to I-15, however, Old Highway 395 was not visible and had no noise impact location due to intervening topography. Please refer to Figure 5 for the on-site noise measurement location. The microphone position was approximately 5 feet above the existing project site grade. Traffic volumes were recorded for automobiles, medium-size trucks, and large trucks during the measurement period. After a 15-minute sound level measurement, with no change in the L_{EQ}, results were recorded. The measured noise level was 68.4 dBA L_{EQ}. Table 3 provides a summary of the on-site traffic conditions and measured

noise level. Please refer to Appendix A for complete on-site traffic noise conditions with noise level calculations and results.

Table 3. Second On-Site Noise Measurement	
Date	Thursday, September 22, 2005
Time	7:15 a.m. to 7:30 a.m.
Conditions	Cloudy, Winds from the West @ 2-4 mph, Temperature 60°Fahrenheit, Low Humidity
Measured Noise Level	68.4 dBA L_{EQ}

3.1.2 Calculated Noise Level

Noise levels were calculated for the site using the methodology described in section 4.1 of this report, for the locations, conditions, and traffic volumes counted during the on-site traffic noise measurement. The calculated noise level (L_{EQ}) was compared to the measured on-site noise level to determine if adjustments or corrections (calibration) should be applied to the traffic noise prediction model, Sound32. Adjustments are intended to account for site-specific differences, such as reflection and absorption, which may be greater or lesser than accounted for in the model.

The measured noise level of 73.6 dBA L_{EQ} at the first noise measurement location and 68.4 dBA L_{EQ} at the second noise measurement location was compared to the calculated (modeled) noise level of 73.7 dBA L_{EQ}, for first measurement location and 68.2 dBA L_{EQ}, for the second noise measurement location with the same conditions and traffic flow for both I-15 and Old Highway 395. No adjustment was deemed necessary to calculate future noise levels for this location. Please refer to Table 4 for a summary of these findings.

Table 3/4. Calculated Versus Measured Traffic Noise Data					
Noise Measurement Location	Roadway	Calculated	Measured	Difference	Correction
1	Old Highway 395	73.7 dBA L_{EQ}	73.6 dBA L_{EQ}	0.1 dB	None Applied
2	I-15	68.2 dBA L_{EQ}	68.4 dBA L_{EQ}	0.2 dB	None Applied

Truck percentages for the roadway sections of Interstate 15 were provided by Carlena Darrieulat, Caltrans District 11. The truck percentages used for Interstate 15 were 2.64% medium trucks and 5.36% heavy trucks. Truck percentages for the roadway sections of Old Highway 395 and Reche Road were not available. However, based on our professional experience and on-site observations, and estimates provided by Caltrans, the County of San Diego, and the

San Diego Association of Governments (SanDAG) for similar roads, a mix of 1.5% medium trucks and 0.5% heavy trucks was used for Old Highway 395. Truck percentages used for RecheRoad were 1.0% medium and 0.5% heavy.

Currently, the calculated overall traffic noise level is approximately 68.0 CNEL, 120 feet west of the eastern property line.

3.2 Future Noise Environment

The future on-site noise environment will be a result of vehicle traffic traveling on the same segment of Old Highway 395, Interstate 15 and Reche Road. Traffic predictions for the year 2030 on the Old Highway 395 and the Reche Road were obtained from SanDAG Traffic Forecast 2030 Series 10 website (http://pele.sandag.org/trfic30.html), recommended by Nick Ortiz, Associate Transportation Specialist for the San Diego County Department of Public Works Traffic. The Old Highway 395 is expected to reach 25,000 ADT. Traffic on Reche Road is expected to reach 13,000 ADT. Traffic predictions for the year 2030 on Interstate 15 were obtained from The County of San Diego Planning Department Scoping Letter, Dated October 29, 2004. Traffic on Interstate 15 is expected to reach 232,000 ADT. The same truck percentages from the existing traffic conditions were used for the future traffic modeling. The speed limits and roadways will remain the same. For further roadway details and projected future ADT traffic volumes, please refer to Appendix A: Sound32 Data and Results.

The calculated overall future traffic noise level is approximately 71.1 CNEL, 120 feet west of the eastern property line. Overall future noise contours at the subject property and the noise measurement location are shown in Figure 5.

4.0 METHODOLOGY AND EQUIPMENT

4.1 Methodology

4.1.1 Field Measurement

Typically, a one-hour sound level measurement (A-Weighted L_{EQ}) is recorded for at least one noise-sensitive location on the site. During the noise measurement, vehicle counts of cars, medium trucks (double-tires/two-axles), and heavy trucks (three or more axles) are made for the corresponding road segment. Supplemental sound measurements of one hour or less in duration are often made to further describe the noise environment of the site. For measurements of less than one hour duration, the measurement time is sufficient for the noise level to stabilize. The vehicle counts are converted to one-hour equivalent volumes. Other field data gathered includes distance measurements or estimations, angles of view, slopes, elevations, roadway grades, and vehicle speeds. These data are checked and compared with the available maps and records.

4.1.2 Roadway Noise Calculations

The Sound32 program, released by the California Department of Transportation, Division of New Technology, Materials, and Research, was used to calculate the future Hourly Noise Level

(HNL) at various locations at the project site. The average daytime HNL is computed with Sound32, using a daytime hourly average traffic volume of 0.058 times the ADT. This computation is based on the methodology developed in the Wyle Laboratories Study, which states that 87% of the traffic volume on an average roadway typically occurs between the hours of 7 a.m. and 10 p.m. The HNL is equivalent to the L_{EQ}, and both are converted to the CNEL by adding 2.0 decibels. Future CNEL values are calculated for desired receptor locations using future road alignment, elevations, lane configurations, projected traffic volumes, estimated truck mixes, and vehicle speeds. Noise attenuation methods may be tested and planned with Sound32, as required.

4.2 Equipment

Some or all of the following equipment was used at the site to measure existing noise levels:

- Larson Davis System 820 Integrating Sound Level Meter, Serial #0316
- Larson Davis Model CA200 Calibrator, Serial #0292
- Hand bearing magnetic compass, microphone with windscreen, tripods
- Distance measurement wheel, digital camera

The sound level meter was field-calibrated immediately prior to the noise measurement, and checked afterwards, to ensure accuracy. All sound level measurements conducted and presented in this report, in accordance with the regulations, were made with a sound level meter that conforms to the American National Standards Institute specifications for sound level meters (ANSI SI.4-1983 R2001). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

5.0 IMPACTS

5.1 Exterior

Without mitigation to the proposed project, the future exterior 70 CNEL noise contour will be located approximately 440 feet west of the Old Highway 395 centerline, essentially parallel with the eastern property line. The future 65 CNEL contour will be located approximately 540 feet west of the Old Highway 395 centerline and the future 60 CNEL contour will be located approximately 640 feet south of the Old Highway 395 centerline. Please see Figure 5, showing the location of the future traffic noise contours and noise measurement locations.

The County of San Diego's Noise Element to the General Plan (Policy 4b, VIII-20, County of San Diego, December 17, 1980) states that the limit for outdoor noise at a first level receiver located in the center of a parcel in residential areas is 60 CNEL. Future unmitigated first and second level noise impacts at the center of each parcel will range from 72.1 CNEL at the second level center of Parcel 4 to 55.0 CNEL at the first level center of Parcel 2. The proposed project does not include any improvements to existing single family home or the remainder parcel and therefore was not included in this analysis. Please refer to Table 5 showing future exterior CNEL at outdoor use areas.

Table 5. Future Traffic CNEL at First and Second Level Parcel Centers				
Receiver Number	**Receiver Location**	**Level**	**Traffic Noise Level (dBA Leq)**	**Equivalent Traffic Noise Level (CNEL)**
R-1	Parcel 4	1st	62.8	64.8
R-2	Parcel 3	1st	58.0	60.0
R-3	Parcel 2	1st	53.0	55.0
R-4	Parcel 1	1st	54.0	56.0
R-5	Parcel 4	2nd	70.1	72.1
R-6	Parcel 3	2nd	60.1	62.1
R-7	Parcel 2	2nd	53.6	55.6
R-8	Parcel 1	2nd	54.5	56.5

5.2 Interior

The proposed conceptual two-story homes on Parcels 1 and 2 will be impacted by substantially lower traffic noise impacts due to their distance from Old Highway 395 and Interstate 15. These homes will be exposed to future exterior building facade noise levels below 60 CNEL. The proposed two-story homes on Parcels 3 and 4, will be subjected to future exterior building facade noise levels exceeding 60 CNEL. The State of California and the County of San Diego Building Codes require that interior noise levels of new residential space be 45 CNEL or less, and that an exterior-to-interior acoustical analysis be conducted for projects exposed to exterior noise levels in excess of 60 CNEL. Mitigation for roadway-facing rooms on Parcels 3 and 4 may be necessary. An exterior-to-interior acoustical analysis will be necessary for Parcels 3 and 4 at the time final building plans become available to determine if special design consideration (i.e. enhanced window glazing and mechanical ventilation) is needed in order to achieve and maintain the noise attenuation necessary to comply with applicable interior building code standards.

5.3 Project Related Exterior Noise Impacts

5.3.1 Project Related Construction Noise Impacts

Section 36.410 (b) of the County of San Diego Noise Ordinance states that construction equipment shall not be operated so as to cause noise at a level in excess of 75 dBA for more than 8 hours during any 24-hour period, when measured at the property lines. The County of San Diego Noise Specialist, John Bennett, has requested that this regulation be interpreted as follows: the average eight-hour equivalent noise level of the construction equipment shall not exceed 75 dBA. Please refer to Appendix B: Section 36.410 (b) of the County of San Diego Noise Ordinance.

Details of the anticipated grading operations and schedule are outlined in a questionnaire from Patrick Harrison, Project Civil Engineer, which is included in Appendix C. The grading

operations for this project will involve the on-site handling of approximately 15,000 cubic yards of soil. There are no anticipated large rocks on the site and, therefore, no blasting, excavators, rams, or other means will be employed for rock removal. For further details on Construction Equipment Noise Levels refer to Appendix D.

Table 6. Construction Equipment Noise Levels			
Equipment item	**Range of Noise Level at 50 feet**	**Nominal Noise Level, Leq, at 50 feet**	**Height of Noise Source**
Dozers (Bull)	72 to 96 dBA	86 dBA	12 feet
Front Loaders, 300 HP	71 to 96 dBA	82 dBA	12 feet
Trucks	73 to 95 dBA	85 dBA	8 feet
Water Trucks	76 to 85 dBA	80, 82 dBA	**

Construction activities shall be limited to the following hours: 7 a.m. to 7 p.m., Monday through Friday (except legal holidays), and 7 a.m. to 6 p.m. on Saturday. There will be no construction activity on Sunday. Fences and gates will be installed as a control feature to limit after hours access to the construction site.

According to a letter, dated October 3, 2005, from Devin Beale, Project Manger for Crossroads Investors, the required open space easement exhibit for this project has been temporary waived by County of San Diego officials, and the project developer will provide this exhibit at time of building permit application. For further details on this correspondence please refer to Appendix E: Correspondences from Devin Beale. Therefore, indirect biological noise effects from project related construction cannot be analyzed at this time.

5.3.2 Project Related Traffic Noise Impacts

According to a letter, dated September 29, 2005, from Devin Beale, Project Manger for Crossroads Investors, the traffic report for this project has been waived by County of San Diego officials, and the project developer will pay the San Diego County T.I.F upon building permit issuance. For further details on this correspondence please refer to Appendix E: Correspondences from Devin Beale. Therefore, noise impacts from project related traffic can not be analyzed at this time.

For the purposes of this noise analysis the project related traffic was assumed to be 10 ADT per proposed single family residence, in total the project related traffic is therefore assumed to be 40 ADT. The project related traffic was added to the current and future traffic volumes for Old Highway 395. Calculations show that the net change in CNEL conditions is negligible, results are presented in Table 7.

Table 7: Current and Future Traffic Volumes Including Project Related Traffic and Net Changes to CNEL Conditions				
Year	Non-Project Related Traffic Volumes (ADT)	Project Related Traffic Volume (ADT)	Commutative Traffic Volume (ADT)	Net Change in CNEL Conditions
Current (2000)	4,000	40	4,040	0.0
Future (2030)	25,000	40	25,040	0.0

6.0 MITIGATION

6.1 Exterior

Future traffic noise calculations, with mitigation in the form of the four conceptual building layouts of the proposed two-story residential homes, show that the first level center of pads of Parcels 1 through 4 will be adequately shielded by the proposed buildings and will be exposed to future noise levels below 60 CNEL, reaching a maximum of 54.2 CNEL. The County of San Diego's Noise Element to the General Plan (Policy 4b, VIII-20, County of San Diego, December 17, 1980) states that the limit for outdoor noise in residential areas is 60 CNEL. The first level center of pads of each Parcel are thus in compliance with the exterior noise limit for new residential developments proposed within the County of San Diego. If the preliminary grading plan layout of the building envelopes were to be changed in the future, traffic noise impacts to the first level center of each parcel would need to be re-evaluated at that time. Please refer to Table 7/8: Future Traffic CNEL at First Level of Each Parcel with Conceptual Buildings.

Table 7/8: Future Traffic CNEL at First Level Center of Pads with Conceptual Buildings				
Receiver Number	Level	Receiver Location	Traffic Noise Level (dBA Leq)	Equivalent Traffic Noise Level (CNEL)
R-1	1st	Parcel 4	52.2	54.2
R-2	1st	Parcel 3	50.6	52.6
R-3	1st	Parcel 2	48.9	50.9
R-4	1st	Parcel 1	47.3	49.3

6.2 Interior

A proposed two-story, detached home will be located on Parcels 1, 2, 3, and 4. Calculations show that once the proposed buildings are constructed on Parcels 1 through 4, overall traffic noise level impacts to the first and second level centers of each parcel will range from 73.4 CNEL at the second level eastern building facade on Parcel 4 to 49.3 CNEL at the first level western facade of the building on Parcel 1. West-facing facades will be shielded from roadway noise and will be exposed to substantially lower levels of exterior noise. Due to their proximity to Old Highway 395, Interstate 15 and Reche Road, the proposed residential units on Parcel 3 and 4 will be exposed to exterior building facade noise levels exceeding 60 CNEL.

Therefore, at the time building plans are complete, an exterior-to-interior analysis of the proposed residential floor plans will be necessary for Parcels 3 and 4 to determine if enhanced design consideration (i.e., enhanced glazing and exterior wall details) is needed to comply with the interior residential California Code of Regulations, Title 24, Noise Insulation Standards.

7.0 CERTIFICATION

The findings and recommendations of this acoustical analysis report are based on the information available and represent a true and factual analysis of the potential acoustical issues associated with the proposed Crossroads Investor tentative parcel map subdivision (TPM 20800). This report was prepared by Ian Brewe, Jessica Rasmussen, Emmet Aquino, Michael Burrill, and Douglas Eilar.

Ian Brewe, Acoustical Consultant

Douglas Eilar, Principal

8.0 REFERENCES

1. California Department of Transportation, Sound32 Traffic Noise Model.

2. County Code of Regulatory Ordinances, Section 36.410

3. County of San Diego Noise Element to the General Plan.

4. Heeden, Robert A., *Compendium of Materials for Noise Control*, U.S. Department of Health, Education and Welfare, National Institute for Occupational Safety and Health, November 1978.

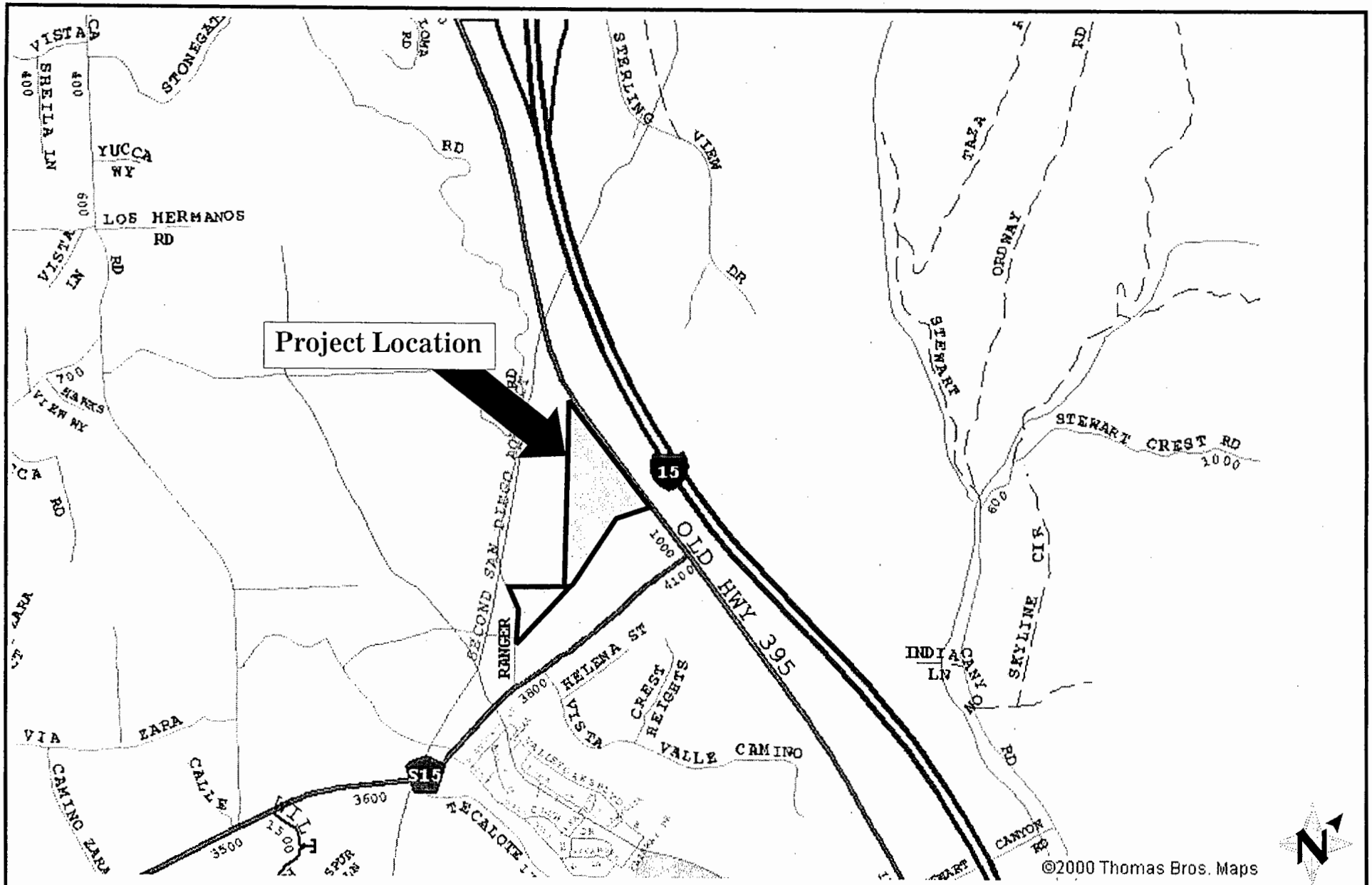
5. NBS Building Sciences Series 77, *Acoustical and Thermal Performance on Exterior Residential Walls*, U.S. Department of Commerce/National Bureau of Standards, November 1976.

6. SanDAG, Regional Transportation Internet Sites (traffic counts and projections).

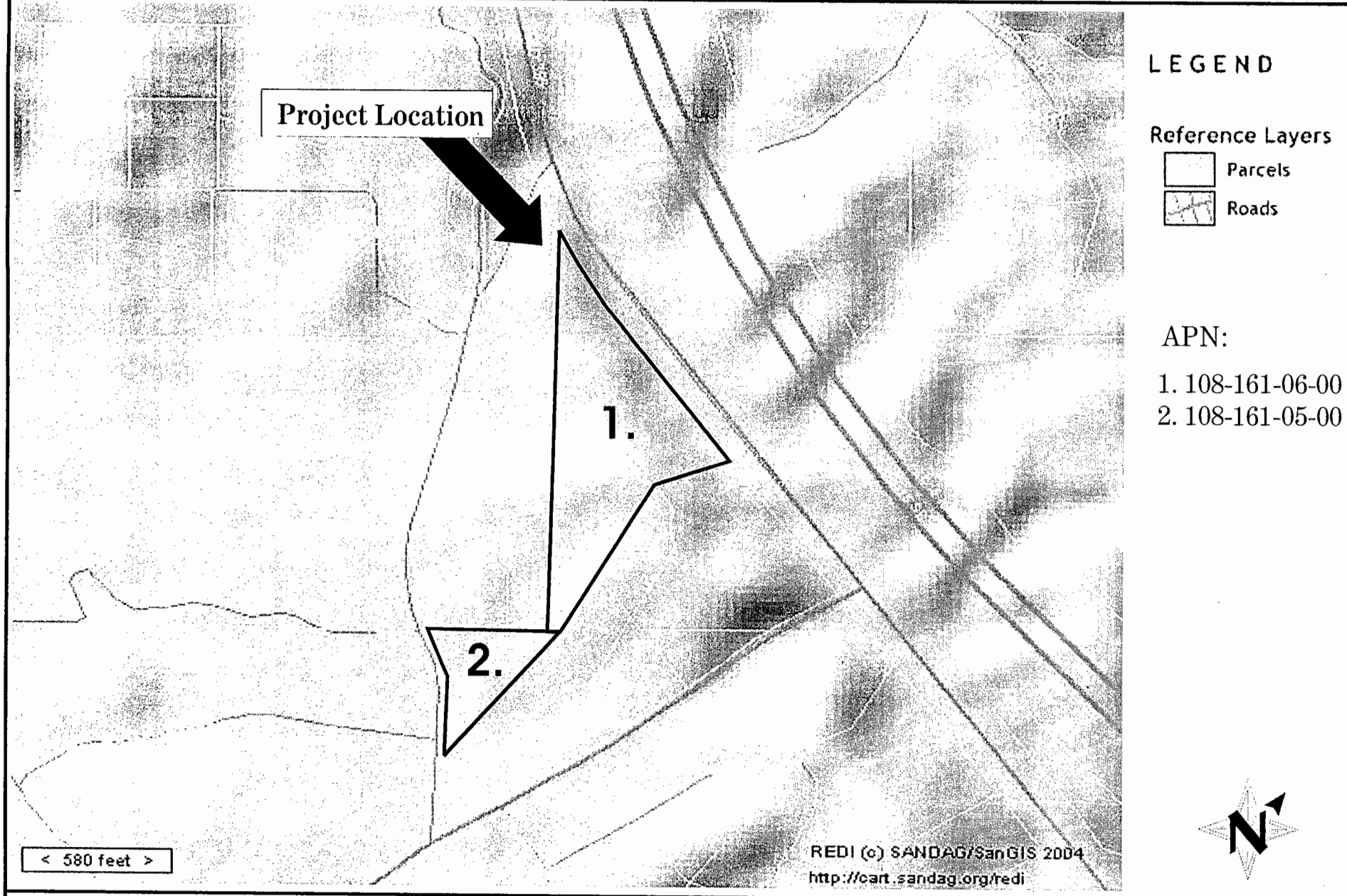
7. Wyle Laboratories, *Development of Ground Transportation Systems Noise Contours for the San Diego Region*, December 1973.

8. 2001 California Noise Insulation Standards, effective 11/01/02, Based on 1997 Uniform Building Code, California Code of Regulations, Title 24.

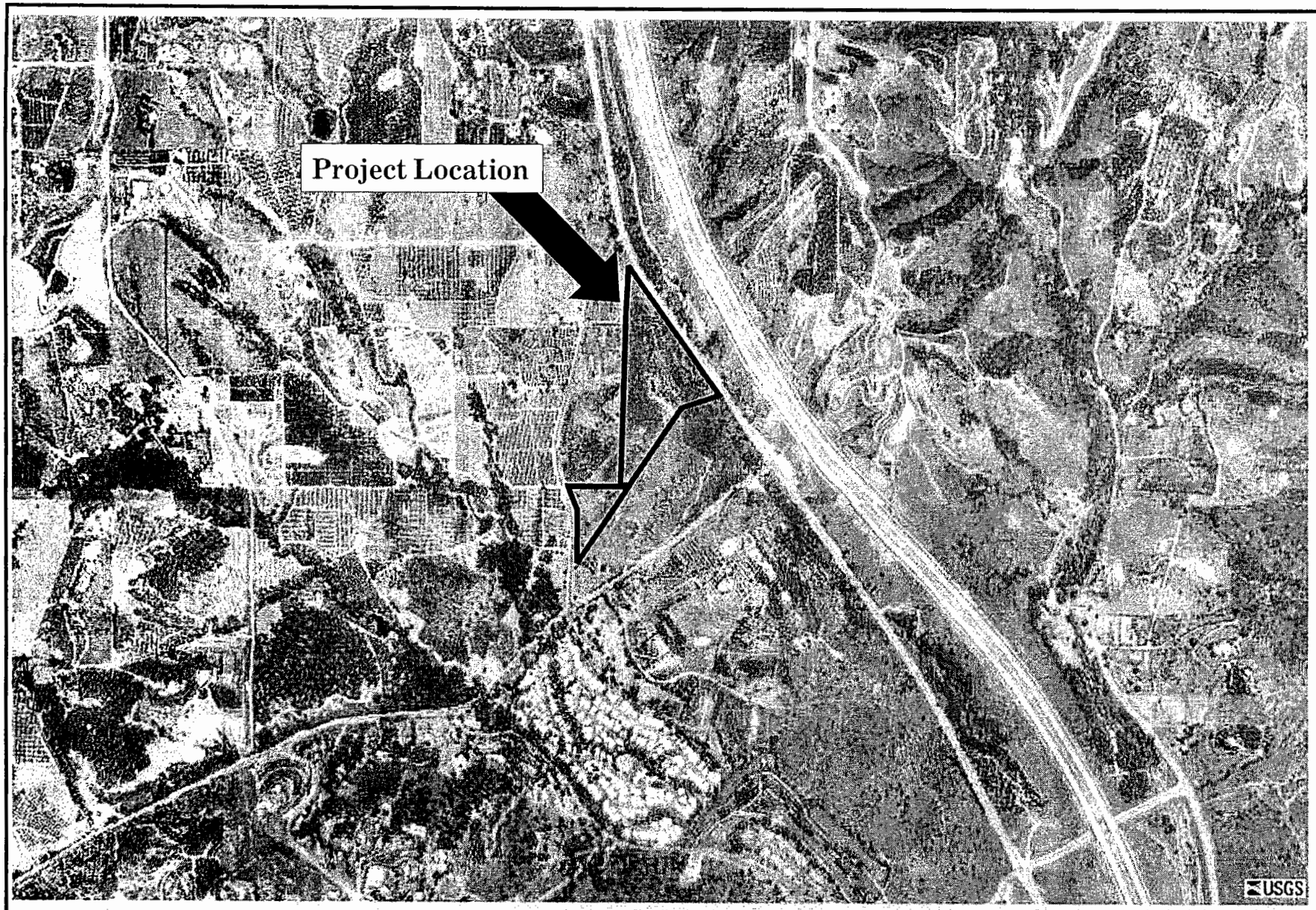
FIGURES



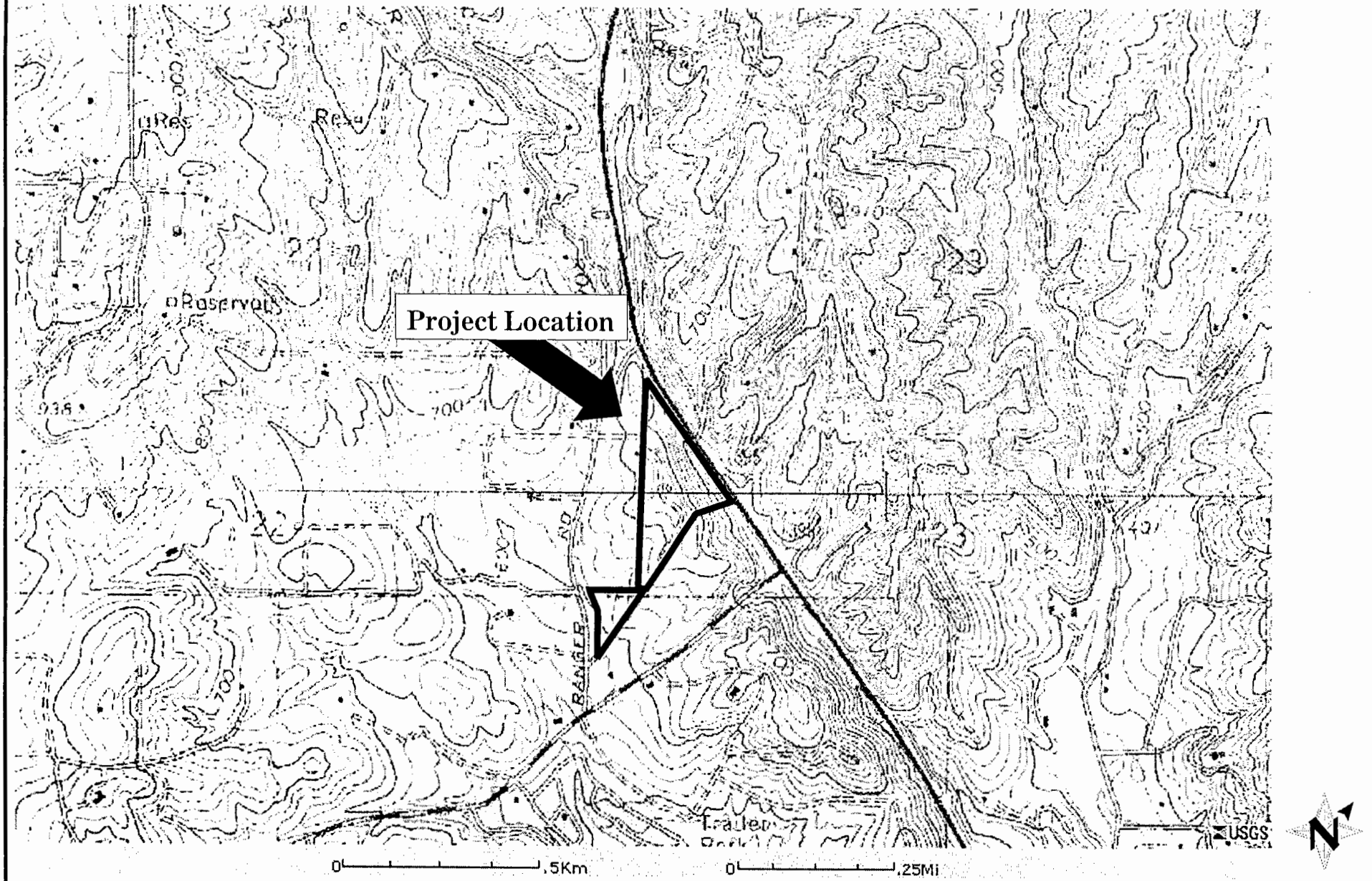
Eilar Associates 539 Encinitas Boulevard, Suite 206 Encinitas, California 92024 760-753-1865	Thomas Guide Map Project # A40314	Figure 1



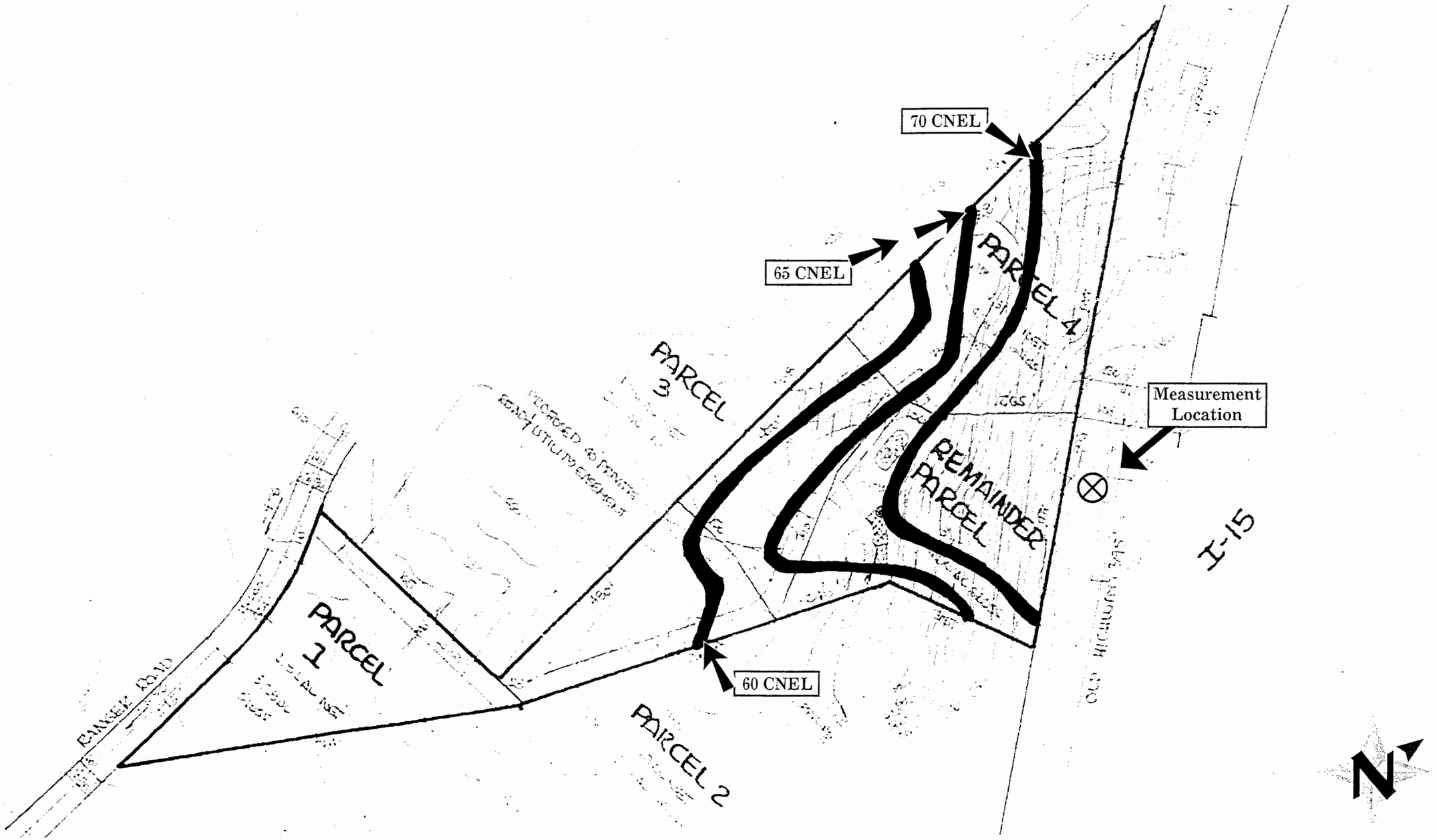
Eilar Associates 539 Encinitas Boulevard, Suite 206 Encinitas, California 92024 760-753-1865	Assessor's Parcel Map Project # A40314	Figure 2



Eilar Associates 539 Encinitas Boulevard, Suite 206 Encinitas, California 92024 760-753-1865	Satellite Aerial Photograph Project # A40314	Figure 3

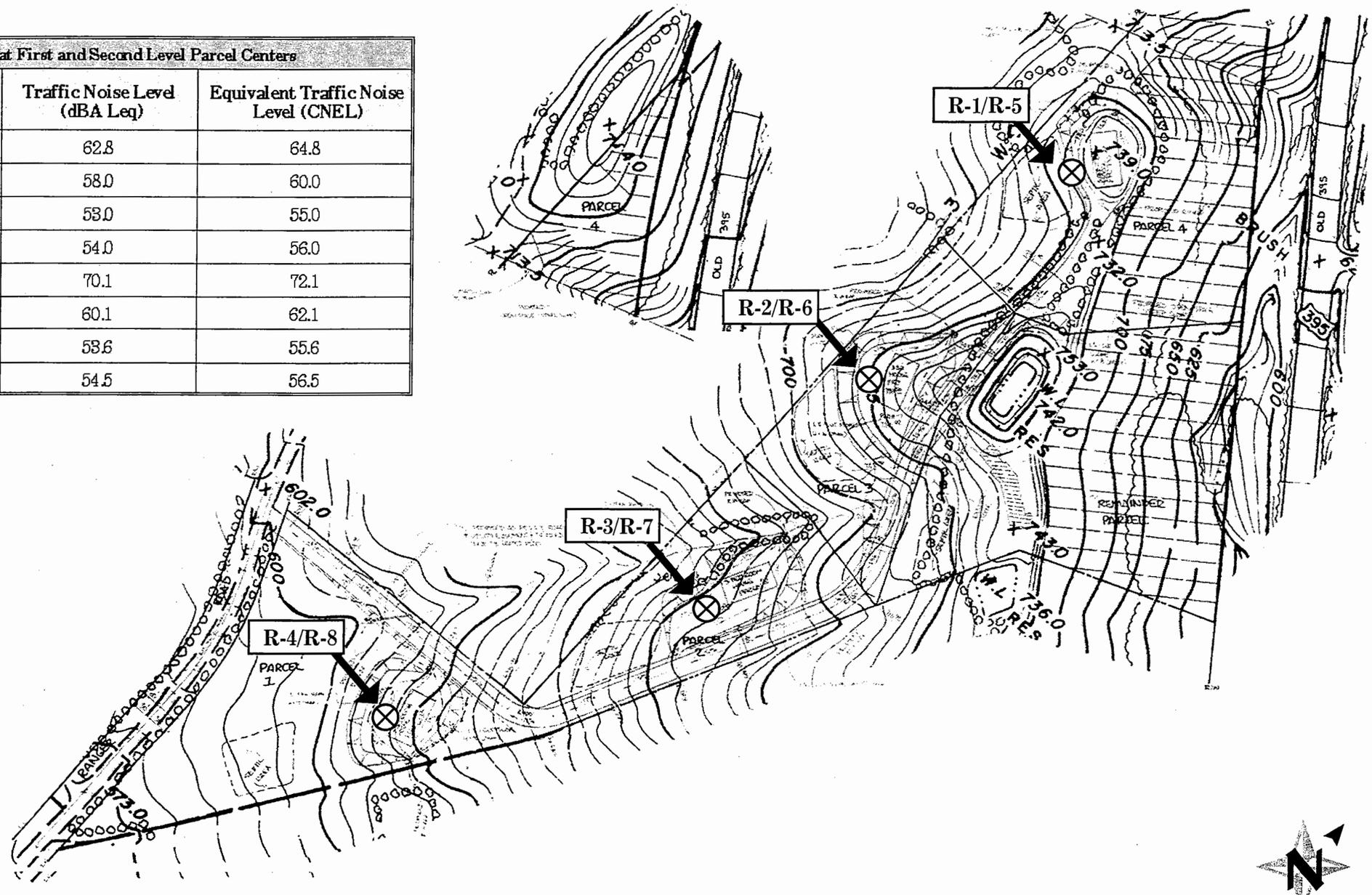


Eilar Associates **539 Encinitas Boulevard, Suite 206** **Encinitas, California 92024** **760-753-1865**	**Topographic Map** **Project # A40314**	**Figure 4**



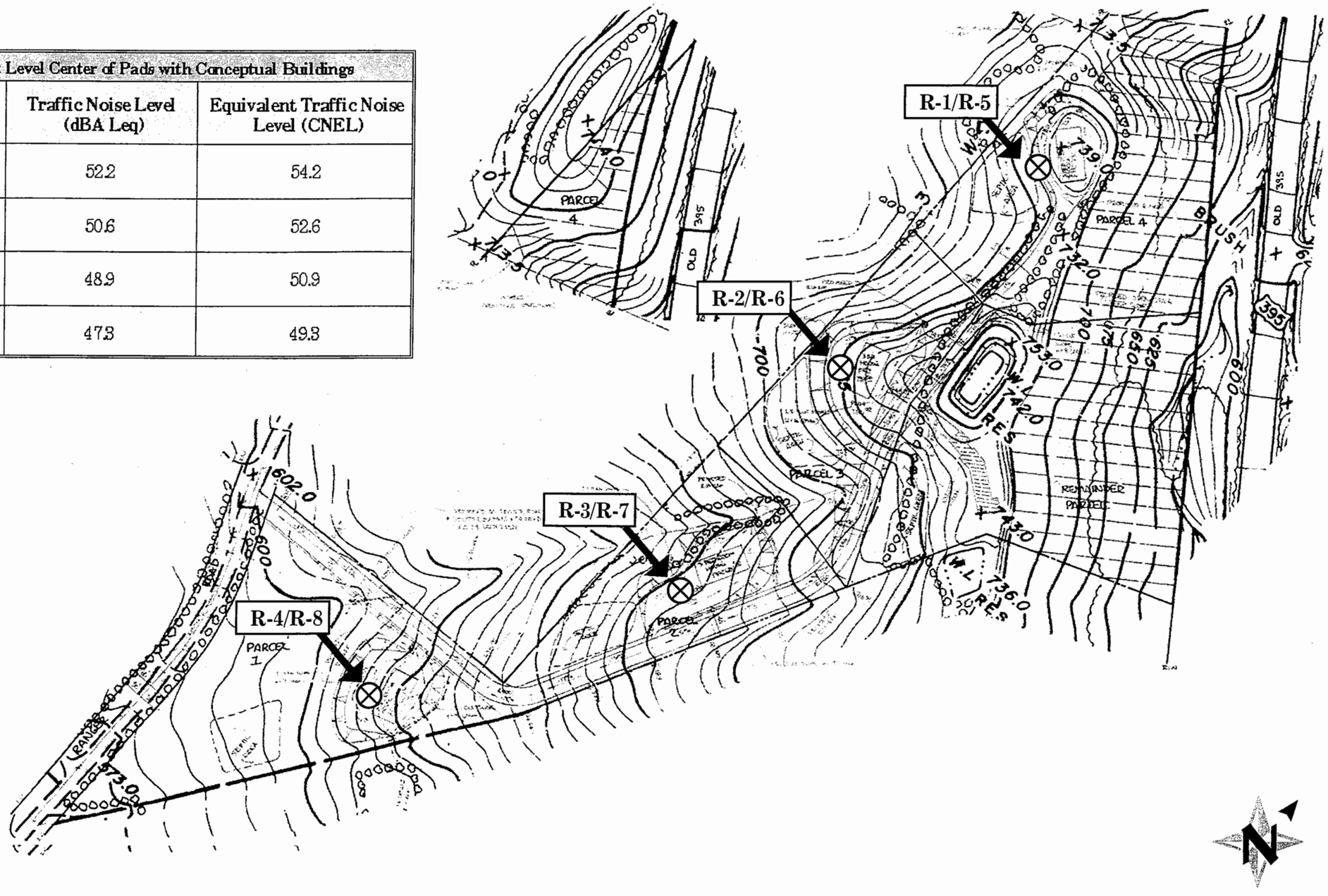
Eilar Associates 539 Encinitas Boulevard, Suite 206 Encinitas, California 92024 760-753-1865	Tentative Parcel Map Showing Future Traffic CNEL Contours and Noise Measurement Location Job # A40314	Figure 5

Future Traffic CNEL at First and Second Level Parcel Centers				
Receiver Number	Receiver Location	Level	Traffic Noise Level (dBA Leq)	Equivalent Traffic Noise Level (CNEL)
R-1	Parcel 4	1st	62.8	64.8
R-2	Parcel 3	1st	58.0	60.0
R-3	Parcel 2	1st	53.0	55.0
R-4	Parcel 1	1st	54.0	56.0
R-5	Parcel 4	2nd	70.1	72.1
R-6	Parcel 3	2nd	60.1	62.1
R-7	Parcel 2	2nd	53.6	55.6
R-8	Parcel 1	2nd	54.5	56.5



Eilar Associates 539 Encinitas Boulevard, Suite 206 Encinitas, California 92024 760-753-1865	Preliminary Grading Plan Showing Unmitigated Future Traffic CNEL at First and Second Level Parcel Centers Job # A40314N2	Figure 6

Future Traffic CNEL at First Level Center of Pads with Conceptual Buildings				
Receiver Number	Level	Receiver Location	Traffic Noise Level (dBA Leq)	Equivalent Traffic Noise Level (CNEL)
R-1	1st	Center of Parcel 4	52.2	54.2
R-2	1st	Center of Parcel 3	50.6	52.6
R-3	1st	Center of Parcel 2	48.9	50.9
R-4	1st	Center of Parcel 1	47.3	49.3



Eilar Associates **539 Encinitas Boulevard, Suite 206** **Encinitas, California 92024** **760-753-1865**	**Preliminary Grading Plan Showing Future Mitigated Traffic CNEL at First Level Parcel Centers** **Job # A40314N2**	**Figure 7**

APPENDIX A

Sound32 Data and Results

Sound 32 Data and Results

Crossroads Investors TPM

Original Site Visit

On-Site Noise Measurement Conditions and Results	
Date	Thursday, April 1, 2004
Time	1:15 p.m. - 1:30 p.m.
Conditions	Cloudy, Winds from the Southwest @ 2 mph, Temperature 73°Fahrenheit, Moderate Humidity
Location 1 - Measured Noise Level	73.6 dBA L_{EQ}

Traffic Count During On-Site Noise Measurement						
Roadway		Duration	Autos	Medium	Heavy	Totals
Old Highway 395 Northbound	Measured	15 Min.	26	0	0	26
	Overall	60 Min.	104	0	0	104
Old Highway 395 Southbound	Measured	15 Min.	38	1	2	41
	Overall	60 Min.	152	4	8	164

Second Site Visit

Second On-Site Noise Measurement Conditions and Results	
Date	Thursday, September 22, 2005
Time	7:15 a.m. - 7:30 a.m.
Conditions	Cloudy, Winds from the West @ 2-4 mph, Temperature 60°Fahrenheit, Moderate Humidity
Location 2 - Measured Noise Level	68.4 dBA L_{EQ}

Traffic Count During On-Site Noise Measurement						
Roadway		Duration	Autos	Medium	Heavy	Totals
I-15 Northbound	Measured	15 Min.	666	36	78	780
	Overall	60 Min.	2664	144	312	3120
I-15 Southbound	Measured	15 Min.	1,031	72	87	1190
	Overall	60 Min.	4124	288	348	4760

Noise Level Comparison Using Traffic Model versus On-Site Noise Measurement Location 1				
Roadway	Model	Measured	Difference	Correction
Old Highway 395 and I-15	73.7 dBA L_{EQ}	73.6 dBA L_{EQ}	0.1 dB	none

Noise Level Comparison Using Traffic Model versus On-Site Noise Measurement Location 2				
Roadway	Model	Measured	Difference	Correction
I-15 and Old Highway 395	68.4 dBA L_{EQ}	68.2 dBA L_{EQ}	0.2 dB	none

Current Traffic Reference Information

Caltrans District 11; Planning Department
Carlena Darrieulat; 619-688-6815
- Interstate 15; between Stewart Canyon Road and East Mission Road
  2002 Traffic Volumes on California Highways & District 11 Caltrans; Transportation Division

County of San Diego; Public Works Department
Nick Ortiz; 858-874-4204
- Old Highway 395; between Stewart Canyon Road & East Mission Road
  SanDAG Traffic Forecast 2000 Series 10
- Reche Road ; between Old Highway 395 & Gird Road
  SanDAG Traffic Forecast 2000 Series 10

Future Traffic Reference Information

Caltrans District 11; Planning Department
Carlena Darrieulat; 619-688-6815
- Interstate 15; between Stewart Canyon Road and East Mission Road
  SanDag / Planning GIS Modeling System (2030)

County of San Diego; Public Works Department
Nick Ortiz; 858-874-4204
- Old Highway 395; between Stewart Canyon Road & East Mission Road

SanDAG Traffic Forecast 2030 Series 10

- Reche Road ; between Old Highway 395 & Gird Road
  SanDAG Traffic Forecast 2030 Series 10

Overall Traffic Information				
Roadway Name	Speed Limit		Current ADT	Future (2030) ADT
	Current	Future		
Old Highway 395 North Bound	50	50	2,000 ADT	12,500 ADT
Old Highway 395 South Bound	50	50	2,000 ADT	12,500 ADT
Interstate 15 North Bound	65	65	53,000 ADT	119,000 ADT
Interstate 15 South Bound	65	65	57,000 ADT	113,000 ADT
Reche Road	45	45	6,000 ADT	13,000 ADT

Future (2030) Traffic Conditions					
Roadway Name	Condition	Total % ADT	Autos (Hourly)	Medium (Hourly)	Heavy (Hourly)
Old Highway 395 North Bound	Future	100	98.0%	1.5%	0.5%
		12,500	710	10	3
Old Highway 395 South Bound	Future	100	98.0%	1.5%	0.5%
		12,500	710	10	3
Interstate 15 North Bound	Future	100	92.0%	2.64%	5.36%
		119,000	6349	182	369
Interstate 15 South Bound	Future	100	92.0%	2.64%	5.36%
		113,000	6029	173	351
Reche Road	Future	100	98.5%	1.0%	0.5%
		13,000	742	7	3

****

SOUND32 PROGRAM DATA FOR CALTRANS VERSION OF STAMINA2/OPTIMA

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Calculated versus Measured On-Site Traffic Noise Data

* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : MEASIRB.TXT
BARRIER COST FILE : CALIF$.DTA
DATE : 09-26-2005

CROSSROADS INVESTOR - PAT HARRISON - irb

TRAFFIC DATA

LANE NO.	AUTO VPH	AUTO MPH	MEDIUM TRKS VPH	MEDIUM TRKS MPH	HEAVY TRKS VPH	HEAVY TRKS MPH	DESCRIPTION
1	152	55	4	55	8	55	OLD HIGHWAY 395 S.B.
2	104	55	0	50	0	50	OLD HIGHWAY 395 N.B.
3	4122	65	288	65	348	65	INTERSTATE 15 S.B.
4	2664	65	144	65	312	65	INTERSTATE 15 N.B.

LANE DATA

LANE NO.	SEG. NO.	GRADE COR.	X	Y	Z	SEGMENT DESCRIPTION
1	1	YES	84.0	-300.0	610.0	L1 P1
	2	YES	83.0	-150.0	610.0	L1 P2
	3	YES	84.0	0.0	610.0	L1 P3
	4	YES	84.0	200.0	610.0	L1 P4
	5	YES	86.0	600.0	610.0	L1 P5
	6	YES	89.0	800.0	620.0	L1 P6
	7	YES	94.0	1000.0	620.0	L1 P7
	8	YES	114.0	1200.0	620.0	L1 P8
	9	YES	154.0	1400.0	620.0	L1 P9
	10	YES	212.0	1600.0	620.0	L1 P10
			462.0	2200.0	620.0	L1 P11
2	1	YES	96.0	-300.0	605.0	L2 P1
	2	YES	95.0	-150.0	610.0	L2 P2
	3	YES	96.0	0.0	610.0	L2 P3
	4	YES	96.0	200.0	610.0	L2 P4
	5	YES	98.0	600.0	610.0	L2 P5
	6	YES	101.0	800.0	620.0	L2 P6
	7	YES	106.0	1000.0	620.0	L2 P7
	8	YES	126.0	1200.0	620.0	L2 P8

	9	YES	166.0	1400.0	620.0	L2	P9
	10	YES	224.0	1600.0	625.0	L2	P10
			474.0	2200.0	625.0	L2	P11
3	1	NO	355.0	-300.0	660.0	L3	P1
	2	NO	360.0	-150.0	660.0	L3	P2
	3	NO	370.0	0.0	660.0	L3	P3
	4	NO	385.0	200.0	660.0	L3	P4
	5	NO	430.0	600.0	660.0	L3	P5
	6	NO	465.0	800.0	670.0	L3	P6
	7	NO	500.0	1000.0	670.0	L3	P7
	8	NO	540.0	1200.0	680.0	L3	P8
	9	NO	590.0	1400.0	680.0	L3	P9
			887.0	2075.0	740.0	L3	P10
4	1	NO	490.0	-300.0	660.0	L4	P1
	2	NO	492.0	-150.0	660.0	L4	P2
	3	NO	505.0	0.0	660.0	L4	P3
	4	NO	505.0	200.0	660.0	L4	P4
	5	NO	560.0	600.0	660.0	L4	P5
	6	NO	585.0	800.0	670.0	L4	P6
	7	NO	620.0	1000.0	670.0	L4	P7
	8	NO	672.0	1200.0	680.0	L4	P8
	9	NO	705.0	1400.0	680.0	L4	P9
			1003.0	2075.0	740.0	L4	P10

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BARRIER DATA

Barrier No. 1 Description: BERM PARALLEL TO OLD HIGHWAY
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)		BARRIER HEIGHTS AT ENDS
1	78.0	-300.0	0.0	609.5	*B1 P1	* %610
2	77.0	-150.0	0.0	609.5	*B1 P2	* %610
3	78.0	0.0	0.0	609.5	*B1 P3	* %610
4	78.0	200.0	0.0	609.5	*B1 P4	* %610
5	80.0	600.0	0.0	609.5	*B1 P5	* %610
6	83.0	800.0	0.0	619.5	*B1 P6	* %620
7	88.0	1000.0	0.0	619.5	*B1 P7	* %620
8	108.0	1200.0	0.0	619.5	*B1 P8	* %620
9	148.0	1400.0	0.0	619.5	*B1 P9	* %620
10	206.0	1600.0	0.0	619.5	*B1 P10	* %620
	456.0	2200.0	0.0	619.5	*B1 P11	* %620

Barrier No. 2 Description: BERM PARALLEL TO I-15
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)		BARRIER HEIGHTS AT ENDS
1	315.0	-300.0	0.0	660.0	*B2 P1	* %660
2	320.0	-150.0	0.0	660.0	*B2 P2	* %660
3	330.0	0.0	0.0	660.0	*B2 P3	* %660

4	345.0	200.0	0.0	660.0 *B2 P4	* %660
5	390.0	600.0	0.0	660.0 *B2 P5	* %660
6	425.0	800.0	0.0	670.0 *B2 P6	* %670
7	460.0	1000.0	0.0	670.0 *B2 P7	* %670
8	500.0	1200.0	0.0	680.0 *B2 P8	* %680
9	550.0	1400.0	0.0	680.0 *B2 P9	* %680
	847.0	2075.0	0.0	740.0 *B2 P10	* %740

Barrier No. 3 Description: 640 BERM PARALLEL TO I-15 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	320.0	40.0	0.0	640.0 *B3 P1	* %640
2	250.0	40.0	0.0	640.0 *B3 P2	* %640
3	210.0	115.0	0.0	640.0 *B3 P3	* %640
4	230.0	200.0	0.0	640.0 *B3 P4	* %640
5	350.0	310.0	0.0	640.0 *B3 P5	* %640
6	350.0	360.0	0.0	640.0 *B3 P6	* %640
7	230.0	370.0	0.0	640.0 *B3 P7	* %640
8	305.0	635.0	0.0	640.0 *B3 P8	* %640
9	280.0	680.0	0.0	640.0 *B3 P9	* %640
	430.0	850.0	0.0	640.0 *B3 P10	* %640

Barrier No. 4 Description: 640 BERM PARALLEL TO I-15 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	455.0	1020.0	0.0	640.0 *B4 P1	* %640
2	340.0	990.0	0.0	640.0 *B4 P2	* %640
3	370.0	1330.0	0.0	640.0 *B4 P3	* %640
4	405.0	1390.0	0.0	640.0 *B4 P4	* %640
	405.0	1590.0	0.0	640.0 *B4 P5	* %640

Barrier No. 5 Description: 640 BERM PARALLEL TO O.HWY (3)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	120.0	785.0	0.0	640.0 *B5 P1	* %640
2	150.0	1000.0	0.0	640.0 *B5 P2	* %640
3	185.0	1200.0	0.0	640.0 *B5 P3	* %640
4	240.0	1400.0	0.0	640.0 *B5 P4	* %640
	330.0	1600.0	0.0	640.0 *B5 P5	* %640

Barrier No. 6 Description: BERM PARALLEL TO RECHE RD
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-750.0	0.0	560.0 *B6 P1	* %560
2	-222.0	-740.0	0.0	600.0 *B6 P2	* %600
3	-475.0	-755.0	0.0	640.0 *B6 P3	* %640
4	-855.0	-775.0	0.0	600.0 *B6 P4	* %600
5	-1260.0	-800.0	0.0	600.0 *B6 P5	* %600
6	-1620.0	-790.0	0.0	600.0 *B6 P6	* %600
	-1930.0	-770.0	0.0	600.0 *B6 P7	* %600

Barrier No. 7 Description: BERM PARALLEL TO PARCEL 4&R.P.
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-400.0	0.0	580.0 *B7 P1	* %580
2	0.0	-200.0	0.0	590.0 *B7 P2	* %590
3	0.0	0.0	0.0	600.0 *B7 P3	* %600
4	0.0	200.0	0.0	600.0 *B7 P4	* %600
5	0.0	400.0	0.0	600.0 *B7 P5	* %600
6	0.0	600.0	0.0	650.0 *B7 P6	* %650
7	0.0	800.0	0.0	665.0 *B7 P7	* %665
8	20.0	1000.0	0.0	710.0 *B7 P8	* %710
9	20.0	1200.0	0.0	710.0 *B7 P9	* %710
	310.0	2200.0	0.0	740.0 *B7 P10	* %740

Barrier No. 8 Description: BERM 725
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-270.0	0.0	0.0	725.0 *B8 P1	* %725
2	-267.0	80.0	0.0	725.0 *B8 P2	* %725
3	-273.0	200.0	0.0	725.0 *B8 P3	* %725
4	-234.0	400.0	0.0	725.0 *B8 P4	* %725
5	-190.0	600.0	0.0	725.0 *B8 P5	* %725
6	-160.0	727.0	0.0	725.0 *B8 P6	* %725
	-218.0	770.0	0.0	725.0 *B8 P7	* %725

Barrier No. 9 Description: BERM PAD ON PAR 4
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-235.0	746.0	0.0	733.0 *B9 P1	* %733
2	-178.0	708.0	0.0	733.0 *B9 P2	* %733
3	-190.0	630.0	0.0	733.0 *B9 P3	* %733
	-223.0	613.0	0.0	733.0 *B9 P4	* %733

Barrier No. 10 Description: BERM PAD ON PAR 3
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-548.0	375.0	0.0	730.0	*B10 P1 * %730
2	-430.0	400.0	0.0	730.0	*B10 P2 * %730
	-493.0	226.0	0.0	730.0	*B10 P3 * %730

Barrier No. 11 Description: BERM PAD ON PAR 2
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-760.0	134.0	0.0	680.0	*B11 P1 * %680
2	-665.5	185.0	0.0	680.0	*B11 P2 * %680
3	-650.0	0.0	0.0	680.0	*B11 P3 * %680
	-780.0	-103.0	0.0	680.0	*B11 P4 * %680

Barrier No. 12 Description: BERM PAD ON PAR 1 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-1270.0	-302.0	0.0	622.0	*B12 P1 * %622
2	-1238.0	-180.0	0.0	622.0	*B12 P2 * %622
	-1176.0	-180.0	0.0	622.0	*B12 P3 * %622

Barrier No. 13 Description: BERM PAD ON PAR 1 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-1152.0	-180.0	0.0	622.0	*B13 P1 * %622
2	-1140.0	-230.0	0.0	622.0	*B13 P2 * %622
	-1179.0	-300.0	0.0	622.0	*B13 P3 * %622

RECEIVER DATA

REC. NO.	X	Y	Z	DNL	PEOPLE	ID
1	78.0	275.0	614.0	67	500	EA-MEAS.
2	304.0	2154.0	760.0	67	500	IB-MEAS.

DROP-OFF RATES

LANE NO.	RECEIVER 1	2
1	3.0	3.0
2	3.0	3.0
3	4.5	3.0
4	4.5	3.0

K - CONSTANTS

ALL LANE RECEIVER/PAIRS = 0.0 DBA

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	EA-MEAS.	67.	500.	73.7
2	IB-MEAS.	67.	500.	68.2

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Future Traffic Without Proposed Building to Produce Noise Contours

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* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : FTCTIRB.TXT
BARRIER COST FILE : CALIF$.DTA
DATE : 09-27-2005

CROSSROADS INVESTOR - PAT HARRISON - irb

TRAFFIC DATA

LANE NO.	AUTO VPH	AUTO MPH	MEDIUM TRKS VPH	MEDIUM TRKS MPH	HEAVY TRKS VPH	HEAVY TRKS MPH	DESCRIPTION
1	710	50	10	50	3	50	OLD HIGHWAY 395 S.B.
2	710	50	10	50	3	50	OLD HIGHWAY 395 N.B.
3	6029	65	173	65	351	65	INTERSTATE 15 S.B.
4	6349	65	182	65	369	65	INTERSTATE 15 N.B.
5	742	45	7	45	3	45	RECHE RD

LANE DATA

LANE NO.	SEG. NO.	GRADE COR.	X	Y	Z	SEGMENT DESCRIPTION
1	1	YES	84.0	-300.0	610.0	L1 P1
	2	YES	83.0	-150.0	610.0	L1 P2
	3	YES	84.0	0.0	610.0	L1 P3
	4	YES	84.0	200.0	610.0	L1 P4
	5	YES	86.0	600.0	610.0	L1 P5
	6	YES	89.0	800.0	620.0	L1 P6
	7	YES	94.0	1000.0	620.0	L1 P7
	8	YES	114.0	1200.0	620.0	L1 P8
	9	YES	154.0	1400.0	620.0	L1 P9
	10	YES	212.0	1600.0	620.0	L1 P10
			462.0	2200.0	620.0	L1 P11
2	1	YES	96.0	-300.0	605.0	L2 P1
	2	YES	95.0	-150.0	610.0	L2 P2
	3	YES	96.0	0.0	610.0	L2 P3
	4	YES	96.0	200.0	610.0	L2 P4
	5	YES	98.0	600.0	610.0	L2 P5
	6	YES	101.0	800.0	620.0	L2 P6
	7	YES	106.0	1000.0	620.0	L2 P7
	8	YES	126.0	1200.0	620.0	L2 P8
	9	YES	166.0	1400.0	620.0	L2 P9
	10	YES	224.0	1600.0	625.0	L2 P10
			474.0	2200.0	625.0	L2 P11
3	1	NO	355.0	-300.0	660.0	L3 P1
	2	NO	360.0	-150.0	660.0	L3 P2
	3	NO	370.0	0.0	660.0	L3 P3

	4	NO	385.0	200.0	660.0	L3	P4
	5	NO	430.0	600.0	660.0	L3	P5
	6	NO	465.0	800.0	670.0	L3	P6
	7	NO	500.0	1000.0	670.0	L3	P7
	8	NO	540.0	1200.0	680.0	L3	P8
	9	NO	590.0	1400.0	680.0	L3	P9
			887.0	2075.0	740.0	L3	P10
4	1	NO	490.0	-300.0	660.0	L4	P1
	2	NO	492.0	-150.0	660.0	L4	P2
	3	NO	505.0	0.0	660.0	L4	P3
	4	NO	505.0	200.0	660.0	L4	P4
	5	NO	560.0	600.0	660.0	L4	P5
	6	NO	585.0	800.0	670.0	L4	P6
	7	NO	620.0	1000.0	670.0	L4	P7
	8	NO	672.0	1200.0	680.0	L4	P8
	9	NO	705.0	1400.0	680.0	L4	P9
			1003.0	2075.0	740.0	L4	P10
5	1	NO	0.0	-765.0	560.0	L5	P1
	2	NO	-222.0	-755.0	560.0	L5	P2
	3	NO	-475.0	-770.0	600.0	L5	P3
	4	NO	-855.0	-800.0	640.0	L5	P4
	5	NO	-1260.0	-815.0	600.0	L5	P5
	6	NO	-1620.0	-805.0	600.0	L5	P6
			-1930.0	-785.0	600.0	L5	P7

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BARRIER DATA

Barrier No. 1 Description: BERM PARALLEL TO OLD HIGHWAY
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	78.0	-300.0	0.0	609.5 *B1 P1	* %610
2	77.0	-150.0	0.0	609.5 *B1 P2	* %610
3	78.0	0.0	0.0	609.5 *B1 P3	* %610
4	78.0	200.0	0.0	609.5 *B1 P4	* %610
5	80.0	600.0	0.0	609.5 *B1 P5	* %610
6	83.0	800.0	0.0	619.5 *B1 P6	* %620
7	88.0	1000.0	0.0	619.5 *B1 P7	* %620
8	108.0	1200.0	0.0	619.5 *B1 P8	* %620
9	148.0	1400.0	0.0	619.5 *B1 P9	* %620
10	206.0	1600.0	0.0	619.5 *B1 P10	* %620
	456.0	2200.0	0.0	619.5 *B1 P11	* %620

Barrier No. 2 Description: BERM PARALLEL TO I-15
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	315.0	-300.0	0.0	660.0 *B2 P1	* %660
2	320.0	-150.0	0.0	660.0 *B2 P2	* %660

3	330.0	0.0	0.0	660.0 *B2 P3	* %660
4	345.0	200.0	0.0	660.0 *B2 P4	* %660
5	390.0	600.0	0.0	660.0 *B2 P5	* %660
6	425.0	800.0	0.0	670.0 *B2 P6	* %670
7	460.0	1000.0	0.0	670.0 *B2 P7	* %670
8	500.0	1200.0	0.0	680.0 *B2 P8	* %680
9	550.0	1400.0	0.0	680.0 *B2 P9	* %680
	847.0	2075.0	0.0	740.0 *B2 P10	* %740

Barrier No. 3 Description: 640 BERM PARALLEL TO I-15 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	320.0	40.0	0.0	640.0 *B3 P1	* %640
2	250.0	40.0	0.0	640.0 *B3 P2	* %640
3	210.0	115.0	0.0	640.0 *B3 P3	* %640
4	230.0	200.0	0.0	640.0 *B3 P4	* %640
5	350.0	310.0	0.0	640.0 *B3 P5	* %640
6	350.0	360.0	0.0	640.0 *B3 P6	* %640
7	230.0	370.0	0.0	640.0 *B3 P7	* %640
8	305.0	635.0	0.0	640.0 *B3 P8	* %640
9	280.0	680.0	0.0	640.0 *B3 P9	* %640
	430.0	850.0	0.0	640.0 *B3 P10	* %640

Barrier No. 4 Description: 640 BERM PARALLEL TO I-15 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	455.0	1020.0	0.0	640.0 *B4 P1	* %640
2	340.0	990.0	0.0	640.0 *B4 P2	* %640
3	370.0	1330.0	0.0	640.0 *B4 P3	* %640
4	405.0	1390.0	0.0	640.0 *B4 P4	* %640
	405.0	1590.0	0.0	640.0 *B4 P5	* %640

Barrier No. 5 Description: 640 BERM PARALLEL TO O.HWY (3)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	120.0	785.0	0.0	640.0 *B5 P1	* %640
2	150.0	1000.0	0.0	640.0 *B5 P2	* %640
3	185.0	1200.0	0.0	640.0 *B5 P3	* %640
4	240.0	1400.0	0.0	640.0 *B5 P4	* %640
	330.0	1600.0	0.0	640.0 *B5 P5	* %640

Barrier No. 6 Description: BERM PARALLEL TO RECHE RD
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-750.0	0.0	560.0 *B6 P1	* %560
2	-222.0	-740.0	0.0	600.0 *B6 P2	* %600
3	-475.0	-755.0	0.0	640.0 *B6 P3	* %640
4	-855.0	-775.0	0.0	600.0 *B6 P4	* %600
5	-1260.0	-800.0	0.0	600.0 *B6 P5	* %600
6	-1620.0	-790.0	0.0	600.0 *B6 P6	* %600
	-1930.0	-770.0	0.0	600.0 *B6 P7	* %600

Barrier No. 7 Description: BERM PARALLEL TO PARCEL 4&R.P.
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-400.0	0.0	580.0 *B7 P1	* %580
2	0.0	-200.0	0.0	590.0 *B7 P2	* %590
3	0.0	0.0	0.0	600.0 *B7 P3	* %600
4	0.0	200.0	0.0	600.0 *B7 P4	* %600
5	0.0	400.0	0.0	600.0 *B7 P5	* %600
6	0.0	600.0	0.0	650.0 *B7 P6	* %650
7	0.0	800.0	0.0	665.0 *B7 P7	* %665
8	20.0	1000.0	0.0	710.0 *B7 P8	* %710
9	20.0	1200.0	0.0	710.0 *B7 P9	* %710
	310.0	2200.0	0.0	740.0 *B7 P10	* %740

Barrier No. 8 Description: BERM 725
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-270.0	0.0	0.0	725.0 *B8 P1	* %725
2	-267.0	80.0	0.0	725.0 *B8 P2	* %725
3	-273.0	200.0	0.0	725.0 *B8 P3	* %725
4	-234.0	400.0	0.0	725.0 *B8 P4	* %725
5	-190.0	600.0	0.0	725.0 *B8 P5	* %725
6	-160.0	727.0	0.0	725.0 *B8 P6	* %725
	-218.0	770.0	0.0	725.0 *B8 P7	* %725

RECEIVER DATA

REC. NO.	X	Y	Z	DNL	PEOPLE	ID
1	-290.0	70.0	715.0	67	500	R-1
2	-290.0	200.0	748.0	67	500	R-2
3	-290.0	400.0	758.0	67	500	R-3
4	-290.0	600.0	725.0	67	500	R-4
5	-270.0	800.0	725.0	67	500	R-5
6	-140.0	1000.0	740.0	67	500	R-6

7	-430.0	0.0	710.0	67	500	R-7
8	-410.0	600.0	705.0	67	500	R-8
9	-560.0	400.0	720.0	67	500	R-9
10	-800.0	-200.0	670.0	67	500	R-10
11	-820.0	0.0	660.0	67	500	R-11
12	-940.0	-290.0	655.0	67	500	R-12
13	-960.0	-200.0	655.0	67	500	R-13
14	-990.0	-240.0	655.0	67	500	R-14
15	-1160.0	-360.0	625.0	67	500	R-15
16	-1160.0	-200.0	625.0	67	500	R-16
17	-1160.0	-130.0	625.0	67	500	R-17
18	-1660.0	-400.0	575.0	67	500	R-18
19	-1560.0	-400.0	585.0	67	500	R-19
20	-1440.0	-200.0	595.0	67	500	R-20
21	-1380.0	0.0	610.0	67	500	R-21

DROP-OFF RATES

ALL LANE/RECEIVER PAIRS = 3.0 DBA

K - CONSTANTS

ALL LANE RECEIVER/PAIRS = 0.0 DBA

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	R-1	67.	500.	52.3
2	R-2	67.	500.	70.6
3	R-3	67.	500.	70.7
4	R-4	67.	500.	59.9
5	R-5	67.	500.	67.6
6	R-6	67.	500.	70.5
7	R-7	67.	500.	61.3
8	R-8	67.	500.	53.9
9	R-9	67.	500.	55.3
10	R-10	67.	500.	57.2
11	R-11	67.	500.	54.3
12	R-12	67.	500.	56.5
13	R-13	67.	500.	55.6
14	R-14	67.	500.	55.8
15	R-15	67.	500.	55.8
16	R-16	67.	500.	54.3
17	R-17	67.	500.	53.7
18	R-18	67.	500.	53.0
19	R-19	67.	500.	53.7
20	R-20	67.	500.	52.7
21	R-21	67.	500.	51.7

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Future Traffic for Exterior Noise at Pad Centers for First and Second Level

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* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : FUTIRB.TXT
BARRIER COST FILE : CALIF$.DTA
DATE : 09-27-2005

CROSSROADS INVESTOR - PAT HARRISON - irb

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TRAFFIC DATA

LANE NO.	AUTO VPH	AUTO MPH	MEDIUM TRKS VPH	MEDIUM TRKS MPH	HEAVY TRKS VPH	HEAVY TRKS MPH	DESCRIPTION
1	710	50	10	50	3	50	OLD HIGHWAY 395 S.B.
2	710	50	10	50	3	50	OLD HIGHWAY 395 N.B.
3	6029	65	173	65	351	65	INTERSTATE 15 S.B.
4	6349	65	182	65	369	65	INTERSTATE 15 N.B.
5	742	45	7	45	3	45	RECHE RD

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LANE DATA

LANE NO.	SEG. NO.	GRADE COR.	X	Y	Z	SEGMENT DESCRIPTION
1	1	YES	84.0	-300.0	610.0	L1 P1
	2	YES	83.0	-150.0	610.0	L1 P2
	3	YES	84.0	0.0	610.0	L1 P3
	4	YES	84.0	200.0	610.0	L1 P4
	5	YES	86.0	600.0	610.0	L1 P5
	6	YES	89.0	800.0	620.0	L1 P6
	7	YES	94.0	1000.0	620.0	L1 P7
	8	YES	114.0	1200.0	620.0	L1 P8
	9	YES	154.0	1400.0	620.0	L1 P9
	10	YES	212.0	1600.0	620.0	L1 P10
			462.0	2200.0	620.0	L1 P11
2	1	YES	96.0	-300.0	605.0	L2 P1
	2	YES	95.0	-150.0	610.0	L2 P2
	3	YES	96.0	0.0	610.0	L2 P3
	4	YES	96.0	200.0	610.0	L2 P4
	5	YES	98.0	600.0	610.0	L2 P5

	6	YES	101.0	800.0	620.0	L2	P6
	7	YES	106.0	1000.0	620.0	L2	P7
	8	YES	126.0	1200.0	620.0	L2	P8
	9	YES	166.0	1400.0	620.0	L2	P9
	10	YES	224.0	1600.0	625.0	L2	P10
			474.0	2200.0	625.0	L2	P11
3	1	NO	355.0	-300.0	660.0	L3	P1
	2	NO	360.0	-150.0	660.0	L3	P2
	3	NO	370.0	0.0	660.0	L3	P3
	4	NO	385.0	200.0	660.0	L3	P4
	5	NO	430.0	600.0	660.0	L3	P5
	6	NO	465.0	800.0	670.0	L3	P6
	7	NO	500.0	1000.0	670.0	L3	P7
	8	NO	540.0	1200.0	680.0	L3	P8
	9	NO	590.0	1400.0	680.0	L3	P9
			887.0	2075.0	740.0	L3	P10
4	1	NO	490.0	-300.0	660.0	L4	P1
	2	NO	492.0	-150.0	660.0	L4	P2
	3	NO	505.0	0.0	660.0	L4	P3
	4	NO	505.0	200.0	660.0	L4	P4
	5	NO	560.0	600.0	660.0	L4	P5
	6	NO	585.0	800.0	670.0	L4	P6
	7	NO	620.0	1000.0	670.0	L4	P7
	8	NO	672.0	1200.0	680.0	L4	P8
	9	NO	705.0	1400.0	680.0	L4	P9
			1003.0	2075.0	740.0	L4	P10
5	1	NO	0.0	-765.0	560.0	L5	P1
	2	NO	-222.0	-755.0	560.0	L5	P2
	3	NO	-475.0	-770.0	600.0	L5	P3
	4	NO	-855.0	-800.0	640.0	L5	P4
	5	NO	-1260.0	-815.0	600.0	L5	P5
	6	NO	-1620.0	-805.0	600.0	L5	P6
			-1930.0	-785.0	600.0	L5	P7

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BARRIER DATA

Barrier No. 1 Description: BERM PARALLEL TO OLD HIGHWAY
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	78.0	-300.0	0.0	609.5 *B1 P1	* %610
2	77.0	-150.0	0.0	609.5 *B1 P2	* %610
3	78.0	0.0	0.0	609.5 *B1 P3	* %610
4	78.0	200.0	0.0	609.5 *B1 P4	* %610
5	80.0	600.0	0.0	609.5 *B1 P5	* %610

6	83.0	800.0	0.0	619.5 *B1 P6	* %620
7	88.0	1000.0	0.0	619.5 *B1 P7	* %620
8	108.0	1200.0	0.0	619.5 *B1 P8	* %620
9	148.0	1400.0	0.0	619.5 *B1 P9	* %620
10	206.0	1600.0	0.0	619.5 *B1 P10	* %620
	456.0	2200.0	0.0	619.5 *B1 P11	* %620

Barrier No. 2 Description: BERM PARALLEL TO I-15
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	315.0	-300.0	0.0	660.0 *B2 P1	* %660
2	320.0	-150.0	0.0	660.0 *B2 P2	* %660
3	330.0	0.0	0.0	660.0 *B2 P3	* %660
4	345.0	200.0	0.0	660.0 *B2 P4	* %660
5	390.0	600.0	0.0	660.0 *B2 P5	* %660
6	425.0	800.0	0.0	670.0 *B2 P6	* %670
7	460.0	1000.0	0.0	670.0 *B2 P7	* %670
8	500.0	1200.0	0.0	680.0 *B2 P8	* %680
9	550.0	1400.0	0.0	680.0 *B2 P9	* %680
	847.0	2075.0	0.0	740.0 *B2 P10	* %740

Barrier No. 3 Description: 640 BERM PARALLEL TO I-15 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	320.0	40.0	0.0	640.0 *B3 P1	* %640
2	250.0	40.0	0.0	640.0 *B3 P2	* %640
3	210.0	115.0	0.0	640.0 *B3 P3	* %640
4	230.0	200.0	0.0	640.0 *B3 P4	* %640
5	350.0	310.0	0.0	640.0 *B3 P5	* %640
6	350.0	360.0	0.0	640.0 *B3 P6	* %640
7	230.0	370.0	0.0	640.0 *B3 P7	* %640
8	305.0	635.0	0.0	640.0 *B3 P8	* %640
9	280.0	680.0	0.0	640.0 *B3 P9	* %640
	430.0	850.0	0.0	640.0 *B3 P10	* %640

Barrier No. 4 Description: 640 BERM PARALLEL TO I-15 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS

1	455.0	1020.0	0.0	640.0 *B4 P1	* %640
2	340.0	990.0	0.0	640.0 *B4 P2	* %640
3	370.0	1330.0	0.0	640.0 *B4 P3	* %640
4	405.0	1390.0	0.0	640.0 *B4 P4	* %640
	405.0	1590.0	0.0	640.0 *B4 P5	* %640

Barrier No. 5 Description: 640 BERM PARALLEL TO O.HWY (3)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	120.0	785.0	0.0	640.0 *B5 P1	* %640
2	150.0	1000.0	0.0	640.0 *B5 P2	* %640
3	185.0	1200.0	0.0	640.0 *B5 P3	* %640
4	240.0	1400.0	0.0	640.0 *B5 P4	* %640
	330.0	1600.0	0.0	640.0 *B5 P5	* %640

Barrier No. 6 Description: BERM PARALLEL TO RECHE RD
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-750.0	0.0	560.0 *B6 P1	* %560
2	-222.0	-740.0	0.0	600.0 *B6 P2	* %600
3	-475.0	-755.0	0.0	640.0 *B6 P3	* %640
4	-855.0	-775.0	0.0	600.0 *B6 P4	* %600
5	-1260.0	-800.0	0.0	600.0 *B6 P5	* %600
6	-1620.0	-790.0	0.0	600.0 *B6 P6	* %600
	-1930.0	-770.0	0.0	600.0 *B6 P7	* %600

Barrier No. 7 Description: BERM PARALLEL TO PARCEL 4&R.P.
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-400.0	0.0	580.0 *B7 P1	* %580
2	0.0	-200.0	0.0	590.0 *B7 P2	* %590
3	0.0	0.0	0.0	600.0 *B7 P3	* %600
4	0.0	200.0	0.0	600.0 *B7 P4	* %600
5	0.0	400.0	0.0	600.0 *B7 P5	* %600
6	0.0	600.0	0.0	650.0 *B7 P6	* %650
7	0.0	800.0	0.0	665.0 *B7 P7	* %665
8	20.0	1000.0	0.0	710.0 *B7 P8	* %710
9	20.0	1200.0	0.0	710.0 *B7 P9	* %710

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         310.0      2200.0         0.0       740.0 *B7 P10   * %740

-------------------------------------------------------------------------------
Barrier No.  8             Description: BERM 725
Type - (1)BERM
Height Increment (DELZ)= 0.0           No. Height Changes (P)=0

                                  GROUND      TOP           BARRIER
SEG.        X           Y         (Z0)        (Z)           HEIGHTS AT ENDS
-------------------------------------------------------------------------------
 1       -270.0         0.0        0.0       725.0 *B8 P1   * %725
 2       -267.0        80.0        0.0       725.0 *B8 P2   * %725
 3       -273.0       200.0        0.0       725.0 *B8 P3   * %725
 4       -234.0       400.0        0.0       725.0 *B8 P4   * %725
 5       -190.0       600.0        0.0       725.0 *B8 P5   * %725
 6       -160.0       727.0        0.0       725.0 *B8 P6   * %725
         -218.0       770.0        0.0       725.0 *B8 P7   * %725

-------------------------------------------------------------------------------
Barrier No.  9             Description: BERM PAD ON PAR 4
Type - (1)BERM
Height Increment (DELZ)= 0.0           No. Height Changes (P)=0

                                  GROUND      TOP           BARRIER
SEG.        X           Y         (Z0)        (Z)           HEIGHTS AT ENDS
-------------------------------------------------------------------------------
 1       -235.0       746.0        0.0       733.0 *B9 P1   * %733
 2       -178.0       708.0        0.0       733.0 *B9 P2   * %733
 3       -190.0       630.0        0.0       733.0 *B9 P3   * %733
         -223.0       613.0        0.0       733.0 *B9 P4   * %733

-------------------------------------------------------------------------------
Barrier No. 10             Description: BERM PAD ON PAR 3
Type - (1)BERM
Height Increment (DELZ)= 0.0           No. Height Changes (P)=0

                                  GROUND      TOP           BARRIER
SEG.        X           Y         (Z0)        (Z)           HEIGHTS AT ENDS
-------------------------------------------------------------------------------
 1       -548.0       375.0        0.0       730.0 *B10 P1  * %730
 2       -430.0       400.0        0.0       730.0 *B10 P2  * %730
         -493.0       226.0        0.0       730.0 *B10 P3  * %730

-------------------------------------------------------------------------------
Barrier No. 11             Description: BERM PAD ON PAR 2
Type - (1)BERM
Height Increment (DELZ)= 0.0           No. Height Changes (P)=0

                                  GROUND      TOP           BARRIER
SEG.        X           Y         (Z0)        (Z)           HEIGHTS AT ENDS
-------------------------------------------------------------------------------
 1       -760.0       134.0        0.0       680.0 *B11 P1  * %680
 2       -665.5       185.0        0.0       680.0 *B11 P2  * %680
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3	-650.0	0.0	0.0	680.0 *B11 P3	* %680
	-780.0	-103.0	0.0	680.0 *B11 P4	* %680

Barrier No. 12 Description: BERM PAD ON PAR 1 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-1270.0	-302.0	0.0	622.0 *B12 P1	* %622
2	-1238.0	-180.0	0.0	622.0 *B12 P2	* %622
	-1176.0	-180.0	0.0	622.0 *B12 P3	* %622

Barrier No. 13 Description: BERM PAD ON PAR 1 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-1152.0	-180.0	0.0	622.0 *B13 P1	* %622
2	-1140.0	-230.0	0.0	622.0 *B13 P2	* %622
	-1179.0	-300.0	0.0	622.0 *B13 P3	* %622

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RECEIVER DATA

REC. NO.	X	Y	Z	DNL	PEOPLE	ID
1	-260.0	674.0	738.0	67	500	BY.PAR4
2	-545.0	334.0	735.0	67	500	BY.PAR3
3	-750.0	105.0	685.0	67	500	BY.PAR2
4	-1231.0	-240.0	627.0	67	500	BY.PAR1
5	-260.0	674.0	748.0	67	500	P4 lvl 2
6	-545.0	334.0	745.0	67	500	P3 lvl 2
7	-750.0	105.0	695.0	67	500	P2 lvl 2
8	-1231.0	-240.0	637.0	67	500	P1 lvl 2

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DROP-OFF RATES

ALL LANE/RECEIVER PAIRS = 3.0 DBA

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K - CONSTANTS

ALL LANE RECEIVER/PAIRS = 0.0 DBA

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	BY.PAR4	67.	500.	62.8
2	BY.PAR3	67.	500.	58.0
3	BY.PAR2	67.	500.	53.0
4	BY.PAR1	67.	500.	54.0
5	P4 lvl 2	67.	500.	70.1
6	P3 lvl 2	67.	500.	60.1
7	P2 lvl 2	67.	500.	53.6
8	P1 lvl 2	67.	500.	54.5

****

Future Traffic for Exterior Noise at Pad Centers for First and Second Level with Conceptual Two Story Buildings

****

* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : FUTIRB~1.TXT
BARRIER COST FILE : CALIF$.DTA
DATE : 09-27-2005

CROSSROADS INVESTOR - PAT HARRISON - irb

==========

TRAFFIC DATA

LANE NO.	AUTO VPH	AUTO MPH	MEDIUM TRKS VPH	MEDIUM TRKS MPH	HEAVY TRKS VPH	HEAVY TRKS MPH	DESCRIPTION
1	710	50	10	50	3	50	OLD HIGHWAY 395 S.B.
2	710	50	10	50	3	50	OLD HIGHWAY 395 N.B.
3	6029	65	173	65	351	65	INTERSTATE 15 S.B.
4	6349	65	182	65	369	65	INTERSTATE 15 N.B.
5	742	45	7	45	3	45	RECHE RD

==========

LANE DATA

LANE NO.	SEG. NO.	GRADE COR.	X	Y	Z	SEGMENT DESCRIPTION
1	1	YES	84.0	-300.0	610.0	L1 P1
	2	YES	83.0	-150.0	610.0	L1 P2
	3	YES	84.0	0.0	610.0	L1 P3
	4	YES	84.0	200.0	610.0	L1 P4
	5	YES	86.0	600.0	610.0	L1 P5
	6	YES	89.0	800.0	620.0	L1 P6
	7	YES	94.0	1000.0	620.0	L1 P7
	8	YES	114.0	1200.0	620.0	L1 P8
	9	YES	154.0	1400.0	620.0	L1 P9
	10	YES	212.0	1600.0	620.0	L1 P10
			462.0	2200.0	620.0	L1 P11
2	1	YES	96.0	-300.0	605.0	L2 P1
	2	YES	95.0	-150.0	610.0	L2 P2
	3	YES	96.0	0.0	610.0	L2 P3
	4	YES	96.0	200.0	610.0	L2 P4
	5	YES	98.0	600.0	610.0	L2 P5
	6	YES	101.0	800.0	620.0	L2 P6

	7	YES	106.0	1000.0	620.0	L2	P7
	8	YES	126.0	1200.0	620.0	L2	P8
	9	YES	166.0	1400.0	620.0	L2	P9
	10	YES	224.0	1600.0	625.0	L2	P10
			474.0	2200.0	625.0	L2	P11
3	1	NO	355.0	-300.0	660.0	L3	P1
	2	NO	360.0	-150.0	660.0	L3	P2
	3	NO	370.0	0.0	660.0	L3	P3
	4	NO	385.0	200.0	660.0	L3	P4
	5	NO	430.0	600.0	660.0	L3	P5
	6	NO	465.0	800.0	670.0	L3	P6
	7	NO	500.0	1000.0	670.0	L3	P7
	8	NO	540.0	1200.0	680.0	L3	P8
	9	NO	590.0	1400.0	680.0	L3	P9
			887.0	2075.0	740.0	L3	P10
4	1	NO	490.0	-300.0	660.0	L4	P1
	2	NO	492.0	-150.0	660.0	L4	P2
	3	NO	505.0	0.0	660.0	L4	P3
	4	NO	505.0	200.0	660.0	L4	P4
	5	NO	560.0	600.0	660.0	L4	P5
	6	NO	585.0	800.0	670.0	L4	P6
	7	NO	620.0	1000.0	670.0	L4	P7
	8	NO	672.0	1200.0	680.0	L4	P8
	9	NO	705.0	1400.0	680.0	L4	P9
			1003.0	2075.0	740.0	L4	P10
5	1	NO	0.0	-765.0	560.0	L5	P1
	2	NO	-222.0	-755.0	560.0	L5	P2
	3	NO	-475.0	-770.0	600.0	L5	P3
	4	NO	-855.0	-800.0	640.0	L5	P4
	5	NO	-1260.0	-815.0	600.0	L5	P5
	6	NO	-1620.0	-805.0	600.0	L5	P6
			-1930.0	-785.0	600.0	L5	P7

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BARRIER DATA

Barrier No. 1 Description: BERM PARALLEL TO OLD HIGHWAY

Type - (1)BERM

Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	78.0	-300.0	0.0	609.5 *B1 P1	* %610
2	77.0	-150.0	0.0	609.5 *B1 P2	* %610
3	78.0	0.0	0.0	609.5 *B1 P3	* %610
4	78.0	200.0	0.0	609.5 *B1 P4	* %610
5	80.0	600.0	0.0	609.5 *B1 P5	* %610
6	83.0	800.0	0.0	619.5 *B1 P6	* %620

7	88.0	1000.0	0.0	619.5 *B1 P7	* %620
8	108.0	1200.0	0.0	619.5 *B1 P8	* %620
9	148.0	1400.0	0.0	619.5 *B1 P9	* %620
10	206.0	1600.0	0.0	619.5 *B1 P10	* %620
	456.0	2200.0	0.0	619.5 *B1 P11	* %620

Barrier No. 2 Description: BERM PARALLEL TO I-15
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	315.0	-300.0	0.0	660.0 *B2 P1	* %660
2	320.0	-150.0	0.0	660.0 *B2 P2	* %660
3	330.0	0.0	0.0	660.0 *B2 P3	* %660
4	345.0	200.0	0.0	660.0 *B2 P4	* %660
5	390.0	600.0	0.0	660.0 *B2 P5	* %660
6	425.0	800.0	0.0	670.0 *B2 P6	* %670
7	460.0	1000.0	0.0	670.0 *B2 P7	* %670
8	500.0	1200.0	0.0	680.0 *B2 P8	* %680
9	550.0	1400.0	0.0	680.0 *B2 P9	* %680
	847.0	2075.0	0.0	740.0 *B2 P10	* %740

Barrier No. 3 Description: 640 BERM PARALLEL TO I-15 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	320.0	40.0	0.0	640.0 *B3 P1	* %640
2	250.0	40.0	0.0	640.0 *B3 P2	* %640
3	210.0	115.0	0.0	640.0 *B3 P3	* %640
4	230.0	200.0	0.0	640.0 *B3 P4	* %640
5	350.0	310.0	0.0	640.0 *B3 P5	* %640
6	350.0	360.0	0.0	640.0 *B3 P6	* %640
7	230.0	370.0	0.0	640.0 *B3 P7	* %640
8	305.0	635.0	0.0	640.0 *B3 P8	* %640
9	280.0	680.0	0.0	640.0 *B3 P9	* %640
	430.0	850.0	0.0	640.0 *B3 P10	* %640

Barrier No. 4 Description: 640 BERM PARALLEL TO I-15 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	455.0	1020.0	0.0	640.0 *B4 P1	* %640

2	340.0	990.0	0.0	640.0 *B4 P2	* %640
3	370.0	1330.0	0.0	640.0 *B4 P3	* %640
4	405.0	1390.0	0.0	640.0 *B4 P4	* %640
	405.0	1590.0	0.0	640.0 *B4 P5	* %640

Barrier No. 5 Description: 640 BERM PARALLEL TO O.HWY (3)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	120.0	785.0	0.0	640.0 *B5 P1	* %640
2	150.0	1000.0	0.0	640.0 *B5 P2	* %640
3	185.0	1200.0	0.0	640.0 *B5 P3	* %640
4	240.0	1400.0	0.0	640.0 *B5 P4	* %640
	330.0	1600.0	0.0	640.0 *B5 P5	* %640

Barrier No. 6 Description: BERM PARALLEL TO RECHE RD
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-750.0	0.0	560.0 *B6 P1	* %560
2	-222.0	-740.0	0.0	600.0 *B6 P2	* %600
3	-475.0	-755.0	0.0	640.0 *B6 P3	* %640
4	-855.0	-775.0	0.0	600.0 *B6 P4	* %600
5	-1260.0	-800.0	0.0	600.0 *B6 P5	* %600
6	-1620.0	-790.0	0.0	600.0 *B6 P6	* %600
	-1930.0	-770.0	0.0	600.0 *B6 P7	* %600

Barrier No. 7 Description: BERM PARALLEL TO PARCEL 4&R.P.
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-400.0	0.0	580.0 *B7 P1	* %580
2	0.0	-200.0	0.0	590.0 *B7 P2	* %590
3	0.0	0.0	0.0	600.0 *B7 P3	* %600
4	0.0	200.0	0.0	600.0 *B7 P4	* %600
5	0.0	400.0	0.0	600.0 *B7 P5	* %600
6	0.0	600.0	0.0	650.0 *B7 P6	* %650
7	0.0	800.0	0.0	665.0 *B7 P7	* %665
8	20.0	1000.0	0.0	710.0 *B7 P8	* %710
9	20.0	1200.0	0.0	710.0 *B7 P9	* %710
	310.0	2200.0	0.0	740.0 *B7 P10	* %740

Barrier No. 8 Description: BERM 725
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-270.0	0.0	0.0	725.0 *B8 P1	* %725
2	-267.0	80.0	0.0	725.0 *B8 P2	* %725
3	-273.0	200.0	0.0	725.0 *B8 P3	* %725
4	-234.0	400.0	0.0	725.0 *B8 P4	* %725
5	-190.0	600.0	0.0	725.0 *B8 P5	* %725
6	-160.0	727.0	0.0	725.0 *B8 P6	* %725
	-218.0	770.0	0.0	725.0 *B8 P7	* %725

Barrier No. 9 Description: BERM PAD ON PAR 4
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-235.0	746.0	0.0	733.0 *B9 P1	* %733
2	-178.0	708.0	0.0	733.0 *B9 P2	* %733
3	-190.0	630.0	0.0	733.0 *B9 P3	* %733
	-223.0	613.0	0.0	733.0 *B9 P4	* %733

Barrier No. 10 Description: PROPOSED BLDG ON PAR 4
Type - (4)CONCRETE
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-215.0	727.0	0.0	758.0 *B10 P1	* %758
2	-252.0	715.0	0.0	758.0 *B10 P2	* %758
3	-237.0	640.0	0.0	758.0 *B10 P3	* %758
4	-198.0	650.0	0.0	758.0 *B10 P4	* %758
	-215.0	727.0	0.0	758.0 *B10 P5	* %758

Barrier No. 11 Description: BERM PAD ON PAR 3
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-548.0	375.0	0.0	730.0 *B11 P1	* %730
2	-430.0	400.0	0.0	730.0 *B11 P2	* %730

	-493.0	226.0	0.0	730.0 *B11 P3	* %730

Barrier No. 12 Description: PROPOSED BLDG ON PAR 3
Type - (4)CONCRETE
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-514.0	368.0	0.0	755.0 *B12 P1	* %755
2	-477.0	351.0	0.0	755.0 *B12 P2	* %755
3	-504.0	280.0	0.0	755.0 *B12 P3	* %755
4	-542.0	295.0	0.0	755.0 *B12 P4	* %755
	-514.0	368.0	0.0	755.0 *B12 P5	* %755

Barrier No. 13 Description: BERM PAD ON PAR 2
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-760.0	134.0	0.0	680.0 *B13 P1	* %680
2	-665.5	185.0	0.0	680.0 *B13 P2	* %680
3	-650.0	0.0	0.0	680.0 *B13 P3	* %680
	-780.0	-103.0	0.0	680.0 *B13 P4	* %680

Barrier No. 14 Description: PROPOSED BLDG ON PAR 2
Type - (4)CONCRETE
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-748.0	116.0	0.0	705.0 *B14 P1	* %705
2	-680.0	151.0	0.0	705.0 *B14 P2	* %705
3	-663.0	116.0	0.0	705.0 *B14 P3	* %705
4	-732.0	84.0	0.0	705.0 *B14 P4	* %705
	-748.0	116.0	0.0	705.0 *B14 P5	* %705

Barrier No. 15 Description: BERM PAD ON PAR 1 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-1270.0	-302.0	0.0	622.0 *B15 P1	* %622
2	-1238.0	-180.0	0.0	622.0 *B15 P2	* %622

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      -1176.0     -180.0        0.0      622.0 *B15 P3   * %622

-------------------------------------------------------------------------------
Barrier No. 16             Description: BERM PAD ON PAR 1 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0           No. Height Changes (P)=0

                                 GROUND      TOP          BARRIER
SEG.        X          Y         (Z0)       (Z)          HEIGHTS AT ENDS
-------------------------------------------------------------------------------
 1     -1152.0     -180.0        0.0      622.0 *B16 P1   * %622
 2     -1140.0     -230.0        0.0      622.0 *B16 P2   * %622
       -1179.0     -300.0        0.0      622.0 *B16 P3   * %622

-------------------------------------------------------------------------------
Barrier No. 17             Description: PROPOSED BLDG ON PAR 1
Type - (4)CONCRETE
Height Increment (DELZ)= 0.0           No. Height Changes (P)=0

                                 GROUND      TOP          BARRIER
SEG.        X          Y         (Z0)       (Z)          HEIGHTS AT ENDS
-------------------------------------------------------------------------------
 1     -1231.0     -276.0        0.0      647.0 *B17 P1   * %647
 2     -1192.0     -295.0        0.0      647.0 *B17 P2   * %647
 3     -1165.0     -220.0        0.0      647.0 *B17 P3   * %647
 4     -1200.0     -205.0        0.0      647.0 *B17 P4   * %647
       -1231.0     -276.0        0.0      647.0 *B17 P5   * %647

-------------------------------------------------------------------------------
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RECEIVER DATA
-------------
REC.
 NO.          X          Y          Z     DNL PEOPLE    ID
-------------------------------------------------------------------------------
  1       -260.0      674.0      738.0     67   500     BY.PAR4
  2       -545.0      334.0      735.0     67   500     BY.PAR3
  3       -750.0      105.0      685.0     67   500     BY.PAR2
  4      -1231.0     -240.0      627.0     67   500     BY.PAR1
  5       -260.0      674.0      748.0     67   500     P4 lvl 2
  6       -545.0      334.0      745.0     67   500     P3 lvl 2
  7       -750.0      105.0      695.0     67   500     P2 lvl 2
  8      -1231.0     -240.0      637.0     67   500     P1 lvl 2
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DROP-OFF RATES
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ALL LANE/RECEIVER PAIRS =  3.0 DBA
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K - CONSTANTS
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ALL LANE RECEIVER/PAIRS = 0.0 DBA

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	BY.PAR4	67.	500.	52.2
2	BY.PAR3	67.	500.	50.6
3	BY.PAR2	67.	500.	48.9
4	BY.PAR1	67.	500.	47.3
5	P4 lvl 2	67.	500.	54.4
6	P3 lvl 2	67.	500.	53.0
7	P2 lvl 2	67.	500.	49.6
8	P1 lvl 2	67.	500.	48.5

Future Traffic for Exterior Noise at Building Facades for First and Second Level with Conceptual Two Story Buildings

* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : FUTIRB~2.TXT
BARRIER COST FILE : CALIF$.DTA
DATE : 10-04-2005

CROSSROADS INVESTOR - PAT HARRISON - irb

TRAFFIC DATA

LANE	AUTO		MEDIUM TRKS		HEAVY TRKS		
NO.	VPH	MPH	VPH	MPH	VPH	MPH	DESCRIPTION
1	710	50	10	50	3	50	OLD HIGHWAY 395 S.B.
2	710	50	10	50	3	50	OLD HIGHWAY 395 N.B.
3	6029	65	173	65	351	65	INTERSTATE 15 S.B.
4	6349	65	182	65	369	65	INTERSTATE 15 N.B.
5	742	45	7	45	3	45	RECHE RD

LANE DATA

LANE NO.	SEG. NO.	GRADE COR.	X	Y	Z	SEGMENT DESCRIPTION
1	1	YES	84.0	-300.0	610.0	L1 P1
	2	YES	83.0	-150.0	610.0	L1 P2
	3	YES	84.0	0.0	610.0	L1 P3

	4	YES	84.0	200.0	610.0	L1	P4
	5	YES	86.0	600.0	610.0	L1	P5
	6	YES	89.0	800.0	620.0	L1	P6
	7	YES	94.0	1000.0	620.0	L1	P7
	8	YES	114.0	1200.0	620.0	L1	P8
	9	YES	154.0	1400.0	620.0	L1	P9
	10	YES	212.0	1600.0	620.0	L1	P10
			462.0	2200.0	620.0	L1	P11
2	1	YES	96.0	-300.0	605.0	L2	P1
	2	YES	95.0	-150.0	610.0	L2	P2
	3	YES	96.0	0.0	610.0	L2	P3
	4	YES	96.0	200.0	610.0	L2	P4
	5	YES	98.0	600.0	610.0	L2	P5
	6	YES	101.0	800.0	620.0	L2	P6
	7	YES	106.0	1000.0	620.0	L2	P7
	8	YES	126.0	1200.0	620.0	L2	P8
	9	YES	166.0	1400.0	620.0	L2	P9
	10	YES	224.0	1600.0	625.0	L2	P10
			474.0	2200.0	625.0	L2	P11
3	1	NO	355.0	-300.0	660.0	L3	P1
	2	NO	360.0	-150.0	660.0	L3	P2
	3	NO	370.0	0.0	660.0	L3	P3
	4	NO	385.0	200.0	660.0	L3	P4
	5	NO	430.0	600.0	660.0	L3	P5
	6	NO	465.0	800.0	670.0	L3	P6
	7	NO	500.0	1000.0	670.0	L3	P7
	8	NO	540.0	1200.0	680.0	L3	P8
	9	NO	590.0	1400.0	680.0	L3	P9
			887.0	2075.0	740.0	L3	P10
4	1	NO	490.0	-300.0	660.0	L4	P1
	2	NO	492.0	-150.0	660.0	L4	P2
	3	NO	505.0	0.0	660.0	L4	P3
	4	NO	505.0	200.0	660.0	L4	P4
	5	NO	560.0	600.0	660.0	L4	P5
	6	NO	585.0	800.0	670.0	L4	P6
	7	NO	620.0	1000.0	670.0	L4	P7
	8	NO	672.0	1200.0	680.0	L4	P8
	9	NO	705.0	1400.0	680.0	L4	P9
			1003.0	2075.0	740.0	L4	P10
5	1	NO	0.0	-765.0	560.0	L5	P1
	2	NO	-222.0	-755.0	560.0	L5	P2
	3	NO	-475.0	-770.0	600.0	L5	P3
	4	NO	-855.0	-800.0	640.0	L5	P4
	5	NO	-1260.0	-815.0	600.0	L5	P5
	6	NO	-1620.0	-805.0	600.0	L5	P6
			-1930.0	-785.0	600.0	L5	P7

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BARRIER DATA

Barrier No. 1 Description: BERM PARALLEL TO OLD HIGHWAY
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	78.0	-300.0	0.0	609.5 *B1 P1	* %610
2	77.0	-150.0	0.0	609.5 *B1 P2	* %610
3	78.0	0.0	0.0	609.5 *B1 P3	* %610
4	78.0	200.0	0.0	609.5 *B1 P4	* %610
5	80.0	600.0	0.0	609.5 *B1 P5	* %610
6	83.0	800.0	0.0	619.5 *B1 P6	* %620
7	88.0	1000.0	0.0	619.5 *B1 P7	* %620
8	108.0	1200.0	0.0	619.5 *B1 P8	* %620
9	148.0	1400.0	0.0	619.5 *B1 P9	* %620
10	206.0	1600.0	0.0	619.5 *B1 P10	* %620
	456.0	2200.0	0.0	619.5 *B1 P11	* %620

Barrier No. 2 Description: BERM PARALLEL TO I-15
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	315.0	-300.0	0.0	660.0 *B2 P1	* %660
2	320.0	-150.0	0.0	660.0 *B2 P2	* %660
3	330.0	0.0	0.0	660.0 *B2 P3	* %660
4	345.0	200.0	0.0	660.0 *B2 P4	* %660
5	390.0	600.0	0.0	660.0 *B2 P5	* %660
6	425.0	800.0	0.0	670.0 *B2 P6	* %670
7	460.0	1000.0	0.0	670.0 *B2 P7	* %670
8	500.0	1200.0	0.0	680.0 *B2 P8	* %680
9	550.0	1400.0	0.0	680.0 *B2 P9	* %680
	847.0	2075.0	0.0	740.0 *B2 P10	* %740

Barrier No. 3 Description: 640 BERM PARALLEL TO I-15 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	320.0	40.0	0.0	640.0 *B3 P1	* %640
2	250.0	40.0	0.0	640.0 *B3 P2	* %640
3	210.0	115.0	0.0	640.0 *B3 P3	* %640
4	230.0	200.0	0.0	640.0 *B3 P4	* %640
5	350.0	310.0	0.0	640.0 *B3 P5	* %640

6	350.0	360.0	0.0	640.0 *B3 P6	* %640
7	230.0	370.0	0.0	640.0 *B3 P7	* %640
8	305.0	635.0	0.0	640.0 *B3 P8	* %640
9	280.0	680.0	0.0	640.0 *B3 P9	* %640
	430.0	850.0	0.0	640.0 *B3 P10	* %640

Barrier No. 4 Description: 640 BERM PARALLEL TO I-15 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	455.0	1020.0	0.0	640.0 *B4 P1	* %640
2	340.0	990.0	0.0	640.0 *B4 P2	* %640
3	370.0	1330.0	0.0	640.0 *B4 P3	* %640
4	405.0	1390.0	0.0	640.0 *B4 P4	* %640
	405.0	1590.0	0.0	640.0 *B4 P5	* %640

Barrier No. 5 Description: 640 BERM PARALLEL TO O.HWY (3)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	120.0	785.0	0.0	640.0 *B5 P1	* %640
2	150.0	1000.0	0.0	640.0 *B5 P2	* %640
3	185.0	1200.0	0.0	640.0 *B5 P3	* %640
4	240.0	1400.0	0.0	640.0 *B5 P4	* %640
	330.0	1600.0	0.0	640.0 *B5 P5	* %640

Barrier No. 6 Description: BERM PARALLEL TO RECHE RD
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-750.0	0.0	560.0 *B6 P1	* %560
2	-222.0	-740.0	0.0	600.0 *B6 P2	* %600
3	-475.0	-755.0	0.0	640.0 *B6 P3	* %640
4	-855.0	-775.0	0.0	600.0 *B6 P4	* %600
5	-1260.0	-800.0	0.0	600.0 *B6 P5	* %600
6	-1620.0	-790.0	0.0	600.0 *B6 P6	* %600
	-1930.0	-770.0	0.0	600.0 *B6 P7	* %600

Barrier No. 7 Description: BERM PARALLEL TO PARCEL 4&R.P.
Type - (1)BERM

Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	0.0	-400.0	0.0	580.0 *B7 P1	* %580
2	0.0	-200.0	0.0	590.0 *B7 P2	* %590
3	0.0	0.0	0.0	600.0 *B7 P3	* %600
4	0.0	200.0	0.0	600.0 *B7 P4	* %600
5	0.0	400.0	0.0	600.0 *B7 P5	* %600
6	0.0	600.0	0.0	650.0 *B7 P6	* %650
7	0.0	800.0	0.0	665.0 *B7 P7	* %665
8	20.0	1000.0	0.0	710.0 *B7 P8	* %710
9	20.0	1200.0	0.0	710.0 *B7 P9	* %710
	310.0	2200.0	0.0	740.0 *B7 P10	* %740

Barrier No. 8 Description: BERM 725
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-270.0	0.0	0.0	725.0 *B8 P1	* %725
2	-267.0	80.0	0.0	725.0 *B8 P2	* %725
3	-273.0	200.0	0.0	725.0 *B8 P3	* %725
4	-234.0	400.0	0.0	725.0 *B8 P4	* %725
5	-190.0	600.0	0.0	725.0 *B8 P5	* %725
6	-160.0	727.0	0.0	725.0 *B8 P6	* %725
	-218.0	770.0	0.0	725.0 *B8 P7	* %725

Barrier No. 9 Description: BERM PAD ON PAR 4
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-235.0	746.0	0.0	733.0 *B9 P1	* %733
2	-178.0	708.0	0.0	733.0 *B9 P2	* %733
3	-190.0	630.0	0.0	733.0 *B9 P3	* %733
	-223.0	613.0	0.0	733.0 *B9 P4	* %733

Barrier No. 10 Description: PROPOSED BLDG ON PAR 4
Type - (4)CONCRETE
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS

1	-215.0	727.0	0.0	758.0 *B10 P1	* %758
2	-252.0	715.0	0.0	758.0 *B10 P2	* %758
3	-237.0	640.0	0.0	758.0 *B10 P3	* %758
4	-198.0	650.0	0.0	758.0 *B10 P4	* %758
	-215.0	727.0	0.0	758.0 *B10 P5	* %758

Barrier No. 11 Description: BERM PAD ON PAR 3
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-548.0	375.0	0.0	730.0 *B11 P1	* %730
2	-430.0	400.0	0.0	730.0 *B11 P2	* %730
	-493.0	226.0	0.0	730.0 *B11 P3	* %730

Barrier No. 12 Description: PROPOSED BLDG ON PAR 3
Type - (4)CONCRETE
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-514.0	368.0	0.0	755.0 *B12 P1	* %755
2	-477.0	351.0	0.0	755.0 *B12 P2	* %755
3	-504.0	280.0	0.0	755.0 *B12 P3	* %755
4	-542.0	295.0	0.0	755.0 *B12 P4	* %755
	-514.0	368.0	0.0	755.0 *B12 P5	* %755

Barrier No. 13 Description: BERM PAD ON PAR 2
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-760.0	134.0	0.0	680.0 *B13 P1	* %680
2	-665.5	185.0	0.0	680.0 *B13 P2	* %680
3	-650.0	0.0	0.0	680.0 *B13 P3	* %680
	-780.0	-103.0	0.0	680.0 *B13 P4	* %680

Barrier No. 14 Description: PROPOSED BLDG ON PAR 2
Type - (4)CONCRETE
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS

1	-748.0	116.0	0.0	705.0 *B14 P1	* %705
2	-680.0	151.0	0.0	705.0 *B14 P2	* %705
3	-663.0	116.0	0.0	705.0 *B14 P3	* %705
4	-732.0	84.0	0.0	705.0 *B14 P4	* %705
	-748.0	116.0	0.0	705.0 *B14 P5	* %705

Barrier No. 15 Description: BERM PAD ON PAR 1 (1)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-1270.0	-302.0	0.0	622.0 *B15 P1	* %622
2	-1238.0	-180.0	0.0	622.0 *B15 P2	* %622
	-1176.0	-180.0	0.0	622.0 *B15 P3	* %622

Barrier No. 16 Description: BERM PAD ON PAR 1 (2)
Type - (1)BERM
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-1152.0	-180.0	0.0	622.0 *B16 P1	* %622
2	-1140.0	-230.0	0.0	622.0 *B16 P2	* %622
	-1179.0	-300.0	0.0	622.0 *B16 P3	* %622

Barrier No. 17 Description: PROPOSED BLDG ON PAR 1
Type - (4)CONCRETE
Height Increment (DELZ)= 0.0 No. Height Changes (P)=0

SEG.	X	Y	GROUND (Z0)	TOP (Z)	BARRIER HEIGHTS AT ENDS
1	-1231.0	-276.0	0.0	647.0 *B17 P1	* %647
2	-1192.0	-295.0	0.0	647.0 *B17 P2	* %647
3	-1165.0	-220.0	0.0	647.0 *B17 P3	* %647
4	-1200.0	-205.0	0.0	647.0 *B17 P4	* %647
	-1231.0	-276.0	0.0	647.0 *B17 P5	* %647

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RECEIVER DATA

REC. NO.	X	Y	Z	DNL	PEOPLE	ID
1	-252.0	677.0	738.0	67	500	1.SF.P4

2	-252.0	677.0	748.0	67	500	2.SF.P4
3	-235.0	734.0	738.0	67	500	1.WF.P4
4	-235.0	734.0	748.0	67	500	2.WF.P4
5	-197.0	688.0	738.0	67	500	1.NF.P4
6	-197.0	688.0	748.0	67	500	2.NF.P4
7	-217.0	637.0	738.0	67	500	1.EF.P4
8	-217.0	637.0	748.0	67	500	2.EF.P4
9	-541.0	331.0	735.0	67	500	1.WF.P3
10	-541.0	331.0	745.0	67	500	2.WF.P3
11	-495.0	369.0	735.0	67	500	1.NF.P3
12	-495.0	369.0	745.0	67	500	2.NF.P3
13	-476.0	315.0	735.0	67	500	1.EF.P3
14	-476.0	315.0	745.0	67	500	2.EF.P3
15	-523.0	278.0	735.0	67	500	1.SF.P3
16	-523.0	278.0	745.0	67	500	2.SF.P3
17	-750.0	100.0	685.0	67	500	1.SF.P2
18	-750.0	100.0	695.0	67	500	2.SF.P2
19	-750.0	105.0	685.0	67	500	1.SF.P2
20	-750.0	105.0	695.0	67	500	2.SF.P2
21	-668.0	139.0	685.0	67	500	1.NF.P2
22	-668.0	139.0	695.0	67	500	2.NF.P2
23	668.0	135.0	685.0	67	500	R-23
24	668.0	135.0	695.0	67	500	R-24
25	-1231.0	-240.0	627.0	67	500	1.WF.P1
26	-1231.0	-240.0	637.0	67	500	2.WF.P1
27	-1180.0	-206.0	627.0	67	500	1.NF.P1
28	-1180.0	-206.0	637.0	67	500	2.NF.P1
29	-1165.0	-257.0	627.0	67	500	1.EF.P1
30	-1165.0	-257.0	637.0	67	500	2.EF.P1

DROP-OFF RATES

ALL LANE/RECEIVER PAIRS = 3.0 DBA

K - CONSTANTS

ALL LANE RECEIVER/PAIRS = 0.0 DBA

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	1.SF.P4	67.	500.	51.7
2	2.SF.P4	67.	500.	52.3
3	1.WF.P4	67.	500.	67.6
4	2.WF.P4	67.	500.	68.8
5	1.NF.P4	67.	500.	71.0
6	2.NF.P4	67.	500.	71.4
7	1.EF.P4	67.	500.	66.1
8	2.EF.P4	67.	500.	70.4
9	1.WF.P3	67.	500.	50.2
10	2.WF.P3	67.	500.	52.0

11	1.NF.P3	67.	500.	58.4
12	2.NF.P3	67.	500.	60.5
13	1.EF.P3	67.	500.	59.6
14	2.EF.P3	67.	500.	61.4
15	1.SF.P3	67.	500.	55.3
16	2.SF.P3	67.	500.	57.5
17	1.SF.P2	67.	500.	48.9
18	2.SF.P2	67.	500.	49.7
19	1.SF.P2	67.	500.	48.9
20	2.SF.P2	67.	500.	49.6
21	1.NF.P2	67.	500.	49.7
22	2.NF.P2	67.	500.	50.4
23	R-23	67.	500.	78.2
24	R-24	67.	500.	78.2
25	1.WF.P1	67.	500.	47.3
26	2.WF.P1	67.	500.	48.5
27	1.NF.P1	67.	500.	51.4
28	2.NF.P1	67.	500.	51.7
29	1.EF.P1	67.	500.	54.6
30	2.EF.P1	67.	500.	54.8

APPENDIX B

Section 36.410 (b) of the County of San Diego Noise Ordinance

Construction Noise

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Construction Noise is regulated by section 36.410 of the County Code of Regulatory Ordinances. It states:

- Except for emergency work, it shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site, except as outlined in the subsections below:
  - 1. It shall be unlawful for any person, including the County of San Diego, too operate construction equipment at any construction site on Sundays, and days appointed by the President, Governor, or the Board of Supervisors for a public fast, Thanksgiving, or holiday. Notwithstanding the above, a person may operate construction equipment on the above-specified days between the hours of 10 a.m. and 5 p.m. in compliance with the requirements of part b of this section at his residence or for the purpose of constructing a residence for himself, provided such operation of construction shall be unlawful for any person to operate construction equipment at any construction site on Mondays through Saturdays except between the hours of 7 a.m. and 7 p.m.
  - 2. No such equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more than 8 hours during any twenty-four (24) hours period when developed and used either in part or in whole for residential purposes.
- In the event that lower noise limit standards are established for construction equipment pursuant to State or Federal law, said lower limits shall be used as a basis for revising and amending the noise level limits specified in section 2 above.
- Persons may apply for a variance for their company, or may have special use permits that allow for different noise standards.

APPENDIX C

Construction Noise Questionnaire from Patrick Harrison

EILAR ASSOCIATES
ACOUSTICAL & ENVIRONMENTAL CONSULTING

September 29, 2005

Patrick Harrison
Crossroads Investors
12090 Crest Road
Poway, CA 92064
Phone: 858-679-8868

RECEIVED 10/3/05

Project #A40314N2

Subject: Questionnaire for the TM 20800, Crossroads Investors Fallbrook Project Construction

At your request, we are preparing a report regarding the worst-case noise impacts for the proposed Tentative Parcel Map 20800, in Fallbrook, California. In order for this report to be accurately completed, we require the following information:

1. What is the anticipated quantity of material handling (in cubic yards)? 15,000

2. How much dirt will they be exporting off the site? NONE

3. How much dirt will be imported onto the site? NONE

4. How much dirt will be handled on site? (i.e. pushing it from Point A to Point B) 15,000

5. Does the soils report indicate large rocks onsite? NO

6. Will there be blasting on site to break up large boulders? NO

7. Will there be the use of an excavator with a ram or other mechanical equipment to break up large boulders? NO

8. What types of trucks (i.e. dumptrucks, bulldozers, rams, etc.) will be used on site? Please include any and all heavy machinery: BULLDOZERS, FRONT LOADERS, DUMP TRUCKS, WATER TRUCKS, BOTTOM DUMPS

9. Are there any other significant sources of noise which will be generated onsite? NO

10. Is a construction schedule available at this time? NO

This form was completed by (name) PATRICK W.HARRISON of (company) PATRICK W. HARRISON, RCE on (date) 9-29-2005.

Signature

Please fax this information back to 760-753-2597 as soon as possible. If you have questions about completing this questionnaire, please contact me at 760-753-1865.

Thanks very much in advance for your time,

Ian Brewe

APPENDIX D

Construction Equipment Noise Levels

Construction Equipment Noise Levels			
Equipment Item	**Range of Noise Level at 50 Feet**	**Nominal Noise Level, L_{EQ}, at 50 Feet**	**Height of Noise Source**
Earthmoving			
Backhoes, 200 HP	71 to 93 dBA	85 dBA	
Berm Machine, 100 HP	74 to 84 dBA	80 dBA	
Dozers (Bull)	72 to 96 dBA	86 dBA	12 feet
Front Loaders, 300 HP	71 to 96 dBA	82 dBA	12 feet
Graders (Grader)	73 to 95 dBA	85 dBA	8 feet
Paver	80 to 92 dBA	89 dBA	
Roller, 180 HP	78 to 84 dBA	79 dBA	
Scrapers	73 to 95 dBA	88 dBA	12 feet
Tractors, 200 HP	72 to 96 dBA	84 dBA	
Trencher, 80 HP	76 to 86 dBA	82 dBA	
Truck/Trailer, 200 HP	70 to 92 dBA	82 dBA	
Truck: 125 HP, 150 HP	76 to 85 dBA	80, 82 dBA	
Materials Handling			
Concrete Mixer	70 to 90 dBA	85 dBA	
Concrete Pump	74 to 84 dBA	82 dBA	
Crane, Moveable: 50 HP, 200 HP, 400 HP	75 to 95 dBA	76, 80, 83 dBA	
Derrick	86 to 89 dBA	88 dBA	
Forklift, 40 HP	68 to 82 dBA	80 dBA	
Side Boom, 200 HP	80 to 90 dBA	85 dBA	
Water Truck, 500 HP	79 to 88 dBA	84 dBA	3 feet
Stationary Equipment			
Boiler, 1600 HP	79 to 85 dBA	82 dBA	
Compressors: 100 HP, 200 HP	68 to 87 dBA	78, 81 dBA	
Generators: 20 HP, 400 HP, 1300 HP	69 to 81 dBA	74, 81, 84 dBA	
Pumps: 25 HP, 200 HP, 350 HP	60 to 80 dBA	73, 76, 80 dBA	
Impact Equipment			
Compactor, 20 HP	84 to 90 dBA	86 dBA	8 feet
Jack Hammers	75 to 104 dBA	88 dBA	
Pile Drivers (Peak Level)	90 to 104 dBA	101 dBA	
Pneumatic Tools	82 to 88 dBA	86 dBA	
Rock Drills	90 to 105 dBA	98 dBA	
Steam Boiler (Pile Driver)	83 to 92 dBA	88 dBA	
Other Equipment			
Saws	67 to 92 dBA	78 dBA	
Vibrators	69 to 80 dBA	76 dBA	
Welding Machines: 50 HP, 80 HP	76 to 85 dBA	80, 82 dBA	

Source: Wieland Associates, 1999

APPENDIX E

Correspondences from Devin Beale

FENWAY PROPERTIES

Devin Beale
Fenway Properties
5677 Oberlin Drive
Suite 112
San Diego, CA 92121
Phone: 858.642.1981
Fax: 858.642.1381

Number of Pages
(With Cover Sheet): 1

DATE: 9/29/05

TO: Ian Brewe - Eilar & Associates

COPY TO:

FACSIMILE TRANSMITTAL SHEET

☐ URGENT ☒ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

MESSAGE / COMMENTS:

Traffic Report has been waived for "Crossroads Investors Minor Subdivision; TPM 20800; ER 04-02-002" by S.D. County officials. County T.I.F. will be paid by developer upon Bldg. Permit issuance.

Thank You,
Crossroad Investors I, LLC
Devin Beale, Project Mgr.
FAX #: 760 753-2597
FAX COPY #:

FENWAY PROPERTIES

RECEIVED 10/4/05

Devin Beale
Fenway Properties
5677 Oberlin Drive
Suite 112
San Diego, CA 92121
Phone: 858.642.1981
Fax: 858.642.1381

Number of Pages (With Cover Sheet): 1

DATE: 10/4/05

TO: IAN BRENE - ELIAS & ASSOC.

COPY TO: RE: CROSSROAD INVESTORS, LLC

FACSIMILE TRANSMITTAL SHEET

☐ URGENT ☒ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

MESSAGE / COMMENTS:

THE "OPEN SPACE AREA" HAS BEEN WAIVED FOR A BIOLOGY STUDY BY S.D. COUNTY OFFICIALS. PLEASE CALCULATE YOUR NOISE STUDY TO THE BEST OF YOUR KNOWLEDGE GIVEN NO BIOLOGY STUDY.

THANK YOU,
CROSSROAD INVESTORS, LLC
DEVIN BEALE

FAX #: 760-753-2597

FAX COPY #:

10/04/2005 11:56 8586421381 FENWAY PROPERTIES PAGE 01