

# APPENDIX H

## NOISE AND VIBRATION ANALYSIS

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# NOISE IMPACT ANALYSIS

SOUTH SHORES CHURCH MASTER PLAN  
CITY OF DANA POINT, CALIFORNIA

LSA

August 2014

# NOISE IMPACT ANALYSIS

SOUTH SHORES CHURCH MASTER PLAN  
CITY OF DANA POINT, CALIFORNIA

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## **SOUTH SHORES CHURCH MASTER PLAN**

### **INTRODUCTION**

This noise impact analysis has been prepared to evaluate the potential noise impacts and mitigation measures associated with the South Shores Church Master Plan (proposed project). This report is intended to satisfy the City of Dana Point's (City) requirement for a project-specific noise impact analysis by examining the impacts of the proposed uses on the project site and evaluating the mitigation measures required by the project.

### **PROJECT DESCRIPTION**

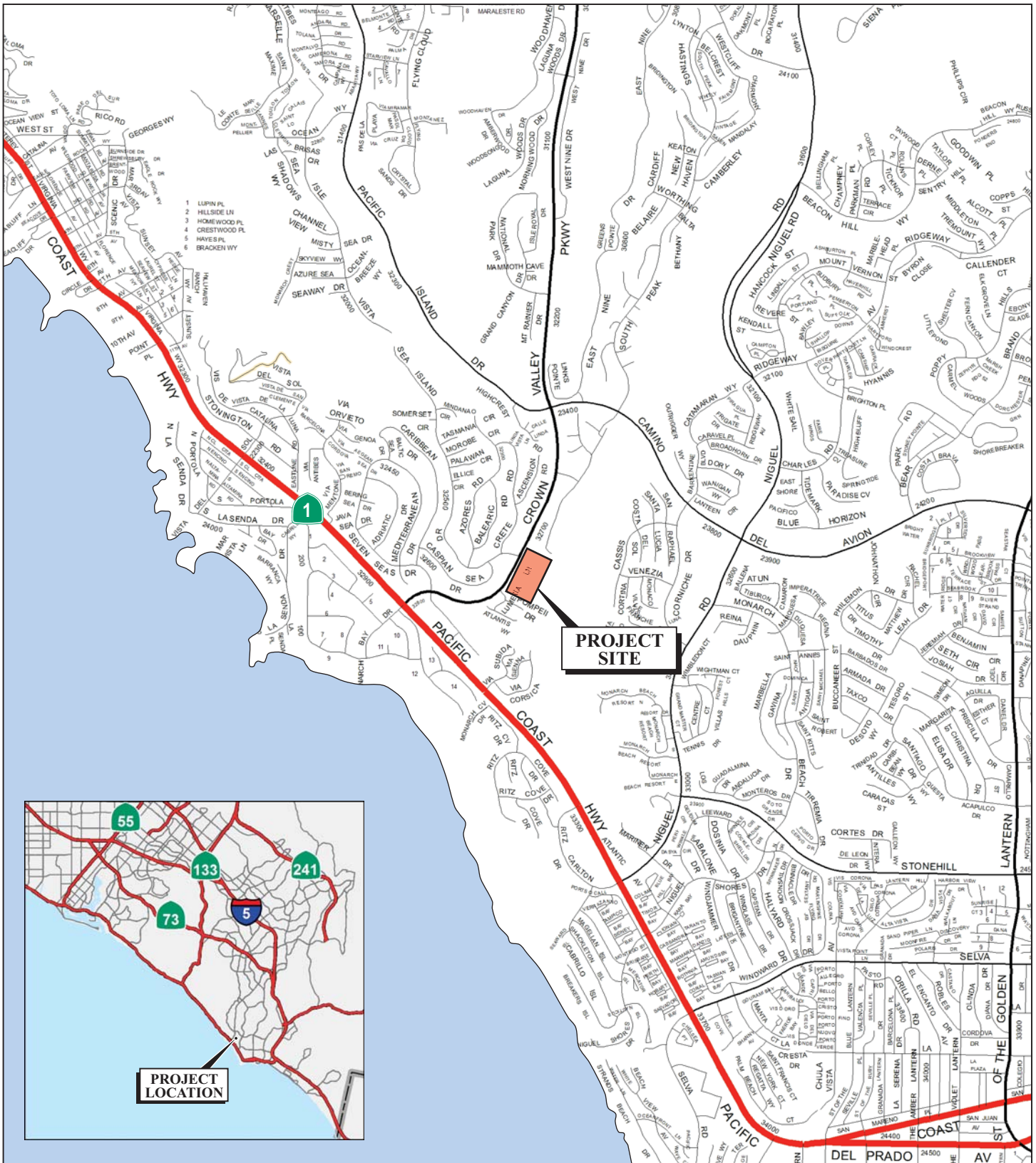
#### **Project Location**

The project site is located at 32712 Crown Valley Parkway in the northern portion of the City. The site is bounded by Crown Valley Parkway to the west, the Monarch Bay Villas to the south, an undeveloped hillside and the Monarch Beach Golf Links golf course to the east, and the Monarch Coast Apartments to the north. The approximate 6-acre (ac) project site is generally rectangular in shape and is currently developed with the existing South Shores Church development. Refer to Figure 1 for the location of the project site.

#### **Project Site Existing Setting**

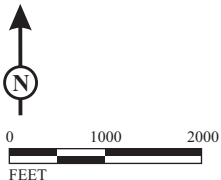
The existing church development includes a Sanctuary, Chapel, Administration and Fellowship Hall, Preschool, and parking lot. The 6,717-square-foot (sf) Preschool building is located in the northwestern part of the project site adjacent to Crown Valley Parkway. The children's play area is located southeast of the Preschool building and is surrounded by grass landscaping. The 12,985 sf Administration and Fellowship Hall building is located southeast of the playground, and the 3,765 sf Chapel is located southeast of the Administration and Fellowship Hall. The 19,078 sf Sanctuary is located in the central-eastern portion of the project site. An undeveloped slope descending from southwest to northeast is located on the northeastern boundary of the project site.

Existing access to the project site is provided by a signalized driveway south of the Preschool building at the intersection of Sea Island Drive and Crown Valley Parkway and a right-turn-in, right-turn-out-only driveway south of the intersection. The existing parking lot includes 228 parking spaces and is located on the southwestern portion of the project site. Ornamental landscaping surrounds the existing buildings and parking area, while a limited amount of natural vegetation is present on the undeveloped slope on the east side of the project site. Table A lists the existing development uses and associated square footage.



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FIGURE 1



South Shores Church Master Plan  
Project Site

SOURCE: The Thomas Guide



**Table A: Existing Development**

Land Use	Area
Parking	228 at-grade spaces
Sanctuary	19,078 sf
Chapel	3,765 sf
Administration and Fellowship Hall	12,985 sf
Preschool	6,717 sf
<b>Total Existing Area</b>	<b>42,545 sf</b>

Source: Matlock Associates (December 2013).  
sf = square feet

### Surrounding Land Uses

The project site is bounded on the west by Crown Valley Parkway, with single-family residential beyond. The Monarch Bay Villas border the project site immediately to the south with the Monarch Bay Plaza Shopping Center beyond, which includes grocery, restaurant, medical office, Preschool, pharmacy, gas station, and other commercial/retail uses. Pacific Coast Highway (PCH) fronts the shopping center on the southwest. The project site is bounded on the east by a vacant hillside, the paved Salt Creek recreational trail, the Monarch Beach Golf Links golf course, Salt Creek, and single-family residential beyond. The project site is bounded to the north by the Monarch Coast Apartments and beyond by Camino del Avion.

### Proposed Project

With the exception of the Sanctuary built in the 1990s, the current buildings on site have become dated and less than optimal for accommodating existing church activities and functions. The Preschool utilizes several buildings including temporary classrooms that are over 40 years old. Christian education classes and church committees meet in various rooms not specifically intended as meeting spaces, including the Pastor’s office. The existing Fellowship Hall space is too small for church-wide gatherings such as luncheons and celebratory events.

Consequently, the buildings proposed as part of the Master Plan will be used to accommodate existing church activities and functions. The Church does not intend to expand the Preschool enrollment or expand the capacity of the Sanctuary for Sunday services. The Sunday services will continue as currently scheduled. Other than the Community Life Center building discussed below, the proposed Master Plan facilities essentially replace current outdated facilities and provide dedicated spaces for ongoing church activities that currently occur in spaces not necessarily intended or well-suited to accommodate such activities.

Upon completion, the Community Life Center building will accommodate a larger percentage of the congregation for church-wide events, but any such event will not be held during times that conflict with Sunday services or the Church’s peak weekday activity, the Wednesday Women’s Bible Study Fellowship. The Community Life Center would also allow the Church to organize a youth basketball and/or volleyball league. The league, however, would not operate on Sundays during peak hours or at the same time as the Wednesday Women’s Bible Study Fellowship. The size of the Community Life Center further limits how many games/practices could be held simultaneously. To implement the

Master Plan, the South Shores Church proposes to demolish the existing Preschool, Administration and Fellowship Hall building, Chapel, and parking lot. As listed in Table B, total demolition would include 23,467 sf of building space. As listed in Table C, the proposed project includes construction of a total of 70,284 sf of new building space, including a new Preschool/Administration building, two new Christian Education buildings, a Community Life Center, and a two-level partially subterranean Parking Structure (see Figure 2, Proposed Master Plan). No construction or modifications to the existing Sanctuary building are proposed as part of this project. The project is proposed in five phases over a 10-year period; however, construction activities would not occur continuously over the 10-year period. Construction phases are detailed in the following discussion.

**Table B: Existing On-Site Buildings**

Existing Building	Proposed Action	Area (sf)
Sanctuary	No Planned Construction	19,078
<b>Total Area to Remain</b>		<b>19,078</b>
Chapel	Demolition	3,765
Administration and Fellowship Hall	Demolition	12,985
Preschool	Demolition	6,717
<b>Total Area to be Demolished</b>		<b>23,467</b>

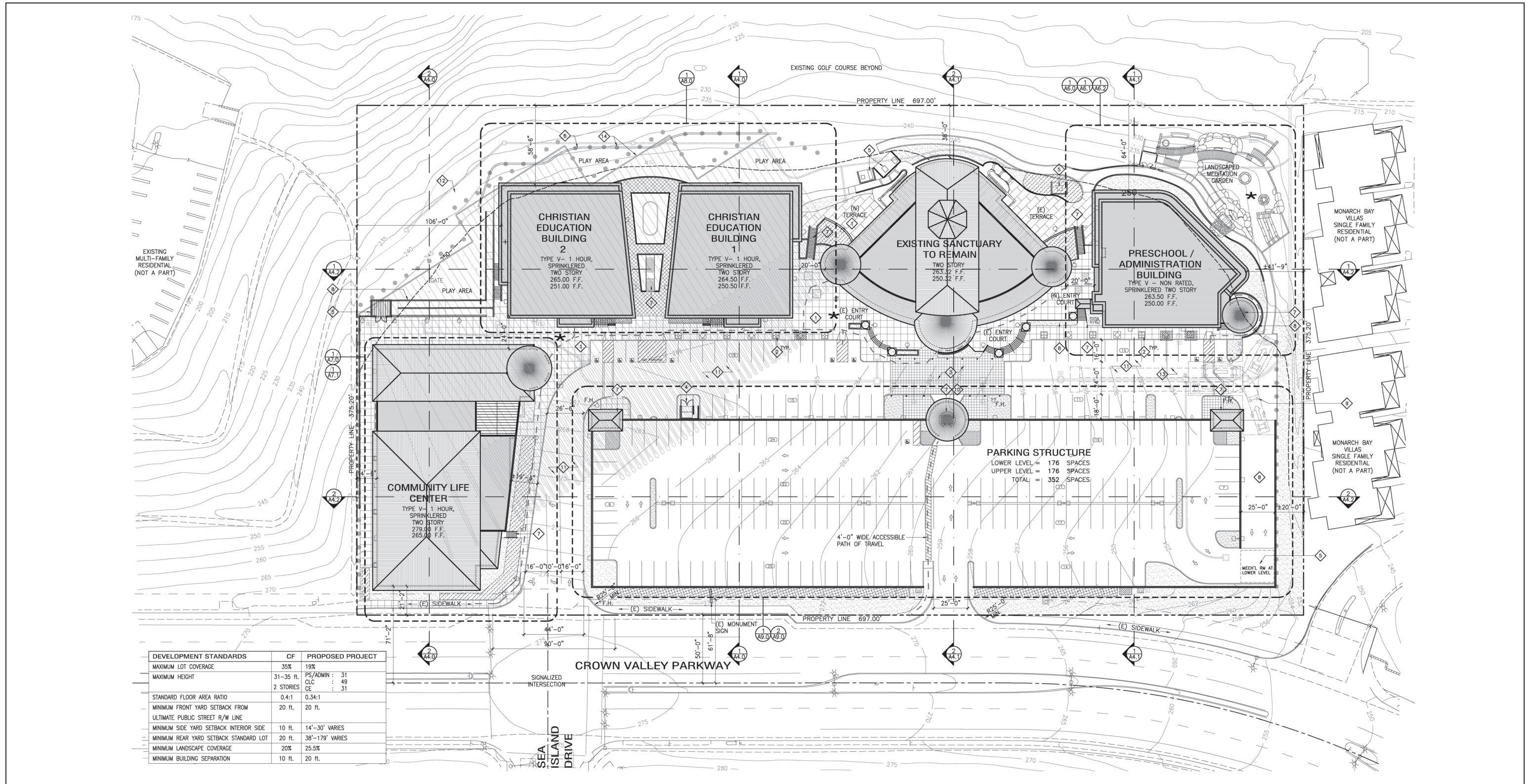
Source: Matlock Associates (December 2013).  
sf = square feet

**Table C: Proposed Master Plan Buildings**

Proposed Master Plan Buildings	Existing or New Construction	First Floor Area (sf)	Second Floor Area (sf)	Total Building Area (sf)
Sanctuary	Existing Building to Remain	9,140	9,938	19,078
<b>Total Area to Remain</b>				<b>19,078</b>
Preschool/Administration Building	Proposed	7,737	7,378	15,115
Community Life Center	Proposed	17,331	6,983	24,314
Christian Education Building 1	Proposed	7,674	7,725	15,399
Christian Education Building 2	Proposed	7,750	7,706	15,456
<b>Total New Construction</b>				<b>70,284</b>
<b>Total Master Plan Building Area</b>				<b>89,362</b>

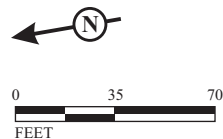
Source: Matlock Associates (December 2013).  
sf = square feet

**Phase 1A: Construct New Preschool/Administration Building.** Construction of Phase 1A is anticipated to be completed over 13 months and would involve the import of approximately 700 cubic yards (cy) of soil to the project site. An underground storm water detention system would be constructed beneath a portion of the existing parking area at the southern end of the project site. The proposed 15,115 sf Preschool/Administration building would be the first new building constructed on the project site. This two-story building would be approximately 31 feet (ft) in height, with one story at ground level and the other partially below grade on the west and north elevations. The proposed Preschool would be located on the lower level and would be comprised of six classrooms, staff offices, a janitorial room, restrooms, a break room, and miscellaneous mechanical, storage, and



DEVELOPMENT STANDARDS	CF	PROPOSED PROJECT
MAXIMUM LOT COVERAGE	35%	19%
MAXIMUM HEIGHT	31-35 ft.	PS/ADMIN : 31 CLC : 49 CE : 31
STANDARD FLOOR AREA RATIO	0.4:1	0.34:1
MINIMUM FRONT YARD SETBACK FROM ULTIMATE PUBLIC STREET R/W LINE	20 ft.	20 ft.
MINIMUM SIDE YARD SETBACK INTERIOR SIDE	10 ft.	14'-30' VARIES
MINIMUM REAR YARD SETBACK STANDARD LOT	20 ft.	38'-179' VARIES
MINIMUM LANDSCAPE COVERAGE	20%	25.5%
MINIMUM BUILDING SEPARATION	10 ft.	20 ft.

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SOURCE: Matlock Associates

I:\DPC0902\G\Proposed Master Plan.cdr (8/15/14)

**KEY NOTES**

- 1 NEW HARDSCAPE
- 2 NEW TREE WELL
- 3 NEW ENHANCED PAVING
- 4 NEW CMU TRASH ENCLOSURE WITH WOOD TRELLIS
- 5 NEW MECHANICAL EQUIPMENT ENCLOSURE BELOW
- 6 NEW RETAINING WALL: "SOIL RETENTION" PLANTABLE, STACKING WALL SYSTEM. WALL HEIGHT VARIES
- 7 NEW STAIRS
- 8 NEW RAMP
- 9 OCFA HAMMERHEAD
- 10 NEW ELEVATOR
- 11 AC PAVING
- 12 EARTHEN NATURE TRAIL, FIELD VERIFY
- 13 UNDERGROUND DETENTION BASIN, CONSTRUCTED PHASE 1A
- 14 CAISSONS, REACTION WALL & TIE BACKS BELOW GRADE

**LEGEND**

- CENTERLINE
- BUILDING SETBACK
- PROPERTY LINE
- ACCESSIBLE PATH OF TRAVEL
- TOPOGRAPHIC CONTOUR LINE
- [Pattern] LANDSCAPED AREA
- [Pattern] HARDSCAPE
- [Pattern] BUILDING
- [Symbol] POLE MOUNTED AREA LIGHT
- [Symbol] PEDESTRIAN AREA LIGHT
- [Symbol] WALL MOUNTED AREA LIGHTS. SEE SHEET A15.0 LIGHTING PLAN FOR MORE INFORMATION
- [Symbol] PROPOSED LOCATION OF "PUBLIC ART"

**BMP's**

- REFER TO CIVIL ENGINEERS WOMP EXHIBIT FOR PROPOSED BMP's
- [Pattern] BIORETENTION WITH UNDERDRAINS (BIO-1) DOWNSPOUT PLANTER BOXES - BMP-1
  - [Pattern] VEGETATED SWALE (BIO-2) BIOSWALE / DEPRESSED LANDSCAPE - BMP-2
  - [Pattern] PROPRIETARY BIO-FILTRATION (BIO-7) FILTERRA SYSTEM - BMP-3
  - [Symbol] STORM DRAIN

**PARKING COUNT**

- 59 ON SITE PARKING SPACES
- 176 SPACES LOWER LEVEL PARKING STRUCTURE
- 176 SPACES UPPER LEVEL PARKING STRUCTURE
- 411 SPACES TOTAL

FIGURE 2

South Shores Church Master Plan  
Proposed Master Plan

workroom spaces. The Church administrative functions would be located on the upper level of the Preschool/Administration building and would include staff offices, a break room, a prayer room, a reception area, a multi-purpose room, restrooms, and a janitorial room with a shower. This building is intended to serve as a meeting space for church ministries and community groups. Operating hours for the proposed Preschool would be Monday through Friday, mid-September to mid-June, from 9:00 a.m. to 2:00 p.m. and from morning to evening for the administrative functions. Saturday and Sunday functions would be likely and would occur primarily between 8:30 a.m. and 1:00 p.m. It should also be noted that the proposed Preschool would be located in this building until construction of the final location on site in Christian Education Building 2 is complete. Following completion of Christian Education Building 2, the Preschool would relocate from its interim location in the Preschool/Administration building to Christian Education Building 2. The Preschool/Administration building would then undergo interior renovations to convert spaces in the lower level to suit administration needs and other adult uses.

The proposed Landscaped Garden would be located in the southeastern corner of the project site adjacent to the proposed Preschool/Administration building. This garden area would include terraced plateaus for meditation, ornamental vegetation, small trees, stone walls, paths with benches, an art feature, and a small pedestrian footbridge. The garden would also include a shallow water feature that would cascade from the upper area of the garden to the lower portion near a small pedestrian footbridge. A small terraced area for bible study discussion and small groups is also proposed in this area. It is anticipated that this area would be utilized similar to a passive park, with quiet spaces for reflection and meditation. No active uses are planned for this area, and lighting would be restricted to minimal security lighting. A single entry and exit gate would provide access to the garden. The hours of operation for the garden would be from 7:00 a.m. to sunset, and the garden would be inaccessible to the public outside of these hours.

The Preschool/Administration building would be constructed to a maximum height of 31 ft above ground level. Building materials would include smooth plaster, bronze-tinted glazing on the glass windows to match the existing Sanctuary, cultured stone to match the natural on-site boulders, and parapet terracotta roofing on the architectural feature of the southwest corner of the building to match the existing Sanctuary.

**Phases 1B, 1B-E1, and 1B-E2: Demolition of Existing Buildings and Remedial Grading.** Phase 1B includes the demolition of the existing buildings (Preschool, Administration and Fellowship Hall building, and the Chapel) on the north end of the project site. The demolition and removal of 23,467 sf of buildings would occur over a 3-month period.

Earthwork on the north end of the site would follow in Phases 1B-E1 and E-2, after the demolition of the existing buildings, including the preparation of rough grade pad elevations and remedial earthwork. The rough grade earthwork activities would involve the export of 17,000 cy of soil. Earthwork activities on the north end of the project site would be conducted over a period of 6 months, with primary export occurring during the first 3 months of this period in Phase 1B-E1.

**Phase 1C: Construction of New Community Life Center Building.** Phase 1C includes construction of the two-story, 24,314 sf Community Life Center Building located in the northwest corner of the

project site and construction of at-grade parking spaces. The Community Life Center would be partially subterranean with a portion of the ground level below grade on the west elevation and the north and south elevations adjacent to Crown Valley Parkway. At its highest point, the proposed building would be approximately 35 ft in height to the peak of the gable roof. Although the structure itself is not more than 35 ft in height, it would still require the approval of a height variance, since the height of structures is measured from the lowest current grade within the building's footprint as stipulated in the City's Zoning Ordinance. The lowest grade within this building's footprint is along the east elevation. Building materials would include smooth and textured plaster, wood canopies for screening, metal rollup door to the maintenance room, wood beams with finish to match existing Sanctuary, bronze-tinted glazing on the glass windows to match the existing Sanctuary, cultured stone to match the natural on-site boulders, and parapet terracotta roofing to match the existing Sanctuary.

The proposed building would include Fellowship Hall/Gymnasium functions on the ground level with support spaces, such as storage rooms, a racquetball room, restrooms, a kitchen, staff offices, and a maintenance room, as well as two classrooms. The upper level of the Community Life Center would be comprised of five classrooms to serve as meeting spaces for Christian education ministries. The Fellowship Hall building would also serve as a space for church-wide dining, meetings, ministries, receptions, and other functions, while the Gymnasium would serve as a meeting space for various sports groups. There would be no concurrent use of the Fellowship Hall/Gymnasium for assembly functions or services. Operations and activities would include weekday and weekend functions.

Phase 1C is anticipated to be completed over the period of 1 year. During this phase, a total of 3,500 cy of soil would be imported to the project site. Access to the project site at the signalized intersection of Sea Island Drive and Crown Valley Parkway would be temporarily closed during the first 2 months of Phase 1C, leaving the right-turn-in/right-turn-out-only access point on the east side of Crown Valley Parkway as the only site driveway. During Phase 1C, the construction staging area would be located in the northeastern corner of the project site (future location of the Christian Education buildings).

**Phase 2: Construction of Christian Education Building 1.** Phase 2 includes the construction of the 15,399 sf Christian Education Building 1 and Nursery space. Construction of Phase 2 is anticipated to be completed over 1 year and would not involve the import or export of any soil. The Christian Education Building 1 would be approximately 31 ft in height and would include two stories, with the lower level partially below grade on the west and south elevations. The ground level would be comprised of a children's nursery space and four classrooms for youth Christian education. These functions would operate during Sunday services, with some mid-week and weekday functions occurring on an as-needed basis. The Christian education classrooms would also potentially be utilized for mid-week youth and adult ministry programs during evening hours. The upper level of Christian Education Building 1 would consist of two multi-use rooms with a kitchen, restrooms, storage rooms, and a church bookstore. The bookstore would serve the church congregation on Sundays and would potentially be open during weekdays during mid-week services. Fellowship functions would occur in the multi-use rooms on an as-needed basis throughout the week for various youth and adult ministry opportunities. The multi-use rooms would also be available for community use upon request.

**Phase 3: Construction of Christian Education Building 2.** Construction of Phase 3 would be completed over 12 months and would not involve the import or export of any soil. Phase 3 includes construction of the 15,456 sf Christian Education Building 2. On the ground level, Christian Education Building 2 would include the Church Preschool. The Preschool facilities on the lower level would be comprised of eight classrooms, offices, a teachers' lounge, restrooms, and a maintenance and storage room. The Preschool would operate from 9:00 a.m. to 2:00 p.m., Monday through Friday, from mid-September to mid-June. The upper level of Christian Education Building 2 would consist of nine classrooms for children, youth, and adult Christian education purposes. The upper level would also have offices, restrooms, and storage rooms. Christian Education Building 2 would primarily be utilized during Sunday Church services, with mid-week use occurring on an as-needed basis. Following completion of Christian Education Building 2, the Church Preschool would relocate from its interim location on the ground floor of the Preschool/Administration building to the ground floor of Christian Education Building 2.

Both of the Christian Education Buildings would be constructed to a maximum height of 31 ft. Building materials would include smooth plaster, vine-covered wood trellis, aluminum windows, bronze-tinted glazing to match the existing Sanctuary, and cultured stone to match the natural on-site boulders.

**Phase 4: Construction of the South Half of Parking Structure.** Phase 4 includes construction of the southern half of the proposed Parking Structure and the interior renovation of the Preschool/Administration building. The Church Preschool would be relocated from its interim location on the ground floor of the Preschool/Administration building to the ground floor of the Christian Education Building 2 to be completed in Phase 3. The ground floor (interior spaces only) of the Preschool/Administration building would be renovated in this phase to accommodate administrative functions.

The proposed Parking Structure is designed with two levels. The upper level/deck parking would be accessed from Crown Valley Parkway, and the lower level would be accessed from the project's internal drive aisle. The perimeter wall of the parking structure, as seen from Crown Valley Parkway, would vary in height because of the changing topography. The height of the wall would be 3 ft, 6 inches above the adjacent grade at the north end and would be 10 ft above the adjacent grade at the south end.

The elevator tower, which is proposed along the parking structure's eastern elevation, is proposed to be approximately 33 ft above grade, as measured from the project's internal driveway and would be 25 ft high as seen from the west entry drive at Crown Valley Parkway. The ground level of this structure will be partially below grade on the west elevation and the north and south elevations. The upper level would be designed to follow the contour of the Crown Valley Parkway to allow for the existing secondary vehicular site entry and exit access point. By preserving this access point, northbound lanes on Crown Valley Parkway would have direct access to the upper level of the Parking Structure. The lower level of the Parking Structure would be accessed via at-grade entry and exit points from the main drive aisle on both the northern and southern ends of the Parking Structure, near the pedestrian stair towers. Building materials would include smooth plaster, green screen covered with vines, and terracotta roofing to match the existing Sanctuary.

Phase 4 is anticipated to be completed over 7 months. During construction of Phase 4, a total of 8,000 cy of soil would be exported off of the project site. During this phase of construction, the right-turn-in/right-turn-out-only project access on the east side of Crown Valley Parkway would be temporarily unavailable. The only access point to the project site during this phase would be from the signalized intersection at Sea Island Drive/Crown Valley Parkway. During Phase 4, the construction staging area would be located in the central portion of the project site, in the future location of the northern half of the Parking Structure.

**Phase 5: Construction of the North Half of Parking Structure.** Phase 5 includes construction of the northern half of the Parking Structure. Refer to the discussion under Phase 4 for details related to the proposed Parking Structure's design features. Phase 5 is anticipated to be conducted over 7 months and would include the export of approximately 5,500 cy of soil. During Phase 5, the construction staging area would be located in the lower level of the southern half of the proposed Parking Structure.

### **Completed Master Plan**

The proposed Master Plan would be developed in phases over a period of 10 years. The proposed sequencing of the construction phases would provide the Church an opportunity to continue to maintain existing operations to the extent feasible. Completion of the proposed Master Plan would include the existing Sanctuary and the addition of the proposed Preschool/Administration building, Landscape Outdoor Meditation Garden, Christian Education Buildings 1 and 2, the Community Life Center, and the Parking Structure. As part of the proposed project, no additions to the existing Sanctuary are proposed. In addition, no increase in the licensed enrollment for the Preschool are proposed.

Completion of the proposed Master Plan would provide a total of 59 parking spaces on the main drive aisle and 176 parking spaces on each floor of the proposed Parking Structure, resulting in a total of 411 parking spaces available for church users.

## **METHODOLOGY RELATED TO NOISE IMPACT ASSESSMENT**

Evaluation of noise impacts associated with the proposed project includes the following:

- Determination of the short-term construction noise levels at off-site noise sensitive uses and compare to the City's Noise Ordinance requirements
- Determination of the long-term noise levels from vehicular traffic using the Federal Highway Administration (FHWA) approved method and on-site stationary sources using empirical noise data obtained in field measurements, at on- and off-site noise sensitive uses and compare the levels to the City's pertinent noise standards
- Determination of the required mitigation measures, such as mechanical ventilation or building facade enhancements, to reduce long-term, on-site noise impacts from all sources

## Characteristics of Sound

Sound is increasing to such disagreeable levels in the environment that it can threaten quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

## Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) are 10 times more intense than 1 dB, 20 dB are 100 times more intense, and 30 dB are 1,000 times more intense. Thirty dB represents 1,000 times as much acoustic energy as one decibel. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases 3 dB for each doubling of distance in a hard site environment. Line source, noise in a relatively flat environment with absorptive vegetation, decreases 4.5 dB for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level ( $L_{eq}$ ) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the  $L_{eq}$  and community noise equivalent level (CNEL) or the day-night average level ( $L_{dn}$ ) based on A-weighted decibels (dBA).



CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly  $L_{eq}$  for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m.–7:00 a.m. (defined as sleeping hours).  $L_{dn}$  is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and  $L_{dn}$  are within 1 dBA of each other and are normally exchangeable. The City uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level ( $L_{max}$ ), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by  $L_{max}$ .  $L_{max}$  reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the  $L_{10}$  noise level represents the noise level exceeded 10 percent of the time during a stated period. The  $L_{50}$  noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The  $L_{90}$  noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the  $L_{eq}$  and  $L_{50}$  are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise levels of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

### **Physiological Effects of Noise**

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160 to 165 dBA would result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying less developed areas.

Table D lists definitions of acoustical terms, and Table E shows common sound levels and their sources. Table F shows land use noise compatibility taken from Table N-1 of the City's General Plan Noise Element (July 9, 1991).

**Table D: Definitions of Acoustical Terms**

<b>Term</b>	<b>Definitions</b>
Decibel, dB	A unit of level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter deemphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
$L_{01}$ , $L_{10}$ , $L_{50}$ , $L_{90}$	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, $L_{eq}$	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dBA to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 dBA to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, $L_{dn}$	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dBA to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
$L_{max}$ , $L_{min}$	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.

Source: Harris, Cyril M., *Handbook of Acoustical Measurements and Noise Control* (1991).

**Table E: Common Sound Levels and Their Noise Sources**

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near Jet Engine	140	Deafening	128 times as loud
Civil Defense Siren	130	Threshold of Pain	64 times as loud
Hard Rock Band	120	Threshold of Feeling	32 times as loud
Accelerating Motorcycle at a Few Feet Away	110	Very Loud	16 times as loud
Pile Driver; Noisy Urban Street/ Heavy City Traffic	100	Very Loud	8 times as loud
Ambulance Siren; Food Blender	95	Very Loud	
Garbage Disposal	90	Very Loud	4 times as loud
Freight Cars; Living Room Music	85	Loud	
Pneumatic Drill; Vacuum Cleaner	80	Loud	2 times as loud
Busy Restaurant	75	Moderately Loud	
Near Freeway Auto Traffic	70	Moderately Loud	
Average Office	60	Quiet	One-half as loud
Suburban Street	55	Quiet	
Light Traffic; Soft Radio Music in Apartment	50	Quiet	One-quarter as loud
Large Transformer	45	Quiet	
Average Residence without Stereo Playing	40	Faint	One-eighth as loud
Soft Whisper	30	Faint	
Rustling Leaves	20	Very Faint	
Human Breathing	10	Very Faint	Threshold of Hearing
	0	Very Faint	

Source: Compiled by LSA Associates, Inc. (1998).

**Table F: Noise/Land Use Compatibility Matrix**

Land Use Categories		Community Noise Equivalent Level (CNEL)						
Designations	Uses	<55	60	65	70	75	80	>
Residential (all except mobile home)	Single Family, Duplex, Multiple Family	A	A	B	B	C	D	D
Residential	Mobile Home	A	A	B	C	C	D	D
Visitor/Recreation Commercial	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
Neighborhood Commercial, Community Commercial	Commercial Retail, Bank, Restaurant, Movie Theater	A	A	A	A	B	B	C
Professional/Administrative, Industrial/Business Park	Office Building, Research and Development, Professional Offices, City Office Building	A	A	A	B	B	C	D
Community Facility	Amphitheater, Concert Hall, Auditorium, Meeting Hall	B	B	C	C	D	D	D
Visitor/Recreation Commercial, Community Commercial	Children's Amusement Park, Miniature Golf Course, Go-cart Track, Equestrian Center, Sports Club	A	A	A	B	B	D	D
Community Commercial, Industrial/Business Park, Community Facility	Automotive Service Station, Auto Dealership, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
Community Facility	Hospital, Church, Library, School Classrooms	A	A	B	C	C	D	D
Recreation/Open Space	Park	A	A	A	B	C	D	D
Recreation/Open Space	Golf Course, Cemeteries, Natural Centers, Wildlife Reserve/Habitat	A	A	A	A	B	C	C
Recreation/Open Space	Agriculture	A	A	A	A	A	A	A

Source: City of Dana Point, Noise Element (July 9, 1991).

Zone A: Clearly Compatible. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Zone B: Normally Compatible. New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.

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

Zone D: Clearly Incompatible. New construction or development should generally not be undertaken.

CNEL = Community Noise Equivalent Level

## **THRESHOLDS OF SIGNIFICANCE**

Based on Guidelines for the Implementation of the California Environmental Quality Act, Appendix G, Public Resource Code §15000–15387, a project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and the goals of the community in which it is located. The applicable noise standards governing the project site are the criteria in the City's Noise Element of the General Plan and its Noise Ordinance.

### **City of Dana Point Noise Element of the General Plan.**

The noise standards specified in Table N-2 of the City's General Plan Noise Element (shown in Table G) are used as a guideline to evaluate the acceptability of the noise levels generated by the traffic flow. These standards are for assessment of long-term vehicular traffic noise impacts. The City of Dana Point set exterior noise criteria for assessing the compatibility of residential uses with transportation facilities. The City requires that the interior areas for residences not exceed 45 dBA CNEL and that the exterior active use areas (such as backyards or patios) not exceed 65 dBA CNEL. Other short-term noise impacts, such as construction activities or on-site stationary sources, are regulated by the noise ordinance.

### **Noise Ordinance**

The City's Noise Ordinance establishes the maximum permissible noise level that may intrude into a neighbor's property. The Noise Ordinance (added in 1992) establishes noise level standards for various land use categories affected by stationary noise sources.

For Noise Zone 1, which includes the entire City, the exterior noise levels shall not exceed 55 dBA for more than 30 minutes in any hour during daytime hours between 7:00 a.m. and 10:00 p.m. For events occurring within shorter periods of time, the noise levels are adjusted upward accordingly. For events lasting equal to or less than 30 minutes but more than 15 minutes, the exterior noise shall not exceed 60 dBA during daytime hours. For events lasting equal to or less than 15 minutes but more than 5 minutes, the exterior noise shall not exceed 65 dBA during daytime hours. For events lasting equal to or less than 5 minutes but more than 1 minute, the exterior noise shall not exceed 70 dBA during daytime hours. At any time during daytime hours, the exterior noise shall not exceed 75 dBA. During the nighttime hours between 10:00 p.m. and 7:00 a.m. the following day, the above noise standard levels are reduced by 5 dBA.

In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

The interior noise levels for Noise Zone 1 areas shall not exceed 55 dBA for events lasting up to 15 minutes but more than 5 minutes during daytime hours. For events lasting equal to or less than 5 minutes but more than 1 minute, the interior noise shall not exceed 60 dBA during daytime hours.

**Table G: Interior and Exterior Noise Standards**

Land Use Categories		CNEL (dBA)	
Designations	Uses	Interior <sup>1</sup>	Exterior <sup>2</sup>
Residential (all)	Single Family, Duplex, Multiple Family	45 <sup>3</sup>	65
	Mobile Homes	--	65 <sup>4</sup>
Neighborhood Commercial, Community Commercial, Visitor/Recreation Commercial, Commercial/Residential, Professional/ Administrative, Industrial/ Business Park, Recreation/Open Space, Harbor Marine Land	Hotel, Motel, Transient Lodging	45	--
	Commercial Retail, Bank, Restaurant	55	--
	Office Building, Research and Development, Professional Offices, City Office Building	50	--
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	--
	Gymnasium (Multipurpose)	50	--
	Sports Club	55	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
Community Facility	Movie Theaters	45	--
	Hospital, School Classrooms	45	65
Recreation/Open Space	Church, Library	45	--
	Parks	--	65

Source: City of Dana Point, Noise Element (July 9, 1991).

<sup>1</sup> Indoor environment including: bathrooms, toilets, closets, corridors.

<sup>2</sup> Outdoor environment limited to: private yard of single family, multifamily private patio, or balcony, which is served by a means of exit from inside the dwelling.

<sup>3</sup> Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided as of Chapter 12, Section 1205 of UBC.

<sup>4</sup> Exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL.

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

UBC = Uniform Building Code

At any time during daytime hours, the interior noise shall not exceed 65 dBA. During the nighttime hours between 10:00 p.m. and 7:00 a.m. the following day, the above noise standard levels are reduced by 5 dBA.

In the event the ambient noise level exceeds either of the first two noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

The City's Municipal Code noise ordinance has not established any upper limits for construction noise because it is temporary and will cease to occur after completion of the project construction. The Noise Ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses. Construction activities are allowed between the hours of 7:00 a.m. and 8:00 p.m., Monday through Saturday. No construction is permitted outside of these hours or on Sundays and federal holidays. Additionally, Section 8.01.250 (Time of Grading Operations) of the City's Municipal Code limits grading and equipment operations within 0.5 mile of a structure for human occupancy. Consequently, grading and equipment operations may only occur between the hours of 7:00 a.m. and 5:00 p.m. during the weekdays and are prohibited on Saturdays, Sundays, and City-recognized holidays. Further, the City conditions project to limit all grading and equipment operations and all construction-related activities that would result in high noise levels (90 dBA or greater) to between the hours of 10:00 a.m. and 4:00 p.m., Monday through Friday. No high noise level construction activities shall be permitted outside of these hours or on Saturdays, Sundays, and federal holidays.

### **Overview of the Existing Noise Environment**

The primary existing noise sources in the project area are transportation facilities. Traffic on Crown Valley Parkway, Pompeii Drive, Sea Island Drive, and other local streets is a steady source of ambient noise.

**Ambient Noise Measurements.** LSA Associates, Inc. (LSA) conducted 15-minute ambient noise measurements at two representative locations in the project area. The first ambient noise measurement location was near the southern project boundary adjacent to the Monarch Bay Villas, approximately 250 ft from the edge of Crown Valley Parkway and 50 ft from the residences. Primary noise sources at this location included traffic on Crown Valley Parkway and PCH. Aircraft overflight and dog barking contributed to the ambient noise measured. The second location for the ambient noise measurement was at the sidewalk by the existing Administration and Fellowship Hall building, approximately 60 ft from the edge of Crown Valley Parkway. Primary noise sources at this location included traffic on Crown Valley Parkway. Table H lists the noise measurement results at these two representative locations in the project vicinity. Noise measurement survey sheets are included in Appendix B of this report.

Table H shows that ambient noise levels in the project vicinity are relatively high at the location on the project site closer to Crown Valley Parkway. Ambient noise levels are low to moderate when the distance to Crown Valley increases. With the dog barking, the ambient noise levels were almost 7 dBA higher compared to when the dog was quiet.

**Table H: Ambient Noise Level (dBA)**

Location	Time Period	L <sub>eq</sub>	L <sub>50</sub>	L <sub>8</sub>	L <sub>2</sub>	L <sub>max</sub>
60 ft from Monarch Bay Villas and 250 ft from Crown Valley Parkway	2:05 p.m.–2:20 p.m. (with dog barking/ no dog barking)	54.6	45.2	51.3	66.3	76.8
		47.8	46.5	51.2	53.2	56.6
Sidewalk by the existing Administration and Fellowship Hall, 60 ft from Crown Valley Parkway	3:04 p.m.–3:19 p.m.	61.6	58.8	65.0	67.9	79.0

Source: LSA Associates, Inc. (March 27, 2014).

dBA = A-weighted decibels

ft = feet

L<sub>2</sub> = A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 2 percent of a stated time period

L<sub>8</sub> = A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 8 percent of a stated time period

L<sub>50</sub> = A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 50 percent of a stated time period

L<sub>eq</sub> = equivalent continuous sound level

L<sub>max</sub> = maximum instantaneous noise level

**Modeled Existing Traffic Noise Levels.** The FHWA *Highway Traffic Noise Prediction Model* (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along roadway segments in the project vicinity. The standard vehicle mix for County of Orange (County) roadways was used for traffic on these roadway segments. The modeled 24-hour CNEL levels are shown in Tables I and J for the existing weekday and weekend, conditions, respectively. These traffic noise levels are representative of a worst-case scenario, which assumes a flat terrain and no shielding between the traffic and the noise contours. Traffic noise levels in the project vicinity are generally moderate along Camino Del Avion, Sea Island Drive, and Lumeria Lane, and high along Crown Valley Parkway and PCH.

### Sensitive Land Uses in the Project Vicinity

The project site is bounded on the west by Crown Valley Parkway, with single-family residential beyond. The Monarch Bay Villas border the project site immediately to the south with the Monarch Bay Plaza Shopping Center beyond. PCH fronts the shopping center on the southwest. The project site is bounded on the east by a vacant hillside, the paved Salt Creek recreational trail,<sup>1</sup> the Monarch Beach Golf Links golf course, Salt Creek, and single-family residential beyond (approximately 1,000 ft from the project site). The project site is bounded to the north by the Monarch Coast Apartments and beyond by Camino del Avion.

<sup>1</sup> Salt Creek Trail is not listed on the County’s Master Plan of Regional Riding and Hiking Trails. However, according to the County of Orange Major Riding and Hiking Trails and Off-Road Paved Bikeways map, Salt Creek Trail is an Existing Off-Road Paved Bikeway (<http://ocparks.com/civicax/filebank/blobload.aspx?BlobID=8223>, accessed March 11, 2013).



**Table I: Existing Weekday Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Crown Valley Parkway north of Camino Del Avion	20,700	76	148	311	69.0
Crown Valley Parkway between Camino Del Avion and Sea Island Drive	21,200	64	126	265	68.3
Crown Valley Parkway between Sea Island Drive and Church Driveway	20,800	61	123	261	68.6
Crown Valley Parkway between Church Driveway and Lumeria Lane	20,800	61	123	261	68.6
Crown Valley Parkway between Lumeria Lane and Pacific Coast Highway	19,000	58	116	246	68.2
Crown Valley Parkway south of Pacific Coast Highway	1,700	< 50	< 50	< 50	54.9
Camino Del Avion west of Crown Valley Parkway	3,400	< 50	< 50	67	59.9
Camino Del Avion east of Crown Valley Parkway	9,400	< 50	75	155	65.1
Sea Island Drive west of Crown Valley Parkway	1,500	< 50	< 50	< 50	54.3
Lumeria Lane east of Crown Valley Parkway	220	< 50	< 50	< 50	46.0
Pacific Coast Highway west of Crown Valley Parkway	29,000	74	153	326	70.0
Pacific Coast Highway east of Crown Valley Parkway	21,800	63	127	270	68.8

Source: LSA Associates, Inc. (July 2014).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

Modeled using the Orange County default fleet percentages. Roadway segments directly adjacent to the project site are shaded.

ADT = average daily trips

CNEL = Community Noise Equivalent Level

dBA = A-weighted Decibel

ft = feet

**Table J: Existing Sunday Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Crown Valley Parkway north of Camino Del Avion	18,200	71	137	286	68.4
Crown Valley Parkway between Camino Del Avion and Sea Island Drive	19,500	62	120	251	67.9
Crown Valley Parkway between Sea Island Drive and Church Driveway	18,500	57	114	242	68.1
Crown Valley Parkway between Church Driveway and Lumeria Lane	18,000	56	112	238	67.9
Crown Valley Parkway between Lumeria Lane and Pacific Coast Highway	16,600	< 50	107	225	67.6
Crown Valley Parkway south of Pacific Coast Highway	1,200	< 50	< 50	< 50	53.4
Camino Del Avion west of Crown Valley Parkway	2,900	< 50	< 50	60	59.2
Camino Del Avion east of Crown Valley Parkway	8,500	< 50	71	145	64.7
Sea Island Drive west of Crown Valley Parkway	1,300	< 50	< 50	< 50	53.7
Lumeria Lane east of Crown Valley Parkway	270	< 50	< 50	< 50	46.9
Pacific Coast Highway west of Crown Valley Parkway	24,000	66	135	287	69.2
Pacific Coast Highway east of Crown Valley Parkway	20,300	60	121	257	68.5

Source: LSA Associates, Inc. (July 2014).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

Modeled using the Orange County default fleet percentages. Roadway segments directly adjacent to the project site are shaded.

ADT = average daily trips

CNEL = Community Noise Equivalent Level

dBA = A-weighted Decibel

ft = feet

## IMPACTS AND MITIGATION MEASURES

### Short-Term Construction-Related Impacts

As part of the project construction, there will be excavation, grading, and paving on the project site. Noise levels from grading and other construction activities for the proposed project may range up to 90 dBA  $L_{max}$  at the closest residential uses adjacent to the project site for very limited times when construction occurs near the project's boundary. The nearest residential homes are approximately 30 ft away from the outdoor construction area and would not be exposed to construction noise exceeding 95 dBA  $L_{max}$ . Construction-related noise impacts from the proposed project would be potentially adverse; however, compliance with the City's construction hours requirement would reduce the impact to a less than significant level.

Short-term noise impacts would be associated with demolition, excavation, grading, paving, and building construction of the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today but would no longer occur once conversion of the project is completed.

Two types of short-term noise impacts could occur during the construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 ft would generate up to a maximum of 87 dBA), the effect on longer term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during excavation, grading, and building erection on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site, and therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table K lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receptor, taken from the FHWA Roadway Construction Noise Model (RCNM, FHWA *Highway Construction Noise Handbook*, August 2006).

Typical noise levels range up to 90 dBA  $L_{max}$  at 50 ft during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed project is expected to require the use of earthmovers, scrapers, bulldozers, and water and pickup trucks. This equipment would be used on the project site. Based on the information in Table K, the maximum noise level generated by each scraper on the proposed project site is assumed to be 84 dBA  $L_{max}$  at 50 ft from the scraper. Each bulldozer would also generate 82 dBA  $L_{max}$  at 50 ft. The maximum noise level generated by water and pickup trucks is approximately 75 dBA  $L_{max}$  at 50 ft from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 90 dBA  $L_{max}$  at a distance of 50 ft from the active construction area.

**Table K: RCNM Default Noise Emission Reference Levels and Usage Factors**

Equipment Description	Impact Device?	Acoustical Usage Factor	Spec. 721.560 L <sub>max</sub> at 50 ft (dBA, slow)	Actual Measured L <sub>max</sub> at 50 ft (dBA, slow)	Number of Actual Data Samples (Count)
All other Equipment > 5 HP	No	50	85	N/A	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	N/A	0
Blasting	Yes	N/A	94	N/A	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	N/A	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (< 25 kVA, VMS Signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	N/A	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydraulic Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	N/A	0
Impact Derive	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarifier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/Chipping Gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (single nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Sheers (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trench Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	N/A	0
Tractor	No	40	84	N/A	0
Vacuum Excavator (Vac-Truck)	No	40	85	85	149

**Table K: RCNM Default Noise Emission Reference Levels and Usage Factors**

Equipment Description	Impact Device?	Acoustical Usage Factor	Spec. 721.560 L <sub>max</sub> at 50 ft (dBA, slow)	Actual Measured L <sub>max</sub> at 50 ft (dBA, slow)	Number of Actual Data Samples (Count)
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Source: FHWA *Highway Construction Noise Handbook* (August 2006).

dBA = A-weighted decibels

FHWA = Federal Highway Administration

ft = foot/feet

ft-lb/blow = foot-pounds per blow

HP = horsepower

L<sub>max</sub> = maximum instantaneous noise level

N/A = Not Applicable

RCNM = Roadway Construction Noise Model

The nearest residential uses to the south of the project site would potentially be exposed to construction noise up to 94 dBA L<sub>max</sub> during the Phase 1A construction period, when the Preschool/ Administration building is being constructed. However, construction of the proposed Preschool/ Administration building would not be continuous over the entire Phase 1A period; this phase also involves construction of an underground storm water detention system and construction of the proposed Landscaped Garden in the southeastern corner of the project site. Although this range of construction noise would be higher than the ambient noise, it would cease to occur once the construction of the Preschool/Administration building is completed. Construction of other on-site buildings would result in lower noise levels at the residences to the south.

Residential homes to the north approximately 200 ft from the project construction area would be exposed to construction noise up to 78 dBA L<sub>max</sub> during construction of Phase 1C and Phase 2, when the Community Life Center building and Christian Education Building 1 are being constructed. Construction noise would be much lower during other construction phases due to the distance attenuation and shielding provided by the buildings completed in earlier phases. Existing residences to the east across the golf course are approximately 1,000 ft away from the project site.

At this distance, noise levels would be reduced by 26 dBA when compared to the noise levels measured at 50 ft from the construction activity. Therefore, construction activity on the project site could potentially result in noise levels reaching 64 dBA L<sub>max</sub>. Compliance with the construction hours specified in the City's Noise Ordinance would reduce the construction noise impacts to a less than significant level.

## Long-Term Traffic Noise Impacts

This noise impact analysis is based on information from the Traffic Study conducted for the proposed project (LSA, March 2014). Traffic volumes for the existing and future cumulative scenario are analyzed in the Traffic Study. The baseline scenarios and with proposed project scenarios are evaluated to determine potential traffic noise impacts on sensitive land uses on and off the project site.

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along roadway segments in the project vicinity. Standard vehicle mix for County roadways was used for traffic on these roadway segments. The modeled 24-hour CNEL levels are shown in Tables L (existing weekday plus project), M (existing weekend plus project), N (future weekday baseline), O (future weekend baseline), P (future weekday plus project), and Q (future weekend plus project).

These noise levels represent the worst-case scenario, which assumes no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Appendix A.

Tables L, M, O, and Q show that project-related traffic would have mostly small (0.2 dBA or less) noise level increases along roadway segments in the project vicinity for the existing and future weekday and weekend cumulative year scenarios. The existing plus project scenario would have up to 0.1 dBA increase along Crown Valley Parkway. Other roadway segments would have no measurable traffic noise level increases under the existing plus project scenario. Since this range of traffic noise level increases in the outdoor environment would not be perceptible by the human ear when it occurs gradually over a period of time, no significant off-site traffic noise impacts from project-related traffic would occur.

On-site proposed church facility expansion areas would be exposed to potentially high traffic noise levels along Crown Valley Parkway. Mitigation measures would be required. Since Table Q shows the future Sunday with project scenario would have higher traffic volumes along Crown Valley Parkway between Sea Island Drive and the proposed church driveway than the future weekday with project scenario, potential traffic noise impacts on the proposed on-site uses such as the Community Life Center building and the two Christian Education buildings would be using the weekend traffic for evaluation in the impact analysis. The proposed Preschool/Administration building, however, will be evaluated with the future weekday with project traffic volumes since they are higher than the corresponding weekend ones under the future scenario.

**Table L: Existing Weekday With Project Traffic Noise Levels**

<b>Roadway Segment</b>	<b>ADT</b>	<b>Centerline to 70 CNEL (ft)</b>	<b>Centerline to 65 CNEL (ft)</b>	<b>Centerline to 60 CNEL (ft)</b>	<b>CNEL (dBA) 50 ft from Centerline of Outermost Lane</b>	<b>Increase CNEL (dBA) 50 ft from Centerline of Outermost Lane</b>
Crown Valley Parkway north of Camino Del Avion	20,800	76	148	312	69.0	0.0
Crown Valley Parkway between Camino Del Avion and Sea Island Drive	21,300	64	126	266	68.3	0.0
Crown Valley Parkway between Sea Island Drive and Church Driveway	20,900	61	124	262	68.6	0.0
Crown Valley Parkway between Church Driveway and Lumeria Lane	20,900	61	124	262	68.6	0.0
Crown Valley Parkway between Lumeria Lane and Pacific Coast Highway	19,000	58	116	246	68.2	0.0
Crown Valley Parkway south of Pacific Coast Highway	1,700	< 50	< 50	< 50	54.9	0.0
Camino Del Avion west of Crown Valley Parkway	3,400	< 50	< 50	67	59.9	0.0
Camino Del Avion east of Crown Valley Parkway	9,400	< 50	75	155	65.1	0.0
Sea Island Drive west of Crown Valley Parkway	1,500	< 50	< 50	< 50	54.3	0.0
Lumeria Lane east of Crown Valley Parkway	220	< 50	< 50	< 50	46.0	0.0
Pacific Coast Highway west of Crown Valley Parkway	29,000	74	153	326	70.0	0.0
Pacific Coast Highway east of Crown Valley Parkway	21,800	63	127	270	68.8	0.0

Source: LSA Associates, Inc. (July 2014).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

Modeled using the Soft setting and the Orange County default fleet percentages. Roadway segments directly adjacent to the project site are shaded.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet

**Table M: Existing Sunday With Project Traffic Noise Levels**

<b>Roadway Segment</b>	<b>ADT</b>	<b>Centerline to 70 CNEL (ft)</b>	<b>Centerline to 65 CNEL (ft)</b>	<b>Centerline to 60 CNEL (ft)</b>	<b>CNEL (dBA) 50 ft from Centerline of Outermost Lane</b>	<b>Increase CNEL (dBA) 50 ft from Centerline of Outermost Lane</b>
Crown Valley Parkway north of Camino Del Avion	18,700	72	139	291	68.5	0.1
Crown Valley Parkway between Camino Del Avion and Sea Island Drive	20,100	62	122	256	68.0	0.1
Crown Valley Parkway between Sea Island Drive and Church Driveway	18,900	58	116	245	68.1	0.0
Crown Valley Parkway between Church Driveway and Lumeria Lane	18,400	57	114	241	68.0	0.1
Crown Valley Parkway between Lumeria Lane and Pacific Coast Highway	17,000	< 50	108	229	67.7	0.1
Crown Valley Parkway south of Pacific Coast Highway	1,200	< 50	< 50	< 50	53.4	0.0
Camino Del Avion west of Crown Valley Parkway	3,000	< 50	< 50	62	59.3	0.1
Camino Del Avion east of Crown Valley Parkway	8,600	< 50	71	147	64.7	0.0
Sea Island Drive west of Crown Valley Parkway	1,400	< 50	< 50	< 50	54.0	0.3
Lumeria Lane east of Crown Valley Parkway	270	< 50	< 50	< 50	46.9	0.0
Pacific Coast Highway west of Crown Valley Parkway	24,300	67	136	290	69.20	0.0
Pacific Coast Highway east of Crown Valley Parkway	20,500	61	122	259	68.5	0.0

Source: LSA Associates, Inc. (July 2014).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

Modeled using the Soft setting and the Orange County default fleet percentages. Roadway segments directly adjacent to the project site are shaded.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet



**Table N: Future Weekday Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane
Crown Valley Parkway north of Camino Del Avion	23,800	82	162	341	69.6
Crown Valley Parkway between Camino Del Avion and Sea Island Drive	24,300	69	137	290	68.9
Crown Valley Parkway between Sea Island Drive and Church Driveway	23,900	66	135	287	69.2
Crown Valley Parkway between Church Driveway and Lumeria Lane	23,900	66	135	287	69.2
Crown Valley Parkway between Lumeria Lane and Pacific Coast Highway	21,900	63	127	271	68.8
Crown Valley Parkway south of Pacific Coast Highway	2,000	< 50	< 50	< 50	55.6
Camino Del Avion west of Crown Valley Parkway	3,900	< 50	< 50	73	60.4
Camino Del Avion east of Crown Valley Parkway	10,600	< 50	81	168	65.6
Sea Island Drive west of Crown Valley Parkway	1,500	< 50	< 50	< 50	54.3
Lumeria Lane east of Crown Valley Parkway	220	< 50	< 50	< 50	46.0
Pacific Coast Highway west of Crown Valley Parkway	36,700	85	178	381	71.0
Pacific Coast Highway east of Crown Valley Parkway	28,900	74	152	325	70.0

Source: LSA Associates, Inc. (July 2014).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

Modeled using the Soft setting and the Orange County default fleet percentages. Roadway segments directly adjacent to the project site are shaded.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet

**Table O: Future Weekday With Project Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase CNEL (dBA) 50 ft from Centerline of Outermost Lane
Crown Valley Parkway north of Camino Del Avion	23,900	82	162	342	69.6	0.0
Crown Valley Parkway between Camino Del Avion and Sea Island Drive	24,400	69	138	291	68.9	0.0
Crown Valley Parkway between Sea Island Drive and Church Driveway	24,000	66	135	287	69.2	0.0
Crown Valley Parkway between Church Driveway and Lumeria Lane	24,000	66	135	287	69.2	0.0
Crown Valley Parkway between Lumeria Lane and Pacific Coast Highway	21,900	63	127	271	68.8	0.0
Crown Valley Parkway south of Pacific Coast Highway	2,000	< 50	< 50	< 50	55.6	0.0
Camino Del Avion west of Crown Valley Parkway	3,900	< 50	< 50	73	60.4	0.0
Camino Del Avion east of Crown Valley Parkway	10,600	< 50	81	168	65.6	0.0
Sea Island Drive west of Crown Valley Parkway	1,500	< 50	< 50	< 50	54.3	0.0
Lumeria Lane east of Crown Valley Parkway	220	< 50	< 50	< 50	46.0	0.0
Pacific Coast Highway west of Crown Valley Parkway	36,700	85	178	381	71.0	0.0
Pacific Coast Highway east of Crown Valley Parkway	28,900	74	152	325	70.0	0.0

Source: LSA Associates, Inc. (July 2014).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

Modeled using the Soft setting and the Orange County default fleet percentages. Roadway segments directly adjacent to the project site are shaded.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet

**Table P: Future Sunday Traffic Noise Levels**

<b>Roadway Segment</b>	<b>ADT</b>	<b>Centerline to 70 CNEL (ft)</b>	<b>Centerline to 65 CNEL (ft)</b>	<b>Centerline to 60 CNEL (ft)</b>	<b>CNEL (dBA) 50 ft from Centerline of Outermost Lane</b>
Crown Valley Parkway north of Camino Del Avion	20,700	76	148	311	69.0
Crown Valley Parkway between Camino Del Avion and Sea Island Drive	21,900	65	129	271	68.4
Crown Valley Parkway between Sea Island Drive and Church Driveway	20,900	61	124	262	68.6
Crown Valley Parkway between Church Driveway and Lumeria Lane	20,400	60	122	258	68.5
Crown Valley Parkway between Lumeria Lane and Pacific Coast Highway	18,800	58	116	245	68.1
Crown Valley Parkway south of Pacific Coast Highway	1,400	< 50	< 50	< 50	54.0
Camino Del Avion west of Crown Valley Parkway	3,300	< 50	< 50	65	59.7
Camino Del Avion east of Crown Valley Parkway	9,400	< 50	75	155	65.1
Sea Island Drive west of Crown Valley Parkway	1,300	< 50	< 50	< 50	53.7
Lumeria Lane east of Crown Valley Parkway	270	< 50	< 50	< 50	46.9
Pacific Coast Highway west of Crown Valley Parkway	30,600	76	158	338	70.2
Pacific Coast Highway east of Crown Valley Parkway	26,900	71	145	310	69.7

Source: LSA Associates, Inc. (July 2014).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

Modeled using the Soft setting and the Orange County default fleet percentages. Roadway segments directly adjacent to the project site are shaded.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet

**Table Q: Future Sunday With Project Traffic Noise Levels**

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 ft from Centerline of Outermost Lane	Increase CNEL (dBA) 50 ft from Centerline of Outermost Lane
Crown Valley Parkway north of Camino Del Avion	21,100	77	150	315	69.1	0.1
Crown Valley Parkway between Camino Del Avion and Sea Island Drive	22,600	66	131	277	68.5	0.1
Crown Valley Parkway between Sea Island Drive and Church Driveway	21,300	62	125	266	68.7	0.1
Crown Valley Parkway between Church Driveway and Lumeria Lane	20,800	61	123	261	68.6	0.1
Crown Valley Parkway between Lumeria Lane and Pacific Coast Highway	19,300	59	117	249	68.2	0.1
Crown Valley Parkway south of Pacific Coast Highway	1,400	< 50	< 50	< 50	54.0	0.0
Camino Del Avion west of Crown Valley Parkway	3,300	< 50	< 50	65	59.7	0.0
Camino Del Avion east of Crown Valley Parkway	9,500	< 50	76	156	65.2	0.1
Sea Island Drive west of Crown Valley Parkway	1,300	< 50	< 50	< 50	53.7	0.0
Lumeria Lane east of Crown Valley Parkway	270	< 50	< 50	< 50	46.9	0.0
Pacific Coast Highway west of Crown Valley Parkway	30,800	77	159	339	70.3	0.1
Pacific Coast Highway east of Crown Valley Parkway	27,000	71	146	311	69.7	0.0

Source: LSA Associates, Inc. (July 2014).

Note: Traffic noise within 50 ft of the roadway centerline should be evaluated with site-specific information.

Modeled using the Soft setting and the Orange County default fleet percentages. Roadway segments directly adjacent to the project site are shaded.

ADT = average daily traffic

CNEL = Community Noise Equivalent Level

dBA = A-weighted decibels

ft = feet

**Crown Valley Parkway.** Tables O and Q show that the 70 dBA CNEL along Crown Valley Parkway near the project site would extend up to 69 ft from the roadway centerline under the future with project conditions. The 65 dBA CNEL would extend up to 138 ft from the roadway centerline. The proposed buildings on the project site are located approximately 60 ft (Community Life Center) to 240 ft (Christian Education buildings) from the roadway centerline and would potentially be exposed to traffic noise up to 71 and 62 dBA CNEL, respectively. Since the buffer area between the project buildings and Crown Valley Parkway includes only parking and landscaped areas and does not have any outdoor recreation area, no mitigation measures would be required to reduce the exterior noise level.

Based on the United States Environmental Protection Agency (EPA's) *Protective Noise Levels* (EPA 550/9-79-100, November 1978), with windows or doors open, interior noise levels at the Community Life Center building would potentially exceed the 45 dBA CNEL (i.e., 71 dBA - 12 dBA = 59 dBA) interior noise level recommended for noise-sensitive uses. With windows closed, interior noise levels in these frontline rooms would also exceed the 45 dBA CNEL (71 dBA - 24 dBA = 47 dBA) standard for noise-sensitive uses.

Therefore, windows with Sound Transmission Class (STC) ratings provided by standard building construction (STC-24 to STC-28) would not be sufficient for the interior spaces inside the Community Life Center building directly adjacent to Crown Valley Parkway. Building facade upgrades such as windows with STC ratings higher than those provided by standard building construction would be required. Interior rooms or spaces that are not directly adjacent to Crown Valley Parkway would be sufficient with standard double paned windows. Air conditioning, a form of mechanical ventilation, is required for all buildings along Crown Valley Parkway to ensure that windows can remain closed for prolonged periods of time. Since the proposed project would provide air conditioning as a standard feature, no additional mitigation measures are required for the building facade along Crown Valley Parkway. For the two proposed Christian Education buildings, the front facades that are facing Crown Valley Parkway would be exposed to up to 62 dBA CNEL traffic noise, and would be sufficient with windows provided with standard building construction. No building facade upgrades would be required for these two buildings.

The proposed Preschool/Administration building on the project site is located approximately 240 ft from the roadway centerline and would potentially be exposed to traffic noise up to 62 dBA CNEL. Since the buffer area between the project building and Crown Valley Parkway includes only parking and landscaped areas and does not have any outdoor recreation area, no mitigation measures would be required to reduce the exterior noise level.

Based on the EPA's *Protective Noise Levels* (EPA 550/ 9-79-100, November 1978), with windows or doors open, interior noise levels at the frontline rooms/spaces inside the Preschool/Administration building would potentially exceed the 45 dBA CNEL (i.e., 62 dBA - 12 dBA = 50 dBA) interior noise level recommended for noise-sensitive uses. With windows closed, interior noise levels in these frontline rooms/spaces would not exceed the 45 dBA CNEL (62 dBA - 24 dBA = 38 dBA) interior noise level recommended for noise-sensitive uses. Since the building is projected to be exposed to traffic noise levels below 69 dBA CNEL, windows with STC ratings provided by standard building construction (up to STC-28) would be sufficient for rooms or interior spaces facing Crown Valley Parkway. Air conditioning, a form of mechanical ventilation, is required to ensure that windows can remain closed for prolonged periods of time. As the proposed project would provide air conditioning as a standard feature, no additional mitigation measures are required for the facade of the Preschool/Administration Building facing Crown Valley Parkway.

**Children's Play Areas.** The proposed future play areas would be behind the on-site Christian Education buildings and shielded from traffic noise from Crown Valley Parkway. No mitigation measures would be required for these play areas from traffic noise impacts. In the interim phases, however, the children's play area would be placed in the parking lot in front of the Preschool/Administration Building, an area that is approximately 200 ft from the centerline of Crown Valley Parkway. At this distance, the projected traffic noise level would be 63 dBA CNEL. This noise level

is below the City's 65 dBA CNEL exterior noise level recommended for outdoor activity areas. Therefore, no mitigation measures would be required for the temporary children's play area.

### **Long-Term Stationary Noise Impacts**

The proposed project would be potentially exposed to stationary source noise impacts from off-site stationary noise sources.

**Off-Site Stationary Source Noise Impacts.** Adjacent uses that could potentially be considered noise sources include the paved Salt Creek recreational trail<sup>1</sup> and the Monarch Beach Golf Links golf course.

**Paved Salt Creek Recreation Trail.** People using the paved Salt Creek recreation trail would result in a maximum noise level similar to noise readings from conversation outdoors, which generates a noise level of 60 to 65 dBA  $L_{max}$  at 5 ft based on LSA's measurements conducted in the past. The 100 ft distance would provide a noise reduction of 26 dBA compared to the noise level measured at 5 ft from the noise source. The conversation noise associated with the off-site paved recreation trail uses would be reduced to 40 dBA  $L_{max}$  or lower at the nearest building on the project site. This range of noise levels is below the City's exterior noise standards. Therefore, noise associated with the paved recreation trail would not result in noise levels exceeding the typical standards at the nearest on-site outdoor living area. No mitigation is required.

**Monarch Beach Golf Links.** Representative golf course activities, such as golfers conversing or ball hitting, would generate up to 65 dBA  $L_{max}$  at 15 ft. It is intermittent in nature. Golf course playing areas are more than 50 ft from the nearest on-site outdoor activity areas, which would receive at least 10 dBA in noise reduction. Noise from the off-site golf course activities would be reduced to 55 dBA  $L_{max}$  or lower and would not be anticipated to be a significant issue.

**On-Site Stationary Source Noise Impacts.** Potential on-site noise sources include activities associated with the children's play areas and noise from on-site mechanical equipment.

**Mechanical Equipment.** The project proposes to have a mechanical room at the lower level at the southwest corner of the parking structure. A noise impact analysis was conducted for the potential noise impacts on the Monarch Bay Villas single-family residences to the south of the project site (Mestre Greve Associates, July 16, 2009) from the mechanical room equipment. It was found that operation of the mechanical room equipment would result in a noise level of 49 dBA at the nearest residence at Monarch Bay Villas when the equipment is running at full

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<sup>1</sup> Salt Creek Trail is not listed on the County's Master Plan of Regional Riding and Hiking Trails. However, according to the County of Orange Major Riding and Hiking Trails and Off-Road Paved Bikeways map, Salt Creek Trail is an Existing Off-Road Paved Bikeway (<http://ocparks.com/civicax/filebank/blobdload.aspx?BlobID=8223>, accessed March 11, 2013).

capacity. This noise level is less than the City requirement (Municipal Code Section 11.10.010) of 50 dBA during the nighttime period (10 p.m. to 7 a.m.) and the City requirement of 55 dBA during the daytime (7 a.m. to 10 p.m.). In addition, since the mechanical equipment is serving the Preschool/Administration building and the Sanctuary, it is rare that the mechanical equipment would operate during the nighttime hours. Indoor noise levels would be at least 12 dBA lower than the exterior noise level with windows open. Therefore, indoor noise levels would be no higher than 37 dBA, which is well below the City's daytime limit of 55 dBA and the nighttime limit of 45 dBA (Municipal Code Section 11.10.012). No mitigation is required.

**Children's Play Areas.** The proposed future play areas would be behind the on-site Christian Education buildings and at least 300 ft away from existing residences to the south and north. The distance attenuation would reduce noise by 16 dBA from the play areas. In addition, on-site buildings would provide shielding to the majority of the residences to the south. No significant noise impacts would occur, and no mitigation measures would be required. In the interim phases, however, the children's play area would be placed in the parking lot in front of the Preschool/Administration Building, an area that is approximately 147 ft from the residences to the south at the Monarch Bay Villas. The following evaluates potential noise from the temporary play area to the residences to the south.

**Sample Play Area Noise Measurements.** Two noise level surveys conducted previously, Brookhaven Elementary School and College Park Preschool, in elementary school and preschools playgrounds (included in the *Yorba Linda Village Green Center School Project Noise Analysis*, LSA, October 20, 1999) and noise measurements conducted at the Jenny Hart Early Education Center in the City of Irvine (Environmental Impact Sciences, September 5, 2002) are considered representative of the proposed uses.

**Brookhaven Elementary School.** Two sets of noise measurements were taken. The first set was obtained during recess time, between 9:53 a.m. and 10:10 a.m., when the children were playing on the playground. The second set of measurements was obtained between 10:21 a.m. and 10:36 a.m., after the children had returned to classrooms, and was documented as ambient noise.

A total of 50 to 80 children were observed moving in and out of the playground. An average number of 80 children were estimated to be playing on and around the playground during the measurement set. The play area was by far the loudest source of noise around (playing children, a squeaking swing set, and a tetherball game). The receiver's area was surrounded by an average of about 40 children who were walking around and talking; they contributed about 10 to 15 percent to the overall noise level.

The distance from the source (a child at play) that generated  $L_{max}$  to the receiver was estimated to be 25 ft. The  $L_{max}$  at 50 ft measured 79.5 dBA, while the children were playing during recess time.  $L_{max}$  measured during the ambient noise monitoring was calculated to be referenced at 50 ft.

When the children were playing, traffic noise coming from Bastanchury Road was mostly masked by the children's noise. The measured  $L_{eq}$  was then well-representative of the acoustic energy

coming from the playground. Taking into account the distance between the border and the center of the playground (10 to 15 ft) and the fact that the surrounding children contributed most of the noise measured, an equivalent source-receiver distance was evaluated to be 40 ft from the center of the playground to the receiver (sound level meter). This distance adjustment lowered the  $L_{eq}$  by 2 dBA when referenced to 50 ft ( $L_{eq}$  at 50 ft = 68.2 dBA). The final  $L_{eq}$  coming from Brookhaven Elementary School’s playground referenced at 50 ft, and considering 80 children, was equal to 68.2 dBA.

**College Park Preschool Playground.** A noise monitoring survey was conducted in a Kinder Care facility playground that would represent typical noise associated with preschool children. The monitoring was performed at College Park Preschool in Costa Mesa during recess. Recess is considered the loudest playtime of the day. This school has a preschool section with 40 children, and 40 children (ages 4 to 5 years) were playing in the playground during the noise monitoring. Background noise (sources other than the children) was low compared to playground noise. A sample of the ambient noise was also taken before recess. The final  $L_{eq}$  coming from College Park Preschool’s playground referenced at 50 ft, and considering 80 children, was equal to 67.6 dBA.

**Sample Play Area Noise Level Comparison.** The reference noise levels were calculated using the maximum number of children expected to be playing in the same general area (80 children) in the on-site children’s play area. Resulting noise levels coming from kindergarten playgrounds were summed and compared with the highest noise levels measured coming from elementary school playgrounds (see Table R).

**Table R: Play Area Noise Level Comparison**

Brookhaven Elementary School		College Park Preschool	
$L_{eq}$ at 50 ft, 80 children	$L_{max}$ at 50 ft	$L_{eq}$ at 50 ft, 80 children	$L_{max}$ at 50 ft
68.2	79.5	67.6	78.5

Source: LSA Associates, Inc. (October 1999).

ft = foot/feet

$L_{eq}$  = equivalent continuous noise level

$L_{max}$  = maximum noise level

As expected, noise levels coming out of a preschool playground are below those of an elementary school playground. Nevertheless, the noise level difference is only 1 dB, which is not perceptible by the human ear in an outdoor environment. The 68.2 dBA  $L_{eq}$  and 79.5 dBA  $L_{max}$  measured at 50 ft are for a worst-case scenario.

**Jenny Hart Early Education Center.** A noise monitoring survey was conducted by Environmental Impact Sciences at Jenny Hart Early Education Center, located at 4445 Alton Parkway in the City of Irvine, on September 5, 2002. The Jenny Hart preschool facility accommodates 85 students and includes two adjacent outdoor play areas, both enclosed by chain link fencing. Two representative noise readings were obtained at this facility. The first reading



was obtained in the asphalt play area while the children were still playing in the sandy area, approximately 50 ft from the sound level meter. Approximately 25 children were playing in the area at the onset of the noise measurement. Within approximately 5 minutes, however, the number of children had more than doubled (i.e., in excess of 50 children were counted). After the first reading, the children were allowed to occupy the sand and asphalt areas. The meter was located 50 ft north of the play area fence line into the parking lot area. Approximately 55 to 60 children occupied the combined areas. During both noise monitoring periods, additional sources of noise included vehicles in the parking lot and on adjacent roads, aircraft overflights, and people playing tennis approximately 150 ft from the measurement locations. Table S lists the noise levels measured at the Jenny Hart Early Education Center. When converted to 80 students, the noise levels would be increased to 60.0 dBA  $L_{eq}$  and 70.5 dBA  $L_{max}$  measured at 50 ft for the first set of readings, and 59.0 dBA  $L_{eq}$  and 70.2 dBA  $L_{max}$  measured at 50 ft for the second set of readings. The 60.0 dBA  $L_{eq}$  and 70.5 dBA  $L_{max}$  measured at 50 ft are for a worst-case scenario.

**Table S: Jenny Hart Early Education Center**

Noise Reading	$L_{eq}$	$L_{02}$	$L_{08}$	$L_{25}$	$L_{50}$	$L_{min}$	$L_{max}$
JH-1	58.7	65.1	62.4	59.6	57.0	50.3	69.2
JH-2	57.4	62.6	60.1	58.2	56.7	50.7	68.6

Source: Environmental Impact Sciences (September 2002).

Notes: All values are in dBA. The  $L_{eq}$  represents the equivalent sound level and is the numeric value of a constant level that over the given period of time transmits the same amount of acoustic energy as the actual time-varying sound level. The  $L_{02}$ ,  $L_{08}$ ,  $L_{25}$ , and  $L_{50}$  are the levels that are exceeded 2, 8, 25, and 50 percent of the time, respectively. Alternatively, these values represent the noise levels that would be exceeded for 1, 5, 15, and 30 minutes during a 1-hour period. The  $L_{min}$  and  $L_{max}$  represent the minimum and maximum root-mean-square noise levels obtained over a period of 1 second.

dBA = A-weighted decibels

Comparing the noise levels listed in Tables R and S, the 68.2 dBA  $L_{eq}$  and the 79.5 dBA  $L_{max}$  measured at 50 ft at the Brookhaven Elementary School playground would be the worst-case scenario.

**Play Area Noise Impact Analysis.** As noise spreads from a source, it loses energy, so the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dBA reduction in the noise level for each doubling of distance from a single-point source of noise, such as noise from a child, to the noise-sensitive receptor of concern.

As stated in the project description, Preschool programs located on the Church campus operate on weekday mornings from 9:00 a.m. to 2:00 p.m., mid-September to mid-June. Currently, the existing Preschool is licensed to accommodate 86 preschool children per day. No increase in the licensed number of children is proposed.

The maximum voice levels from 86 students are approximately 0.3 dBA higher than those of 80 students. Therefore, the worst-case voice levels for 80 students from the play area would be 68.5 dBA  $L_{eq}$  and 79.8 dBA  $L_{max}$  measured at 50 ft. However, the project Applicant has indicated that no more than 30 students are on the playground at the same time because outdoor play is staggered. The maximum noise levels associated with 30 students would be 4.25 dBA lower than that of 80 children;

therefore, worst-case voice levels from the play area, in which all 30 students are playing at once, would be 64.25 dBA  $L_{eq}$  and 75.55 dBA  $L_{max}$  measured at 50 ft.

The temporary play area would be approximately 147 ft from the nearest residences to the south. At this distance, the noise level would be reduced by 9 dBA from the noise level measured at 50 ft. This noise attenuation will reduce the maximum on-site play area noise to 55.25 dBA  $L_{eq}$  and 66.55 dBA  $L_{max}$ . The 66.55 dBA maximum noise level would not exceed the City's 75 dBA  $L_{max}$  that is not to be exceeded at any time during the daytime hours for residential areas. In addition, the 55.25 dBA  $L_{eq}$  noise level averaged over that 30-minute recess time period would not exceed the City's 60 dBA  $L_{50}$  that is not to be exceeded for more than 15 minutes (but less than 30 minutes) in any hour during the daytime hours between 7:00 a.m. and 10:00 p.m. No mitigation measures would be required.

### Standard Conditions

Construction of the proposed project would potentially result in relatively high noise levels and annoyance at the closest off-site residential and commercial uses. The following measures would reduce short-term construction-related noise impacts resulting from the proposed project:

- During all project site excavation and grading, the project contractors should equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor should place all stationary construction equipment so that emitted noise is directed away from the relatively more sensitive receptors nearest the project site.
- The construction contractor should locate equipment staging in areas that will create the greatest distance between construction-related noise sources and relatively more noise-sensitive receptors nearest the project site during all project construction.
- The construction contractor should limit all construction-related activities that would result in high noise levels to between the hours of 7:00 a.m. and 8:00 p.m., Monday through Saturday. No construction shall be permitted outside of these hours or on Sundays and federal holidays.

### Mitigation Measures

**Traffic Noise Impacts.** The following mitigation measures are required:

- Building facade upgrades, such as windows with sound transmission class (STC)-30 or higher, would be required for the Community Life Center building along Crown Valley Parkway; and
- Mechanical ventilation, such as an air conditioning system, would be provided to all frontline rooms/spaces associated with on-site buildings along Crown Valley Parkway.

**Stationary Noise Impacts.** No mitigation measures are required for the temporary children's play area.

### **Level of Significance after Mitigation**

Implementation of the above mitigation measures would reduce short-term construction and long-term operational noise impacts to below the level of significance.

### **REFERENCES**

- Bolt, Beranek & Newman. *Noise Control for Buildings and Manufacturing Plants*, 1987.
- City of Dana Point. Noise Element, July 9, 1991.
- City of Dana Point. Noise Ordinance, July 9, 1991.
- Federal Highway Administration. *Highway Construction Noise Handbook*. August 2006. Roadway Construction Noise Model, FHWA-HEP-06-015. DOT-VNTSC-FHWA-06-02. NTIS No. PB2006-109012.
- Federal Highway Administration. *Highway Traffic Noise Prediction Model*, FHWA RD-77-108, 1977.
- Harris, Cyril M. *Handbook of Acoustical Measurements and Noise Control*, 1991.
- Environmental Impact Sciences. *Jenny Hart Early Education Center, City of Irvine*. September 5, 2002.
- LSA Associates, Inc. *Traffic Impact Analysis and Parking Analysis*, July 2014.
- LSA Associates, Inc. *Yorba Linda Village Green Center School Project Noise Analysis*, October 20, 1999.
- Orange County Parks, website: <http://ocparks.com/civicax/filebank/blobdload.aspx?BlobID=8223> (accessed March 11, 2013).
- United States Environmental Protection Agency. *Protective Noise Levels*, Condensed Version of EPA Levels Document, EPA 550/9-79-100, November 1978.

**APPENDIX A**

**FHWA TRAFFIC NOISE MODEL PRINTOUTS**

TABLE Existing Weekday-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy north of Camino Del Avion

NOTES: South Shores Church Master Plan - Existing Weekday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20700      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
75.8	148.0	311.4	667.2

TABLE Existing Weekday-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Camino Del Avion and Sea Island Dr  
NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21200      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
64.2	126.0	265.2	568.4

TABLE Existing Weekday-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Sea Island Dr and Church Dwy

NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20800      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.0	123.2	261.5	561.3

TABLE Existing Weekday-04  
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
 ROADWAY SEGMENT: Crown Valley Pkwy between Church Dwy and Lumeria Ln  
 NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20800      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.0	123.2	261.5	561.3



TABLE Existing Weekday-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Lumeria Ln and Pacific Coast Hwy

NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19000      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
58.0	116.3	246.3	528.5

TABLE Existing Weekday-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy south of Pacific Coast Hwy

NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1700      SPEED (MPH): 30      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	55.0

TABLE Existing Weekday-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3400      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	66.6	139.2

TABLE Existing Weekday-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 9400      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	75.1	155.2	331.2

TABLE Existing Weekday-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Sea Island Dr west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1500      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	50.7

TABLE Existing Weekday-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Lumeria Ln east of Crown Valley Pkwy

NOTES: South Shores Church Master Plan - Existing Weekday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 220      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 46.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing Weekday-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Pacific Coast Hwy west of Crown Valley Pkwy

NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29000      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
	70 CNEL	65 CNEL	60 CNEL
	-----	-----	-----
	74.0	152.7	325.8
			700.3

TABLE Existing Weekday-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21800      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
62.7	127.0	269.7	579.1



TABLE Existing Weekday with Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy north of Camino Del Avion  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20800      SPEED (MPH): 50      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
75.9	148.5	312.4	669.4

TABLE Existing Weekday with Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Camino Del Avion and Sea  
Island Dr

NOTES: South Shores Church Master Plan - Existing Weekday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21300      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
64.4	126.3	266.1	570.2

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TABLE Existing Weekday with Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Sea Island Dr and Church Dwy

NOTES: South Shores Church Master Plan - Existing Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.2	123.6	262.3	563.1

TABLE Existing Weekday with Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Church Dwy and Lumeria Ln

NOTES: South Shores Church Master Plan - Existing Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.2	123.6	262.3	563.1

TABLE Existing Weekday with Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Lumeria Ln and Pacific Coast Hwy  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19000      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
58.0	116.3	246.3	528.5

---

TABLE Existing Weekday with Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy south of Pacific Coast Hwy  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1700      SPEED (MPH): 30      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	55.0

TABLE Existing Weekday with Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3400      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	66.6	139.2

---

TABLE Existing Weekday with Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 9400      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	75.1	155.2	331.2

---



TABLE Existing Weekday with Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Sea Island Dr west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1500      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	50.7

TABLE Existing Weekday with Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Lumeria Ln east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 220      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 46.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

---

TABLE Existing Weekday with Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 29000      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
74.0	152.7	325.8	700.3

TABLE Existing Weekday with Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21800      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
62.7	127.0	269.7	579.1

TABLE Existing Sunday-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy north of Camino Del Avion  
NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18200      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
71.0	136.6	286.2	612.5

TABLE Existing Sunday-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Camino Del Avion and Sea Island Dr  
NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19500      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.5	119.5	251.0	537.7

TABLE Existing Sunday-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Sea Island Dr and Church Dwy

NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18500      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
57.2	114.3	242.0	519.2

TABLE Existing Sunday-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Church Dwy and Lumeria Ln

NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18000      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
56.3	112.4	237.6	509.8



TABLE Existing Sunday-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Lumeria Ln and Pacific Coast Hwy

NOTES: South Shores Church Master Plan - Existing Sunday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 16600      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	106.7	225.3	483.2

TABLE Existing Sunday-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy south of Pacific Coast Hwy

NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1200      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing Sunday-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2900      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	60.4	125.5

TABLE Existing Sunday-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 8500      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	70.8	145.4	309.8

TABLE Existing Sunday-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Sea Island Dr west of Crown Valley Pkwy

NOTES: South Shores Church Master Plan - Existing Sunday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1300      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing Sunday-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Lumeria Ln east of Crown Valley Pkwy

NOTES: South Shores Church Master Plan - Existing Sunday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 270      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 46.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing Sunday-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24000      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.2	135.1	287.4	617.4

TABLE Existing Sunday-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20300      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
60.2	121.3	257.3	552.3



TABLE Existing Sunday with Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy north of Camino Del Avion  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18700      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
71.9	138.9	291.3	623.7

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TABLE Existing Sunday with Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Camino Del Avion and Sea Island Dr  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20100      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
62.5	121.8	256.1	548.7

---

TABLE Existing Sunday with Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Sea Island Dr and Church Dwy

NOTES: South Shores Church Master Plan - Existing Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
57.9	115.9	245.4	526.7

TABLE Existing Sunday with Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Church Dwy and Lumeria Ln  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18400      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
57.0	113.9	241.1	517.3

TABLE Existing Sunday with Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Lumeria Ln and Pacific Coast Hwy  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 17000      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

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\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	108.4	228.9	490.9

---

TABLE Existing Sunday with Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy south of Pacific Coast Hwy  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

---

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1200      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

---

TABLE Existing Sunday with Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3000      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	61.7	128.3

---

TABLE Existing Sunday with Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 8600      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	71.3	146.5	312.2



TABLE Existing Sunday with Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Sea Island Dr west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1400      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing Sunday with Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Lumeria Ln east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 270      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 46.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Existing Sunday with Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24300      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.7	136.2	289.8	622.5

TABLE Existing Sunday with Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Existing Sunday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20500      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
60.5	122.1	259.0	555.9

---

TABLE Future Weekday-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy north of Camino Del Avion

NOTES: South Shores Church Master Plan - Future Weekday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23800      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
81.5	161.7	341.4	732.1

TABLE Future Weekday-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Camino Del Avion and Sea  
Island Dr  
NOTES: South Shores Church Master Plan - Future Weekday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24300      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY	EVENING	NIGHT
---	-----	-----
AUTOS		
75.51	12.57	9.34
M-TRUCKS		
1.56	0.09	0.19
H-TRUCKS		
0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
69.1	137.3	290.2	622.4

---

TABLE Future Weekday-03  
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
 ROADWAY SEGMENT: Crown Valley Pkwy between Sea Island Dr and Church Dwy  
 NOTES: South Shores Church Master Plan - Future Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.1	134.8	286.6	615.7

TABLE Future Weekday-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Church Dwy and Lumeria Ln

NOTES: South Shores Church Master Plan - Future Weekday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.1	134.8	286.6	615.7



TABLE Future Weekday-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Lumeria Ln and Pacific Coast Hwy

NOTES: South Shores Church Master Plan - Future Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
62.8	127.4	270.5	580.9

TABLE Future Weekday-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy south of Pacific Coast Hwy

NOTES: South Shores Church Master Plan - Future Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2000      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 55.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	61.3

TABLE Future Weekday-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Weekday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3900      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	72.5	152.4

---

TABLE Future Weekday-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Weekday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10600      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	80.8	167.9	358.7

---

TABLE Future Weekday-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Sea Island Dr west of Crown Valley Pkwy

NOTES: South Shores Church Master Plan - Future Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1500      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	50.7

TABLE Future Weekday-10  
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
 ROADWAY SEGMENT: Lumeria Ln east of Crown Valley Pkwy  
 NOTES: South Shores Church Master Plan - Future Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 220      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 46.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Future Weekday-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Pacific Coast Hwy west of Crown Valley Pkwy

NOTES: South Shores Church Master Plan - Future Weekday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36700      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
85.4	178.1	380.9	819.2

TABLE Future Weekday-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Pacific Coast Hwy east of Crown Valley Pkwy

NOTES: South Shores Church Master Plan - Future Weekday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
73.9	152.4	325.1	698.7



TABLE Future Weekday with Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy north of Camino Del Avion  
NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 23900      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
81.7	162.1	342.3	734.1

TABLE Future Weekday with Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Camino Del Avion and Sea  
Island Dr  
NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24400      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
69.2	137.7	291.0	624.1

TABLE Future Weekday with Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Sea Island Dr and Church Dwy

NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24000      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.2	135.1	287.4	617.4

TABLE Future Weekday with Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Church Dwy and Lumeria Ln

NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 24000      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.2	135.1	287.4	617.4

TABLE Future Weekday with Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Lumeria Ln and Pacific Coast Hwy

NOTES: South Shores Church Master Plan - Future Weekday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21900      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

DAY	EVENING	NIGHT
---	-----	-----
AUTOS		
75.51	12.57	9.34
M-TRUCKS		
1.56	0.09	0.19
H-TRUCKS		
0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
62.8	127.4	270.5	580.9

TABLE Future Weekday with Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy south of Pacific Coast Hwy  
NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 2000      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 55.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	61.3

TABLE Future Weekday with Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3900      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	72.5	152.4

TABLE Future Weekday with Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 10600      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	80.8	167.9	358.7



TABLE Future Weekday with Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Sea Island Dr west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Weekday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1500      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	50.7

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TABLE Future Weekday with Project-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Lumeria Ln east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Weekday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 220      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 46.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

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TABLE Future Weekday with Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 36700      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
85.4	178.1	380.9	819.2

TABLE Future Weekday with Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Weekday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 28900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
73.9	152.4	325.1	698.7

TABLE Future Sunday-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy north of Camino Del Avion  
NOTES: South Shores Church Master Plan - Future Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20700      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
75.8	148.0	311.4	667.2

TABLE Future Sunday-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Camino Del Avion and Sea  
Island Dr

NOTES: South Shores Church Master Plan - Future Sunday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
65.3	128.6	271.0	580.9

TABLE Future Sunday-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Sea Island Dr and Church Dwy

NOTES: South Shores Church Master Plan - Future Sunday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.2	123.6	262.3	563.1

TABLE Future Sunday-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Church Dwy and Lumeria Ln

NOTES: South Shores Church Master Plan - Future Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20400      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
60.4	121.7	258.1	554.1



TABLE Future Sunday-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Lumeria Ln and Pacific Coast Hwy  
NOTES: South Shores Church Master Plan - Future Sunday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 18800      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
57.7	115.5	244.6	524.8

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TABLE Future Sunday-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy south of Pacific Coast Hwy

NOTES: South Shores Church Master Plan - Future Sunday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1400      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Future Sunday-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3300      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	65.4	136.5

TABLE Future Sunday-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 9400      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	75.1	155.2	331.2

TABLE Future Sunday-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Sea Island Dr west of Crown Valley Pkwy

NOTES: South Shores Church Master Plan - Future Sunday

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1300      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Future Sunday-10  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Lumeria Ln east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 270      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
DAY	EVENING	NIGHT	
----	-----	-----	
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 46.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Future Sunday-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 30600      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.4	158.2	337.6	725.8

TABLE Future Sunday-12  
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
 ROADWAY SEGMENT: Pacific Coast Hwy east of Crown Valley Pkwy  
 NOTES: South Shores Church Master Plan - Future Sunday

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 26900      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
70.8	145.5	310.0	666.1



TABLE Future Sunday with Project-01  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy north of Camino Del Avion  
NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21100      SPEED (MPH): 50      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.5	149.8	315.3	675.8

TABLE Future Sunday with Project-02  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Camino Del Avion and Sea Island Dr  
NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 22600      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
66.4	131.2	276.6	593.1

TABLE Future Sunday with Project-03  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Sea Island Dr and Church Dwy

NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 21300      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.9	125.1	265.6	570.3

TABLE Future Sunday with Project-04  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014

ROADWAY SEGMENT: Crown Valley Pkwy between Church Dwy and Lumeria Ln

NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 20800      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
61.0	123.2	261.5	561.3

TABLE Future Sunday with Project-05  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy between Lumeria Ln and Pacific Coast Hwy  
NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 19300      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
58.5	117.5	248.8	534.0

TABLE Future Sunday with Project-06  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Crown Valley Pkwy south of Pacific Coast Hwy  
NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1400      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Future Sunday with Project-07  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 3300      SPEED (MPH): 40      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	65.4	136.5

TABLE Future Sunday with Project-08  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Camino Del Avion east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 9500      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	75.6	156.3	333.5

---



TABLE Future Sunday with Project-09  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Sea Island Dr west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 1300      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 53.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Future Sunday with Project-10  
 FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
 ROADWAY SEGMENT: Lumeria Ln east of Crown Valley Pkwy  
 NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 270      SPEED (MPH): 30      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
DAY	EVENING	NIGHT	
----	-----	-----	
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 46.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
0.0	0.0	0.0	0.0

TABLE Future Sunday with Project-11  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy west of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday with Project

\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 30800      SPEED (MPH): 45      GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
	----	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
76.7	158.8	339.1	728.9

TABLE Future Sunday with Project-12  
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 07/07/2014  
ROADWAY SEGMENT: Pacific Coast Hwy east of Crown Valley Pkwy  
NOTES: South Shores Church Master Plan - Future Sunday with Project

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\* \* ASSUMPTIONS \* \*

AVERAGE DAILY TRAFFIC: 27000      SPEED (MPH): 45      GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
	---	-----	-----
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24      SITE CHARACTERISTICS: SOFT

---

\* \* CALCULATED NOISE LEVELS \* \*

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
-----	-----	-----	-----
71.0	145.8	310.7	667.8

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**APPENDIX B**

**NOISE MEASUREMENT SURVEY SHEETS**











Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

LSA

LEGEND

Property Line (6.0 ac)

FIGURE 4.9.2



0 30 60  
FEET

SOURCE: AirPhoto (2008)  
I:\DPC0902\GIS\ExistingProjSite.mxd (10/14/2013)

South Shores Church Master Plan  
Existing Project Site

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